TOPICAL SESSION

VULNERABLE COMMUNITIES

International Federation
of Red Cross and Red Crescent Societies

17, chemin des Crêts, Petit-Saconnex / P.O. Box 372 CH-1211 Geneva 19
Telephone: (41 22) 730 4222 Fax: (41 22) 733 0395 Telex: 412 133 FRC CH

FACSIMILE COMMUNICATION

To:	IDNDR	Date:	14 July 1993
Attention:	Olavi Elo & Greg Chapel	Our file ref.:	IDNDR\PWF486.sam
Fax no:	733 8695	No. of pages including this page:	2
From:	Peter Walker		
Re:	**1994 conference, Japan**		

If you do not receive all pages, please contact us immediately. Thank you.

MESSAGE:

Dear Olavi and Greg

Just to keep you in the picture, here is how we would envisage running the afternoon session on ***vulnerable communities and people***. It is expected that between 200 and 600 people will attend the session.

With so many people attending their is no real way to get "audience participation". So what I would lie to try is to have papers presented and individuals in the audience asked before the conference to make a formal response to the papers.

To do this we need to have an idea of who will be attending so that we can send them the particular paper in question in advance and ask them to prepare a 15 minute response. (papers and responses should be published).

Obviously I would like the Japanese Red Cross to be one of the respondents, but could you suggest others?

Also, can you suggest any other people who might be alternative contributors?

vulnerable communities and people

Opening address: IFRC (20 minutes)

We use this to set the scene and highlight what we think are the important issues to be aware of in listening to the subsequent presentations. We can also use it to flag the work of the Federation.

Paper 1. (30 minutes)

This would be an overview of the subject, coming in from a more academic view point. Two possible names, Dr Mary Anderson (Harvard) or Dr Ben Wisner (Rutgers)

Response to 1. (15 minutes)

Questions and answers (15 minutes)

Paper 2. (30 minutes)

Paper two looks at the political, human rights and ethical dimensions of vulnerability. Possible contributors include Dr Amatia Sen (Oxford), Dr Francis D'Souza (Article 19. London).

Response to 2. (15 minutes)

Questions and answers (15 minutes)

Paper 3. (30 minutes)

Paper three looks at particle aspects of putting the theory and ideals of papers one and two into practice. Possible contributors include Dr Andrew Muskery (ITDG, Peru), Dr John Seaman (SCF, UK).

Response to 3. (15 minutes)

Questions and answers (15 minutes)

Wrap-up (IFRC) 20 minutes

We use this to summarise what came out of the papers and discussion and what will be the aspects we will highlight in the report of the session.

A Guide to Vulnerability and Capacity Assessment

Section I:

Why vulnerability and capacity assessment?

Purpose of this document

In the *Strategic Work Plan for the 90s* the Federation has set its key goal as improving the situation of the most vulnerable. It is a simple statement, but it clearly indicates a new focus in our thinking and practice. This document describes vulnerability and capacity assessment and provides a shared understanding among the National Societies from which we can begin to take actions. It explains why we need to take this new challenge and how vulnerability and capacity assessment can be useful to National Societies in putting the Strategy into practice.

What the document does not do is provide a tool that can be directly applied in our programmes. The document is written for all National Societies and so it will need to be adapted to suit the needs of each one before it can be used in the field. Recognising this, the Federation's Secretariat is producing training material to go with this document. The training pack will allow us to take the ideas found here and apply them directly to our programmes

We need to target the most vulnerable

National Societies have traditionally targeted their assistance to where they see most suffering: to the victims of disasters, traffic accidents or epidemics. Our mission is to alleviate suffering and to do so effectively, efficiently and with maximum benefit for the communities in need of support. But today we know that despite overall progress in economic and social development, increasing numbers of people are left behind. They are the most deprived and the most vulnerable. They are the people at risk whom we should be assisting. They are the people most affected by disasters, most involved in accidents, most likely to be malnourished and most endangered by epidemics. However, the resources available to us to assist them are not increasing with the same speed. There is less to go around. We need better identification of whom we should assist and how to target our resources more effectively. Vulnerability and capacity assessment helps us in this process.

We need to improve the conditions for the most vulnerable

If we only strive to target more effectively we will inevitably end up serving a smaller and smaller percentage of the growing numbers of people caught in disasters or afflicted by malnutrition and disease. If we are to be true to our *Fundamental Principles* and the goals of the *Strategic Work Plan for the 90's*, we have to go beyond just assisting the victims. We have to find out **why** they are vulnerable, **what** the major factors are that trigger their suffering and **what** their potential capacities are to help themselves, so that we can work with them to change these conditions. Uncovering this information is part of vulnerability and capacity assessment.

We need to improve the capacities of vulnerable people

Improving the conditions for the most vulnerable involves National Society efforts. More importantly, it involves community efforts both in times of crisis and in the long-term. Understanding people's resources and capacities for self-help is central to vulnerability and capacity assessment.

We need to advocate for the most vulnerable

We cannot and should not always help people directly. Sometimes our role is to persuade others to give help or to honour their responsibilities and commitments. If we are to advocate effectively on behalf of the vulnerable we need to understand why they are vulnerable and what we must advocate in favour of. Vulnerability and capacity assessment allows us to do this.

Section II:

The assessment model

The model developed to help us understand and assess vulnerabilities and capacities has three steps.

- First, identifying potential threats,
- Second, identifying vulnerabilities,
- Third, assessing capacities and resources.

A full and useful assessment must involve all three stages.

Step 1: Identifying potential threats

In aiming to reduce the risk of disaster or long term destitution, we need to understand the nature of the potential threats people face. These can be divided into three categories:

- **Those based in nature;** such as earthquakes, cyclones, droughts, floods or pathogens.
- **Those based in violence;** such as war, intimidation, harassment or sexual assault.
- **Those based in deterioration:** such as declining health, education and other social services; trade shifts; government policy or environmental degradation.
- In any particular country some of these will be more important than others, some will not even exist. The frequency and severity of the same threat will also change from one place to another. Many disaster prone countries however will suffer from a combination of threats. In coming to terms with the threats in their country, National Societies must:
- **Be aware of the historically experienced threats:** Some threats do not occur very frequently or may not strike the same place often enough to be remembered by the public. This may create a false feeling of safety and security. National Societies may not have the expertise to explore all potential threats but they can collaborate with scientific institutes and other bodies in their country to make informed predictions.
- **Be aware of new threats:** There are an increasing number of threats that are worsening or suddenly emerging due to changes in natural, economical, social or political trends. For example, population increase causes more and more marginal land to be brought into productive use. Threats unnoticed before, simply because nothing was exposed to them, can easily turn into major problems that no one had predicted. Technological development in fast growing economies can become a potential threat. Lack of development and material reserves may make a population susceptible to the

impact of drought. Environmental pollution and new types of disease, such as AIDS, create new health risks. Political developments and ethnic conflicts can create mass movement of populations.

- **National Societies need to predict these threats and their consequences.** How probable are these threats? Where might they strike? Who is at risk? Answering these questions requires collaboration with community groups, the scientific community and relevant government bodies. At a different level, National Societies, with a foot in both worlds, can inform the public and lobby with the government and international organisations to draw their attention to emerging threats.

- **Be aware of the local threats:** The number of small scale, localised disasters which do not hit the headlines or appear in any statistics, are on the increase. Collectively these can present a more serious problem than any catastrophic event. For example, in densely populated shanty towns disease, fires, land slides and floods are increasingly common events. National Societies, through their local network, are in a unique position to work with the affected communities in identifying these local threats and act at the local and national level to address them.

Step 2: Identifying vulnerabilities

We all know that some people are more likely to be affected by a threat than others even though they are exposed to the same event. **Who are the most vulnerable?** Even where a whole community might live in an earthquake zone or is threatened by a health hazard such as cholera, certain groups will be at a higher risk than others. **Why are some more affected?** To understand vulnerability we have to answer both questions.

There is a tendency among the humanitarian organisations to address specific generic groups as *the most vulnerable* such as women, children and the elderly. This is true to a certain extent but it is a gross simplification. It is the interaction of many other factors that help us define who will be at higher risk from a certain threat.

- **Proximity and exposure:** People who live or work on or near some kind of threat face a higher risk than those who do not, (e.g. on a flood plain, on unstable slopes or near a nuclear reactor). Certain people are more exposed to hazards than others (e.g. in certain parts of the world, people without access to information or people who cannot chose their sexual partners are more exposed to the threat of AIDS).

- **Poverty[1]:** People who have few options, few resources and few reserves cannot well protect themselves from threats. They can be pushed over the "edge" of survival by disasters or disease more easily than those who are wealthier. Poverty is linked to other problems such as lack of education, lack of political influence and good leadership, or poor health. Children of poor families are far less likely to enter and complete school than children of families who are better off. Where education provides a reserve or opens options for economical activity, poor people will often be disadvantaged.

WARNING! Though there is a clear connection between poverty and vulnerability, it is a mistake to assume that all poor people are vulnerable or that poverty is the sole cause of vulnerability. In any particular case, people with greater wealth can be more vulnerable than those who are less well off. This depends on people's capacities to withstand the impact of a certain threat and to recover from it.

- **Exclusion/marginalization:** People who are left out of economic and social systems are vulnerable. For example, people who are excluded from access to education, health care, employment, housing, credit, political participation, etc. are not as able to manage and control the decisions and events that affect them, as those who do have access to all of these resources.

  People are excluded and marginalised for a number of reasons. For example, prejudice and discrimination against people of a certain gender, class, ethnic group, religion, race or other group, effectively marginalises them and makes them vulnerable. In some societies, people who have physical or mental disabilities are effectively excluded from many economic and social functions. Sometimes, social custom and roles result in exclusion or marginalisation of certain groups such as women and children who may have limited access to resources and opportunities.

Step 3: Assessing capacities and strengths

Assessing the capacities of the people who are potentially at risk from a threat is a very important step in choosing strategies to reduce risk. It is the step in the process that most people forget. When we leave it out, we can make many mistakes in programme design and waste scarce external resources. Furthermore, if we ignore rather than support the strengths of the recipients, the outcome is that they are undermined and even weakened. Thus, aid that was supposed to help people can actually end up leaving them dependent on external assistance and more likely to be vulnerable to future threats.

We should recognise that even the weakest in a community have some skills, resources and strengths to help themselves and perhaps others. For many, coping with everyday risks is a permanent activity and an integral part of their survival strategy. This can be an important asset to build upon in a crisis. Others may have social networks to support each other. Ultimately, this balance between weaknesses and strengths defines who is at more risk and who tips over the edge when the disaster strikes.

In many ways vulnerabilities and capacities are mirror images of each other. Effective and efficient programme planning needs to focus on both images. A certain weakness can be turned into a strength through programmes aimed at enhancing people's ability to help themselves. This is why we need to recognise what useful capacities exist in a country, area, within a National Society, community or individual, as well as what external resources are needed to cope with threats.

Capacities that we need to enhance for this purpose can be:

- **Physical and material:** People with economic and material resources can survive better. These may come in the form of cash, land, tools, food, jobs, energy sources or access to credit and borrowing capacity. The abundance and appropriateness of people's resources make a big difference to whether they can handle and control any kind of threat and whether they will lead a satisfying and dignified life. For example, people with access to food and clean water have better health to withstand disease; those with the means can afford materials and skills to make their homes strong against cyclones.

- **Social and organisational:** People have other resources that help them cope with, resist and handle the threats they may face. For example, communities that are close-knit and have social networks to support each other are stronger. Communities

where good leadership, caring local and national institutions are in place, and where people share the physical resources they have in times of need, are more likely to survive. These communities may be economically poor but still they can be strong. Social and organisational capacities can be just as important (and sometimes more important) as material or economic capacities in helping people achieve development.

- **Skills and attitudes:** Human resources are often the key to improve conditions. Those with skills, knowledge and education can have more choices and a greater ability to improve their conditions. People who are aware of their abilities and have confidence in themselves are better able to cope with a crisis. When they are dependent on others and feel victimised by events outside their control they have a limited desire to change their condition and so become more vulnerable to threats.

The role for the National Societies is to build up the self-esteem, dignity and self-reliance of the communities that they are working with. Capacity building may be a slow process but it has long term impact, moreover, it is a process that is close to the heart of National Societies as many of them know the benefits of strengthening their own organisation.

Perception of risk

Putting steps one, two and three together gives us an overall picture of the vulnerabilities and capacities of a community. But beware, this is our assessment, not necessarily that of the community under threat.

Assessment of potential threats, vulnerabilities and capacities is about assessment of risk. Level of risk can be predicted or measured to a certain degree. Doing something about it, however, does not always relate to the actual risk. It often depends on what is perceived as risk and the choices available to reduce it.

Nothing in life is safe. Anything from cooking with fire to commuting, smoking or using electricity presents a certain level of danger. Disasters are threats that occur less often compared to many other risks. Yet, the public is expected to take actions or follow advice in reducing disaster impact. Communities seem to tolerate different risks for different reasons. This may be due to lack of knowledge and misconceptions, low level of awareness and perception of certain risks, economical, social and cultural constraints or even awareness of the benefits brought by taking some risks.

- **Lack of knowledge of possible threats:** This is common where literacy and access to the media and other sources of information are limited. Loss of traditional knowledge of local threats can also play a part. This can occur when there is rapid social and technological change or long time-gaps between major disaster events. People in affected areas often comment on the loss of traditional understanding of risks by stating how much the elderly, their parents or ancestors knew about local threats and what to do about them. The National Society should take responsibility for informing the public of potential risks where this local knowledge is not available. This is particularly important in situations where the population has not been exposed to any major disaster event in its recent history or faces a new threat such as AIDS, and thus may have a false feeling of safety. Programmes to raise awareness are not only useful to increase perception of risk where it is judged too low, but also to educate the public that risks are preventable and to encourage them to participate in protecting themselves.

- **Misconceptions and cultural attitudes:** Cultural beliefs may influence the way communities relate to certain risks. Interpreting disasters as God's will or choosing to let destiny take its course creates very little desire among such groups to take any action to reduce risks. Programmes to reduce vulnerability should take into account the possibility of such resistance from the communities and develop creative ways of changing such attitudes.

- **Benefits in taking a risk:** Some risks come with benefits. For example, volcanic ashes can be a good fertiliser for some crops. A certain level of flooding is essential for the livelihoods of many farmers living on a flood plain. Proximity to an industrial plant can reduce the cost and travel time for those who work at the plant. The acceptability of a risk to individuals and society appears to increase with the benefits that can be obtained from being near the threat. In our programmes, we should be careful not to introduce new problems whilst trying to reduce others.

- **Economical and social priorities:** Awareness alone is not enough to stir people to take action or participate in programmes to reduce risks. Other priorities also play a fundamental role in guiding choices. Where resources and capacities are limited, and everyday risks are too many, it becomes difficult to invest time and money on reducing a potential risk. School books for children, a new ox, enough food to eat, somewhere to live, an approaching festival or an ill parent, will always take priority over something that may happen in the future.

How far communities are prepared to take risk, therefore, does not depend entirely on the actual risk level. It is often a subjective choice based on value judgement. Our vulnerability reduction programmes have to be aware of this reality and balance scientific judgements against the social, economical, cultural and political assessment of risks made by the individuals and communities that face them.

Section III.
Using vulnerability and capacity assessment

The overall purpose of vulnerability and capacity assessment (VCA) is to understand the nature and level of risks that the communities have to face; where these risks come from; what and who will be the worst affected; what is available at all levels to reduce the risks and what needs to be further strengthened. As such, it is a diagnostic tool to be used for better informed relief, mitigation and development programmes.

VCA can be applied in many ways: at different stages of the development cycle, as a diagnostic or planning tool across different sectors or in one particular sector such as health, food or water.

The place of VCA within the development cycle

Disasters and development are closely related. While disasters can considerably set back development in any society, vulnerability to disasters can be increased by the lack of development. It is important to recognise that VCA is not an approach only to define who should benefit from relief aid but also to recognise in advance, and change where possible, the conditions that give rise to problems. This provides us with the opportunity for strategic inputs to reduce risk from threats at various stages of the development-disaster continuum.

Pre-disaster/crisis stage

Disasters are *selective*. They seek out the weakest. Poor quality building, the unstable soil, the most degraded environment, the least developed countries, the poorest households, the politically, socially or culturally most marginalised, the least resourceful, the physically weakest individuals are all more susceptible to disasters.

A hazard or a threat is not the same thing as a disaster. A hazard turns into a disaster when something is exposed to it and is seriously affected by it, such as people, their health, their habitat or economy. How much they will be affected depends on the nature of the threat. A strong earthquake, a wide spread epidemic, a long lasting drought obviously can have a damaging impact. It also depends on the weakness of what is exposed to the threat. Buildings that are not designed for earthquakes, children who are not vaccinated for certain disease, families without the economic means to have access to food in a drought will be affected more. Disasters, therefore, occur when the threat coincides with something susceptible to it.

- **Can we remove the threat?** A simple solution to the problem could be to remove the threat from what is vulnerable to it. Perhaps the most successful example is the eradication of malaria in many parts of the world by eliminating the source of it. This is, however, not always possible or feasible for other threats. There are only a few examples of changing the course of rivers or closing down productive industrial plants because people, cities or agriculture is in danger.

- **Can we move away from the threat?** If we can not easily eliminate the threat can we move away from it. Where the threat can be predicted with some accuracy, evacuation of the population at high risk can save lives. There are numerous such success stories from recent cyclones, high winds and volcanic eruptions. Fleeing from conflict areas is sometimes the only choice left to people. Saving lives is of utmost importance; but, people still lose their homes, assets, crops or animals. This can render them economically weaker and exposed to future and other threats. Besides, not all threats are predictable with accuracy. Some are so wide-spread that there are no safe places to retreat to. Permanent relocation of settlements and mass migration of populations has been tried. In most situations, however, these are not economically feasible or socially and politically acceptable solutions.

- **Can we reduce the impact of disasters?** We can not easily keep the two sources of disasters apart; that is the threat and what is vulnerable to it. But, we can reduce the impact of a disaster. This we can achieve by reducing the threat or by strengthening what it threatens. For example, building dikes and dams can control flooding. Equally, strong buildings and crops resist the impact of flooding; strong economies can recover from the impact faster. In the health sector, improved water and sanitation can reduce the source of some disease. Vaccination, on the other hand, strengthens the body to fight it. Disaster mitigation, therefore, is about reducing the threat. It is also about strengthening what is weak and exposed to the threat. To put it in different words, this is what we call **reducing vulnerability** and **increasing capacity.**

Emergency response

Despite all efforts to improve vulnerable conditions and to reduce risks for the population in advance, many threats will eventually turn into disasters. In responding to these, the National Society plays a role in identify the most vulnerable for targeted, efficient and effective relief response. In doing so, there is a need to move away from the 'victim in need' approach towards a 'support' role. For this purpose, VCA can be useful in complementing traditional needs assessment.

Post-disaster rehabilitation

Post-disaster rehabilitation provides the best opportunity to evaluate what could have been done and what needs to be done to avoid repeated suffering. As the crisis will have highlighted the pre-disaster problems and heightened awareness at all levels, this is the best time for advocating and implementing risk reduction programmes. It is important at this stage to evaluate why certain groups were more affected than others as well as what can be done to improve their conditions. It is equally important to be vigilant about who may not be able to recover fully from the impact of the disaster. Those who suffered will continue to be vulnerable to repeat events and variations in capacity will determine who is, and who is not, pushed further down into destitution.

In programming for post-disaster recovery the impact of our programmes needs to be checked to ensure that we do not introduce new problems while trying to reduce others. For example, a programme aiming to increase the capacities of women might also be increasing their work load without necessarily helping them to reduce their traditional labour. Are they travelling more, will they be working longer hours, loose their traditional rights, socials status, etc.? Thirdly, opportunities for long-term and sustainable alleviation of suffering should not be lost. Remember that disasters also provide windows of opportunities for development.

Long-term development

Most of the points mentioned under rehabilitation apply equally to long-term development. Development is about strengthening the capacities of the most vulnerable in the long term. By strengthening capacities on a sustainable basis, one helps people help themselves to become less dependent on outside assistance and less vulnerable to disasters. Of critical importance is to recognise the existing and potential resources and skills of the target groups and to build upon these. It is also critically important that they participate in determining their own development, i.e. in choosing, designing and implementing development programmes.

VCA as a diagnostic tool

- It helps us to understand problems (symptoms) and where they stem from (underlying causes).
- It helps us to systematically look at what is available to alleviate the problem (resources, skills and capacities) and decide whether we should be involved and at what level.

- It encourages us to focus on specific local conditions (specific threats and risks, most vulnerable groups, sources of vulnerability, local perception of risks, local resources and capacities).
- It highlights different areas of responsibility for reducing vulnerabilities as some will require political inputs, others technical, monetary or social. This helps the National Society define more clearly their roles and possible areas of collaboration with the government, communities and other agencies.

VCA as a planning tool

- As vulnerability reduction is a long-term process, it helps us to prioritise and sequence our actions and inputs in determining who and what should be addressed at which stage.
- It provides an opportunity for dynamic and realistic planning where changes can be monitored and single-solution programmes can be avoided.
- It helps to evaluate the impact of a project in terms of risks reduced, vulnerable conditions improved, capacities enhanced or new risks introduced through our programmes.

Use of VCA in a single sector

VCA can also be used to estimate the probability and the level of a particular risk from a specific threat. For example, to assess the level of measles risk among children in a refugee camp; the probability of building collapse in a city from a certain scale of earthquake; the relative risk of malnutrition from food shortage in different parts of a country. This type of assessment requires accurate indicators of vulnerability, as well as scientific methods of data collection and assessment. This kind of work is more commonly carried out in the health, agriculture and building sectors where the damage from a phenomenon is relatively easy to measure and predict. The social, cultural, psychological and even economic indicators of vulnerability however are not all equally well developed and can not yet all be measured with accuracy. Scientific work of this nature is already undertaken by some of the National Societies in relation to the health sector. Developing capacity in other areas may not be a National Society responsibility. However, collaboration with research and Government institutions can benefit vulnerability reduction programmes considerably.

Section IV:
Taking action

The task for the National Society is to develop imaginative programmes in order to turn weaknesses into strengths; problems into solutions. Some actions may be clearly beyond the capacity of the National Society and fall into the agenda of the national Governments and development agencies. However, in working with the populations at risk, the National Society and its local network have important contributions to make in reducing vulnerabilities by targeting the root causes through development, pre and post-disaster mitigation programmes and by targeting the symptoms through better disaster preparedness and response. There is always an opportunity at each stage to make a positive change in the conditions. The key to

success lies in being able to make the right diagnosis and to find the most effective solutions which build upon local capacities.

Summary: Vulnerability and capacity assessment

Step 1: Identifying potential "threats"

There are three basic categories of threats.

- **Those based in nature:** (Earthquakes, cyclones, droughts, floods, pathogens etc.)
- **Those based in violence:** (War, intimidation, harassment, sexual assault, etc.)
- **Those based in deterioration:** (Declining health, education and other social services; trade shifts; government policies; environmental degradation etc.)

When we have identified the possible threats, it is then important to make some reasonable assessment of how probable such threats are and how serious they might be if they occurred.

Step 2: Identifying vulnerabilities

There are three basic characteristics that make some groups more vulnerable than others.

- **Proximity/exposure:** People who live or work near some kind of hazard are more vulnerable than those who don't.
- **Poverty:** People who have few options, few resources and few reserves can be pushed over the "edge" of survival more easily than those who are wealthier.
- **Exclusion/marginalization:** People who are left out of economic and social systems or lack access to social services due to religion, race, gender, class and other factors are vulnerable; e.g., certain ethnic groups, women who are single heads of households.

Step 3: Assessing people's capacities to prevent or cope with the threat

This is the step in the process that most people forget. When we leave it out, we can make many mistakes in programme design and waste scarce assistance resources. People's capacities can be understood in three categories.

- **Physical/material:** People have physical resources that they rely on to survive and to lead a satisfying and dignified life.
- **Social/organizational:** For example, communities that are close-knit, where people take care of and help each other, and where people share the physical resources they have in times of need, are better able to cope.
- **Skills and attitudes:** When people have skills they are better able to exploit resources. When people are dependent on others and feel victimised by events outside their control, they have few attitudinal capacities.

Putting it all together - Vulnerability and Capacity Assessment

From Step I, we know what the likely threats are in any given situation and we know how likely they are to happen and how bad the impact would be if they happened.

From Step II, we know who is most likely to be affected by any of the threats we have identified in Step I.

From Step III, we know what the people, themselves, have that keeps them from being vulnerable.

The result is a *Vulnerability and Capacity Assessment.* The picture is a dynamic one and lots of things can change it. Thus, this tool can also be used to design our programmes and to monitor and evaluate their impact.

Keynote paper. Vulnerability assessment

Dr Y. F. AYSAN, International Federation of Red Cross and Red Crescent Societies, Switzerland

INTRODUCTION

Assessment of hazards, especially the ones based in nature, has been a concern for the scientific community for a long time. Better instrumentation, global networks, collaboration among the relevant institutions and agencies over the decades have resulted in improved hazard assessment techniques and data. There is still more to do in knowing the hazards, especially in relation to slow-onset disasters such as drought and environmental degradation. However, understanding the phenomena better is only part of the picture. The Decade's aim, that is, the reduction of natural disasters can not be achieved unless there is as good an understanding of what or who are vulnerable to the impact of hazards and why.

Assessment of vulnerability has been a key development in the disaster field throughout the last decade. Much progress has been achieved especially in measuring and mapping physical vulnerability. This is partly due to the fact that physical damage such as to buildings, infrastructure, land, agriculture etc. are relatively easier to quantify than developing indicators for social, political or household economic vulnerabilities. Of course, another factor is that the physical sciences have been specialised in the subject much longer hence, developed methods of assessment while the interest of social sciences in the disaster field has been relatively new. Similarly, most post-disaster mitigation measures focus on strengthening the physical systems against potential hazards because damage to them is tangible, while the non-physical is not as visible and usually assumed to be the responsibility of the affected communities.

It is true that most disasters are manifested in some physical losses. Quite often, however, physical vulnerability to hazards occur where people lack the resources, awareness, knowledge,power, or, the choices to mobilise the defenses against hazards.Reduction of disasters and its sustainability, above all,necessitate making positive changes in these conditions. Achieving some of these changes are long range

Natural disasters. Thomas Telford, London, 1993

goals requiring social justice, equitable resource distribution and political empowerment. However, there are many short and medium-term measures that can be encouraged. This paper explores understanding how vulnerability arises and suggest approaches to take in the next decade to reduce them.

CHANGING TRENDS IN DISASTERS

According to statistics, the number of damaging events and their impact on property and people have been on the increase. This may be due to the fact that with improved communications and better data collection more disasters became known worldwide but this is not the key factor in the increase. Disasters occur when a hazard or a threat arises in vulnerable conditions and the trends reflect an increase in both.

Increase in threats:

The first step in identifying the increased disaster risks is knowing the historically known as well as newly emerging threats. These can basically be classified as:

*Events Based in Nature; such as earthquakes, cyclones, volcanic eruptions, droughts, floods, pathogene (virus, bacteria, parasite) etc.

*Events Based in Violence; such as war, conflict, intimidation, hostility etc.

*Events Based in degradation and deprivation; such as environmental and technological degradation, political and economic deprivation, malnutrition, illiteracy etc

While some of the threats such as natural hazards and the patterns of their impact have been better understood others are relatively new, and furthermore very complex in nature often one triggering the other in a chain reaction. An evaluation of these reveal the following trends:

* The increase in nature based events have been random. Although there are some observed changes between the climatic changes and the number of floods, droughts and hurricanes, this is yet to be proven. The severity of the impact of these events seem to relate more to increased vulnerabilities and higher population exposure to the events rather than perhaps a significant increase in the number of hazard occurrences.

* Among the nature based events epidemics have been on the increase. The HIV/AIDS, as a new epidemic alone, has been accountable for 13 million affected people world-wide by 1993. The death of middle-aged adults and the selective loss of young will also radically alter the impact of other types of disasters in the future. For example, already the negative impact of this disease in coping with droughts in Africa has been noticible.

* Increase in the number of events based in violence has been significant during the last decade of this century. Since the Second World War at least 40 million people have been killed in 125 wars and conflicts. Today, in places like Somalia and former Yugoslavia, nine out of 10 people injured or killed are civilians. Wars and conflict situation in many parts of the world have also resulted in the rapid spread of epidemics due to damaged water and sanitary provisions and limited access to health facilities and food. Furthermore, natural disasters such as floods and droughts during conflict, for example, in Sudan and Mozambique had a far worst impact than usual on the communities.

*Similarly, events based in deprivation have been on the increase. Environmental and ecological conditions are weakened due to human activity resulting in more land slides, severe droughts or floods, contamination of air, water and land; political and economic deprivation progressively have increased vulnerability to other threats; rate of technological change and industrial developments and their misuse have introduced new risks, sometimes as a consequence of the impact of natural disasters such as floods or earthquakes.

The current hazard trends highlights the fact that the distinction between the events based in nature and others, in most situations, is not clearcut. Increasingly, the threats that we have to be prepared for are becoming complex and interrelated. The challenge throughout the decade is not only a better understanding of the known natural hazards but also the changing and newly emerging threats as well as their complex inter-relationship. The role for the scientific community in this respect is perhaps moving beyond the scope of their disciplines and better cooperation among various disciplines.

Increase in vulnerabilities:

Comparisons of impact between different types of disasters and between different countries suffer from weaknesses in statistics. While events, their physical characteristics, and to some extend damage to human life and property are better recorded, data on the human and economic impact of disasters is, as yet, far less satisfactory. Economic losses of a poor community can be small in dollars because they have very little material wealth to lose. But the impact of this loss is often devastating for the less well-off. Classification of 'people affected' can be equally problematic as there are no agreed scientific definitions for measuring human impact of disasters. Consequently, the indicators of non-physical vulnerability are equally weak.

In a recent collaboration between CRED in Belgium and the Federation of Red Cross and Red Crescent Societies on the World Disaster Report,CRED definition of 'affected population were used (fig.1). Out of this a comparison of top five

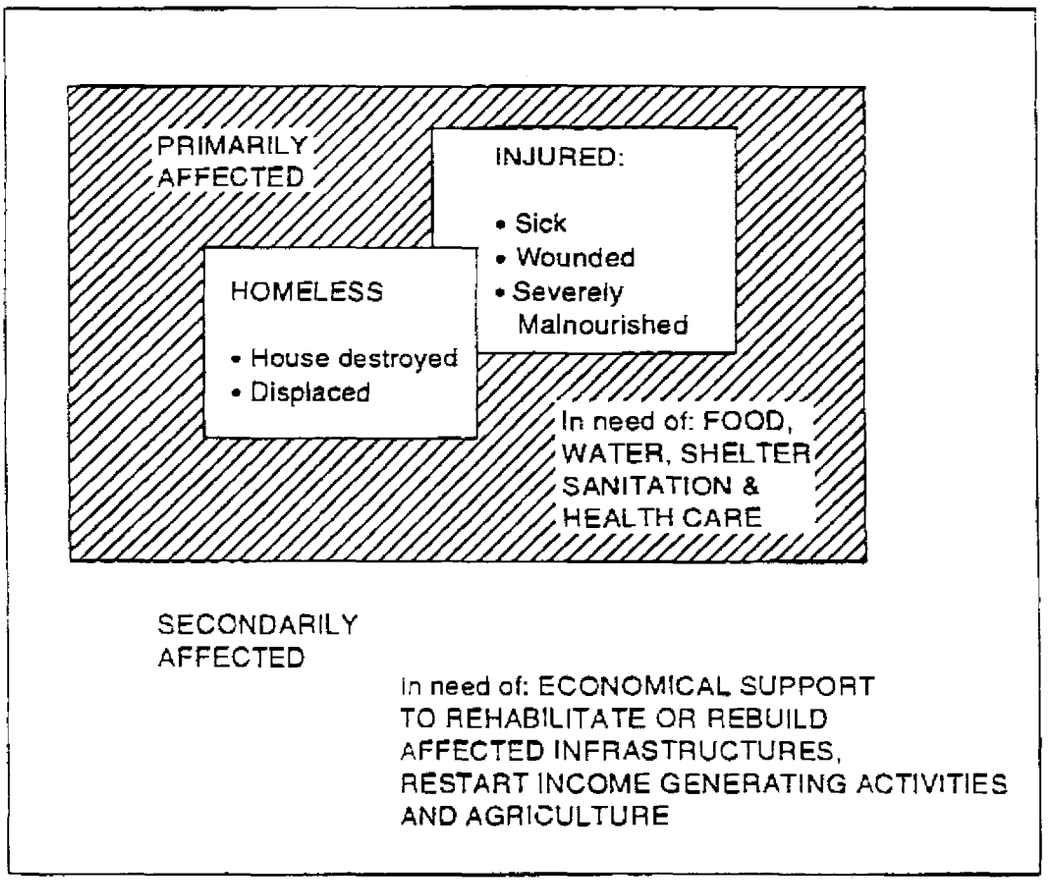

Fig. 1. Graphic representation of affected populations in disaster situations

countries in relation to number of deaths and number of people affected by disaster type were drawn (figs.2,3,4,5 6,7,8,9,10, 11,12,13,14).

The database for this kind of comparison is still weak as information on complex disasters or the characteristics of the affected population are seldom collected. Within the confines of what is available, however, it is still possible to observe some indicators of vulnerability. For example, China, India, Bangladesh and Philippines appear among the top five countries in terms of death toll and number of people affected from most type of disasters. This is partly because these countries are geographically located in hazard-prone areas but the similarities go further than this. All of these countries have very large populations who are also economically poor. Often, these are the people who live on the most hazard-prone parts of their countries with the least resources, awareness, knowledge,power, or, the choices to mobilise the defenses against these frequent hazards.

The question of who are the most vulnerable, however, can not only be answered in economic or spacial terms. Not all poor are affected by the disasters at the same level nor all people living in the same area would face the same level of disaster

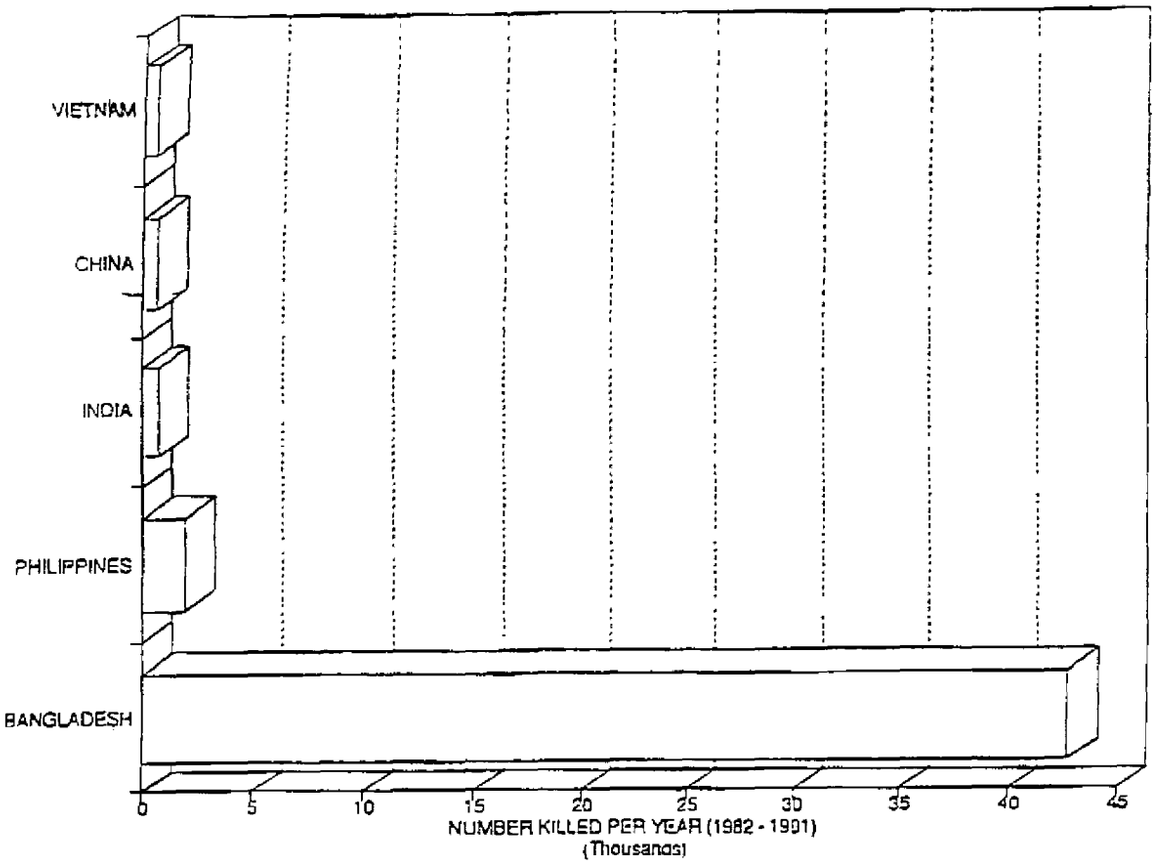

Fig. 2. Top five countries most affected by high winds (1982-1991 inclusive): 48,320 killed per year worldwide (1982-1991)

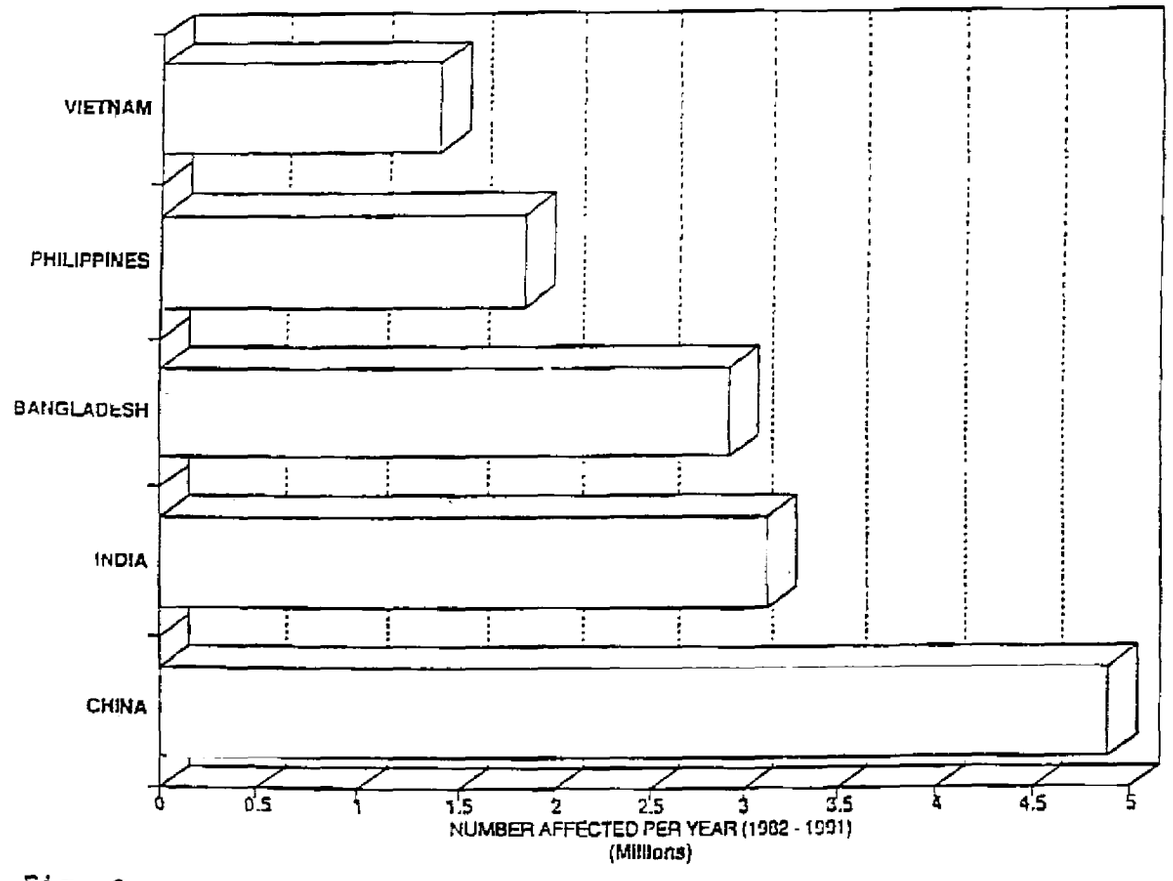

Fig. 3. Top five countries most affected by high winds (1982-1991 inclusive): 15,200,280 affected per year worldwide (1982-1991)

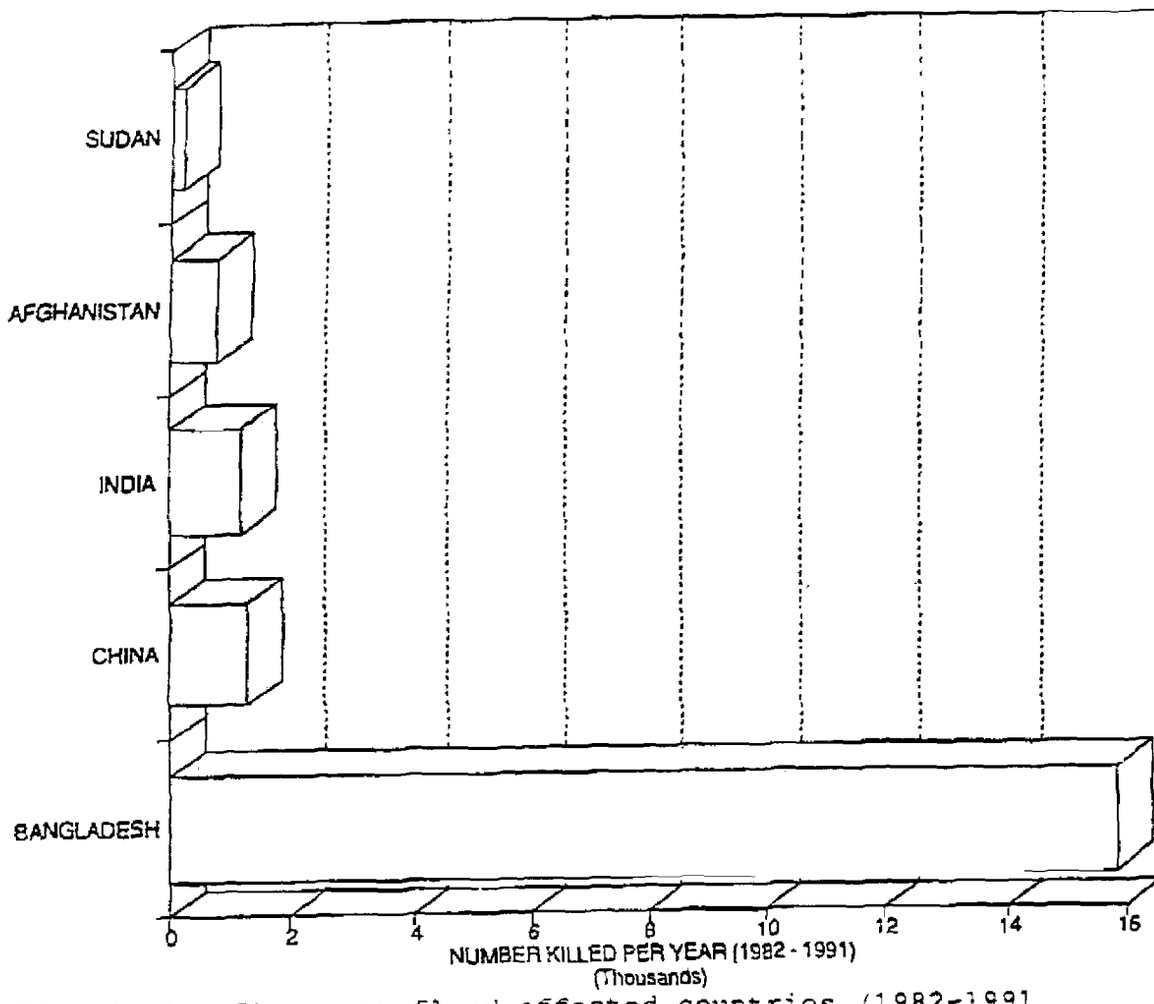

Fig. 4. Top five most flood affected countries (1982-1991 inclusive): 21,446 deaths per year worldwide (1982-1991)

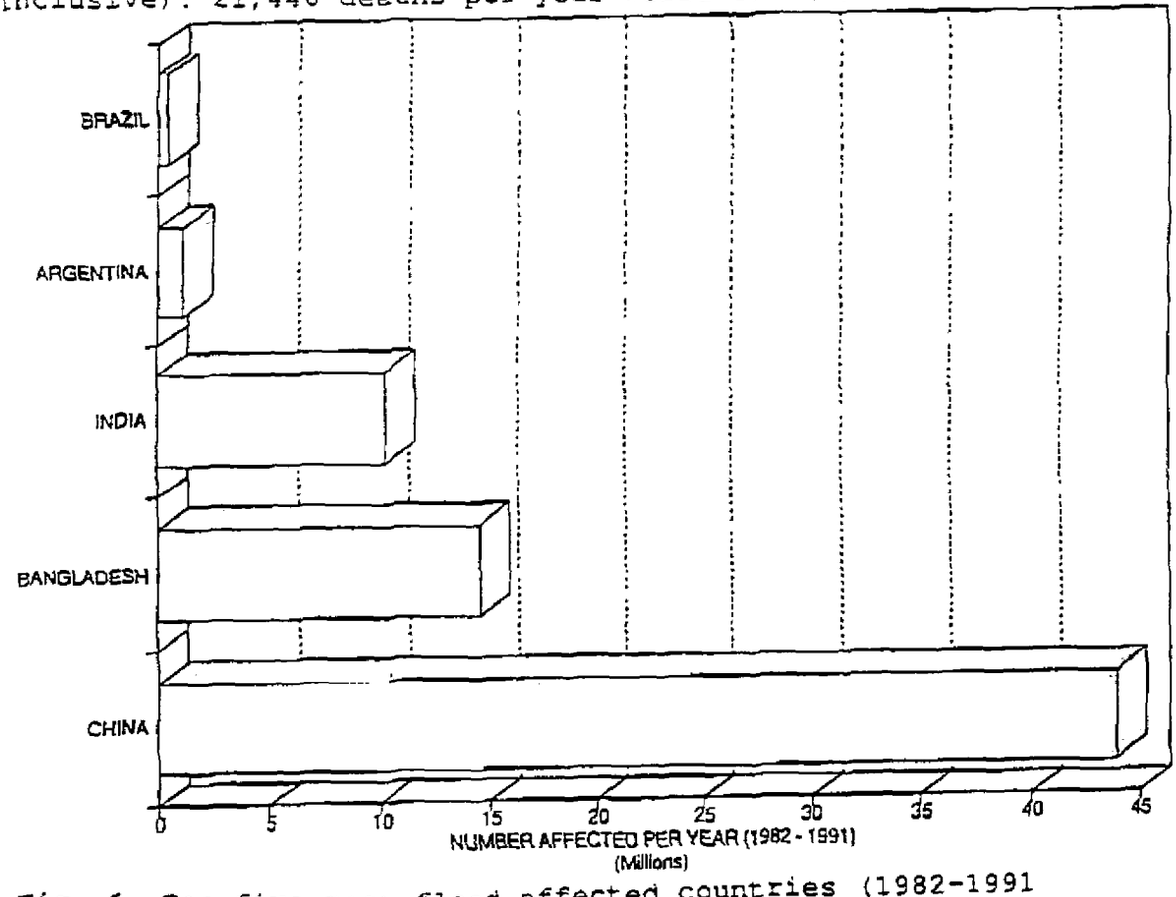

Fig. 5. Top five most flood affected countries (1982-1991 inclusive): 73,084,160 affected per year worldwide (1982-1991)

* The empnasis of the IDRDR is still on the hazards and physical aspects of vulnerability, more attention needs to be paid to human vulnerability.

* As the distinction between natural disaters and others are becoming more and more blurred, there is need for better understanding of comlex events and the relationship of various threats.

* Methods for human vulnerability assessment are still weak. Better indicators for social, economic, etx vulnerability needs to be developed.

* Better integration of hazard, vulnerability and risk studies should be sougnt through inter-disciplinary work.

* Integrated vulnerability assessment should be encouraged rather than one sector, one factor analysis.

* Although the Decade is International, the key levels for action in vulnerability reduction has to be national and local, and for networking regional.

* Funding should not be confined to global scientific and technical research but more resources need to be channelised to local level investigations and community based mitigation programmes.

* Disaster mitigation programmes have to become enabling activities, hence, the development aspect of mitigation is vital.

References:

1- Oliver-Smith, A., The Martyred City: Death and Rebirth in the Andes. University of Mexico Press, Albuquerque (1986).

2- Wisner, B., Disaster Vulnerability, Society for Applied Anthropology, Memphis, March 1992.

3- Maskrey, A., Defining the Community's Role in Disaster Mitigation, Appropriate Technology, v.19, n.3.

DISASTER MITIGATION

There has been a growing interest, in the last three decades, in mitigation programmes but their impact has been limited. It is true that mitigation still is a low priority on most aid budgets, therefore, funding is tight; the number of vulnerable is growing fast, therefore, any level of mitigation will fall behind the needs. However, despite some advances made many mitigation programmes are also unsuccessful because they do not address disaster vulnerability in its complexity. A recent review of some disaster mitigation programmes in Latin America highlighted some of the problems (3):

* Most programmes are related to strengthening one sector responding to a particular hazard type in a limited time period.

* Most programmes ignore the range and variety of local needs and priorities hence focus on a very limited part of the problem.

* Despite collection of data on people's conditions many programmes fail to take into account why people make certain choices such as living on a flood plain or a volcano.

* Most programmes rely on specialised technologies and professional skills, therefore, people can not easily be involved in decisions and implementation.

* Participation by people in most cases is reduced to providing labour.

* Some programmes are susceptible to political manipulation, therefore, maintain the status quo.

* Most programmes depend on external -both national and international- expertise, materials and funding, hence can not easily be maintained and duplicated at the local level.

The study shows that the failure of most mitigation programmes is not due to the lack of scientific or technological knowledge but rather of a methodological and attitudinal one. By definition, disaster vulnerability occurs at the local level and it needs to be understood and mitigated at the local level. However, very little work goes into understanding the frequent local threats and local conditions of vulnerability. Much of work still focusses on rare but big events resulting in specific mitigation programmes based on global analysis.

AGENDA FOR THE IDNDR

The Decade's focus is on disaster reduction. It is, therefore, essential that the conventional approaches are reviewed, lessons are learned and new alternatives are developed through out the Decade and beyond.

- disadvantage/marginalisation: people who are peripheral or weak due to gender, age, ethnicity, class etc.

These characteristics are interrelated in most situations. The marginalised in most cases live in poor quality buildings, hazard prone areas. They often have the least resources and capacities to recover from the impact of disasters further pushed towards the edge after each event, becoming more and more vulnerable to many more threats.

From the impact point of view these simplified categories can help the aid worker, the donor, the authorities to target their inputs to support the most in need. As the 'humanitarian gap' between the needs and the resources are growing fast it is inevitable to look for ways of defining who are the most vulnerable for effective response. Protecting the most vulnerable also requires knowing why they are vulnerable so that the conditions that put them at high risk can be changed. This requires a focus on causation rather than simple or even complex correlation. Thus, one is interested not in vulnerable groups per se but in the conditions that bring about their vulnerability to disasters and their capacity to recover. Some of the critical causes in this process can be:

* lack of access to resources (material/economic vulnerability)
* disintegration of social patterns (social vulnerability),
* degradation of the environment and inability to protect it (ecological vulnerability),
* lack of strong national and local institutional structures (organisational vulnerability),
* lack of access to information and knowledge (educational vulnerability),
* lack of public awareness (attitudinal and motivational vulnerability)
* limited access to political power and representation (political vulnerability),
* certain beliefs and customs (cultural vulnerability).
* weak buildings or weak individuals (physical vulnerability)

The pursuit of causes, as one author puts it, can lead one back decades or even centuries.(1) The famine in Somalia can be traced back to the policies of its first independent government (2). The earthquake risk in Mexico City can be taken as far back to the urbanisation decisions of the Spanish conquerers. Though such pursuits can mostly be academic and not possible for all situations and for all involved in the disaster field, detailed vulnerability analysis and an understanding of its dynamics are useful if the aim is to mitigate disasters rather than to cure their symptoms.

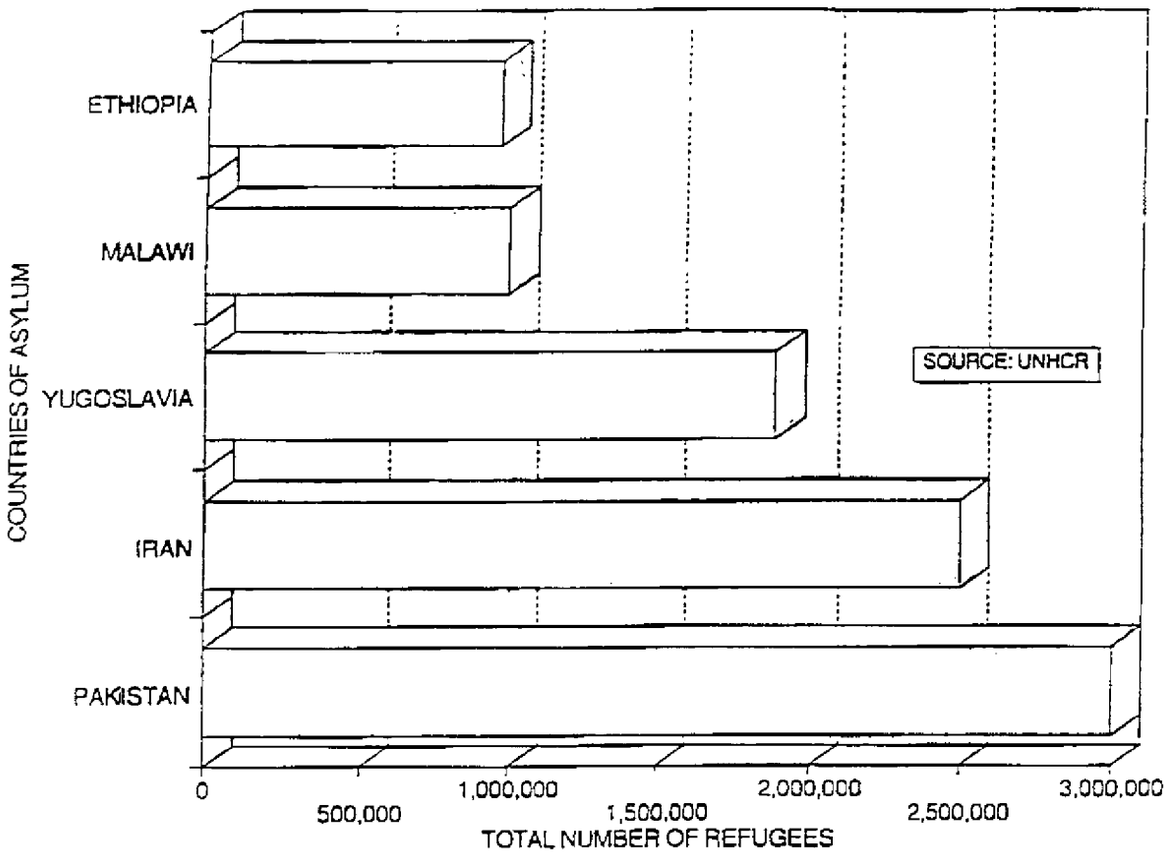

Fig. 14. Top five most affected countries of asylum (August 1992) total refugees worldwide 16,844,211

risk. Most communities are not homogeneous in their social make up. Although there is limited, and mostly epidemiological, data available on the subject there is enough evidence from case study surveys and field accounts to suggest that there is a strong causal relationship between vulnerability to disasters and such characteristics as socio-economic class, gender, ethnicity, age and disability. People who belong to the disadvantaged or marginalised groups in a number of these categories are often the hardest hit by disasters and the least able to recover from the impacts of it. Of course, the definition of disadvantaged or marginal varies from society to society and also changes in time. This is why vulnerability has to be understood as a dynamic phenomena and defined locally.

From the above analysis, only rough conclusions can be made in identifying the people who are most likely to be at risk from the impact of disasters:

- proximity/exposure: people who occupy or, for their livelihood, depend on areas of high hazard risk;
- capacities and resources: people who have limited means and capacity to mobilise them in order to increase and their defences against hazards;

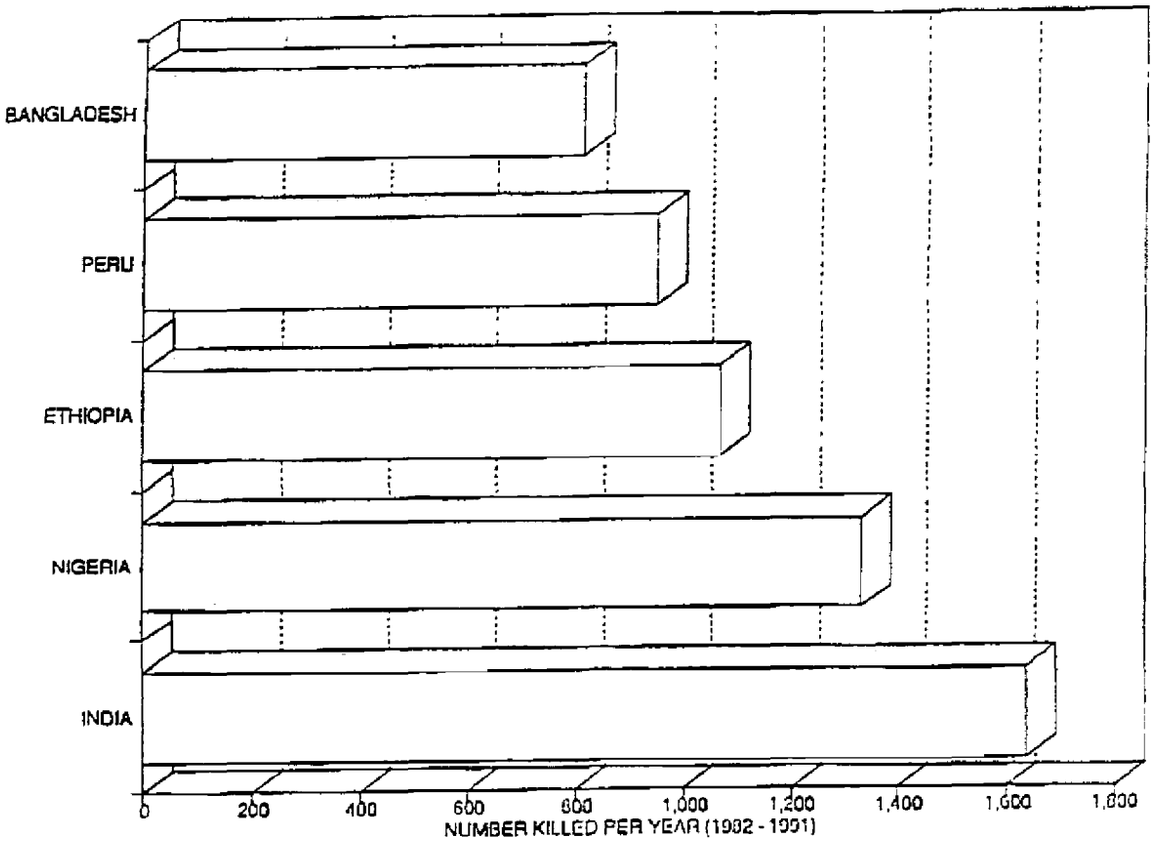

Fig. 12. Top five countries most affected by epidemic (1982-1991 inclusive): 9,201 deaths per year worldwide (1982-1991)

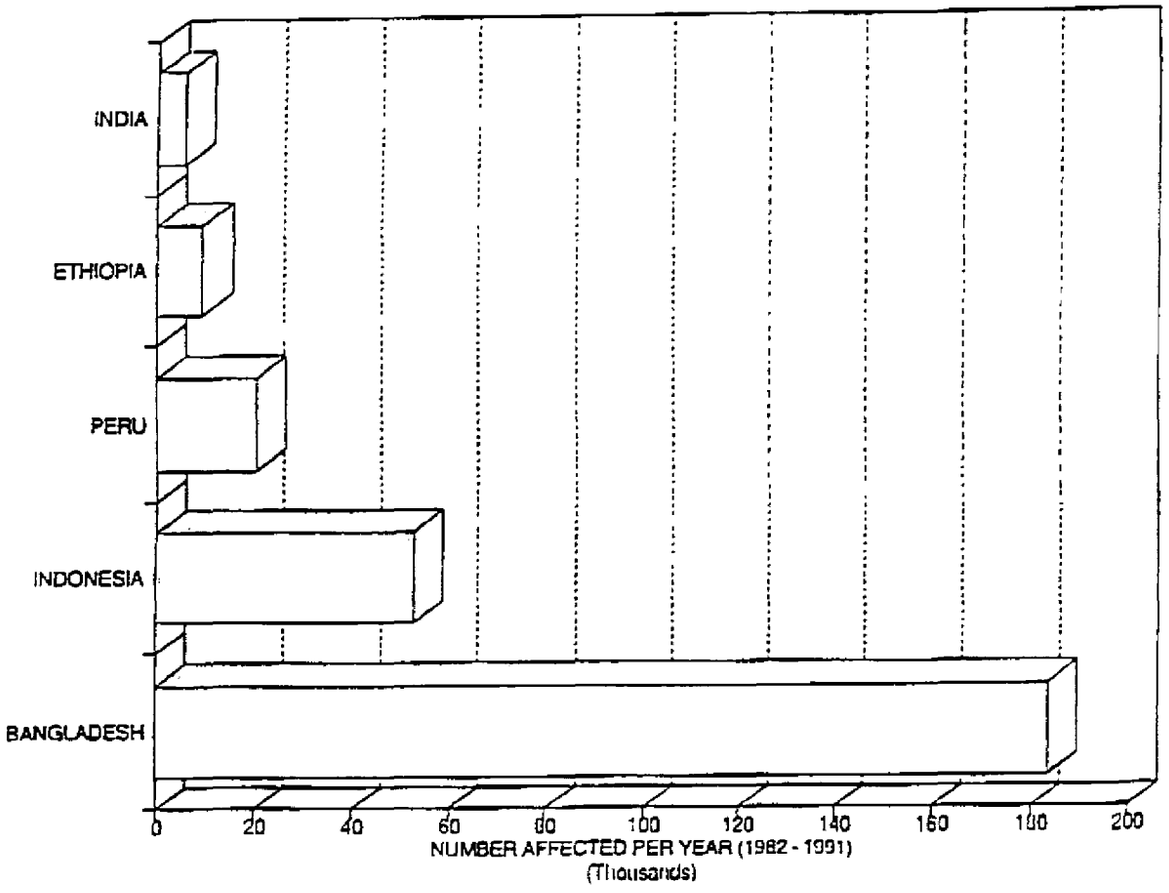

Fig. 13. Top five countries most affected by epidemic (1982-1991 inclusive): 310,608 affected per year worldwide (1982-1991)

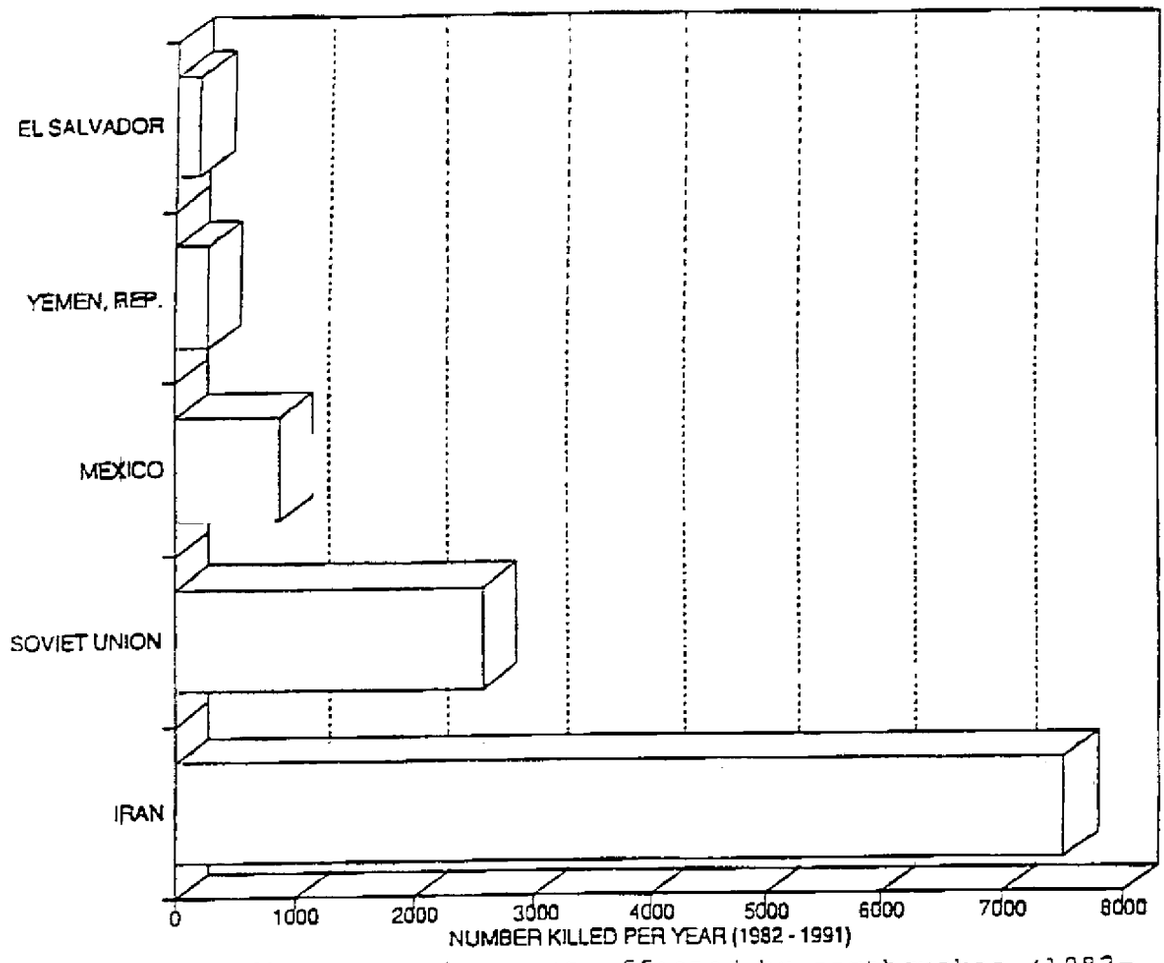

Fig. 10. Top five countries most affected by earthquakes (1982-1991 inclusive): 112,932 deaths per year worldwide (1982-1991)

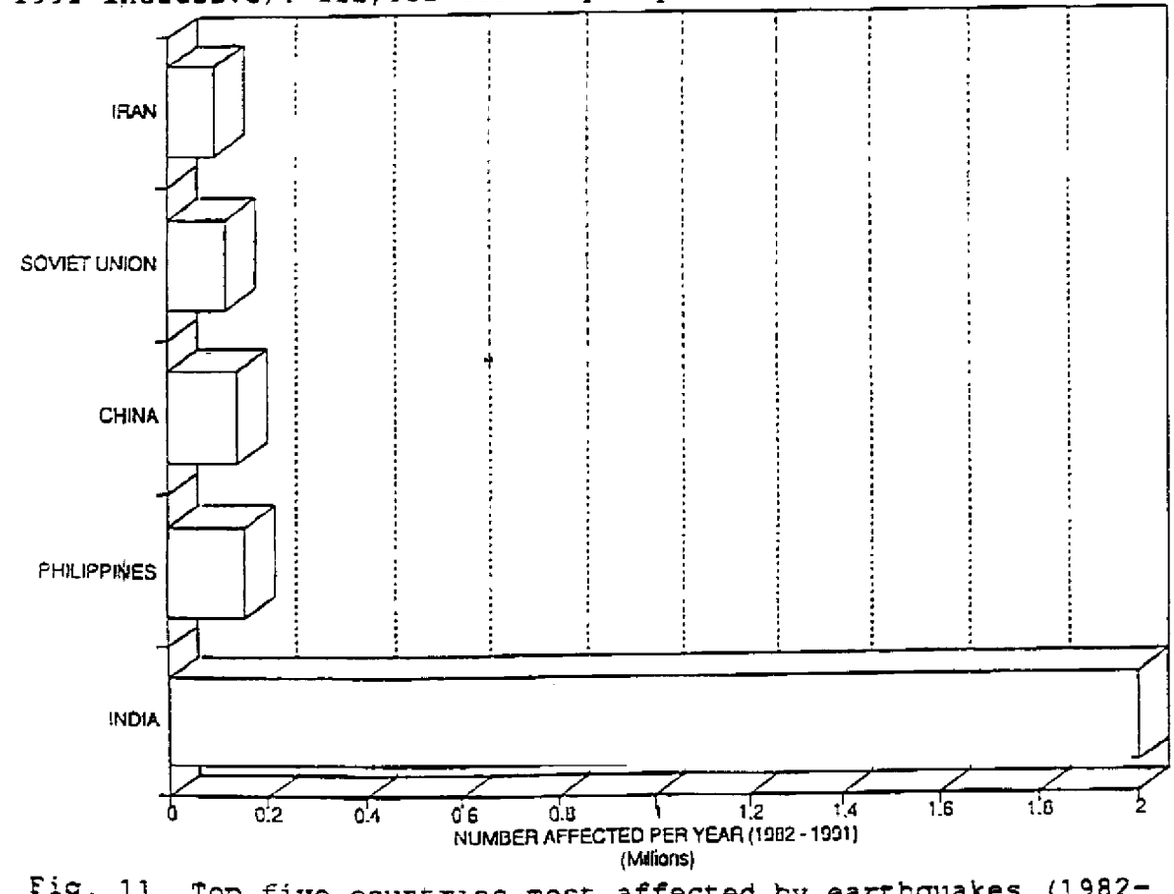

Fig. 11. Top five countries most affected by earthquakes (1982-1991 inclusive): 2,784,824 affected per year worldwide (1982-1991)

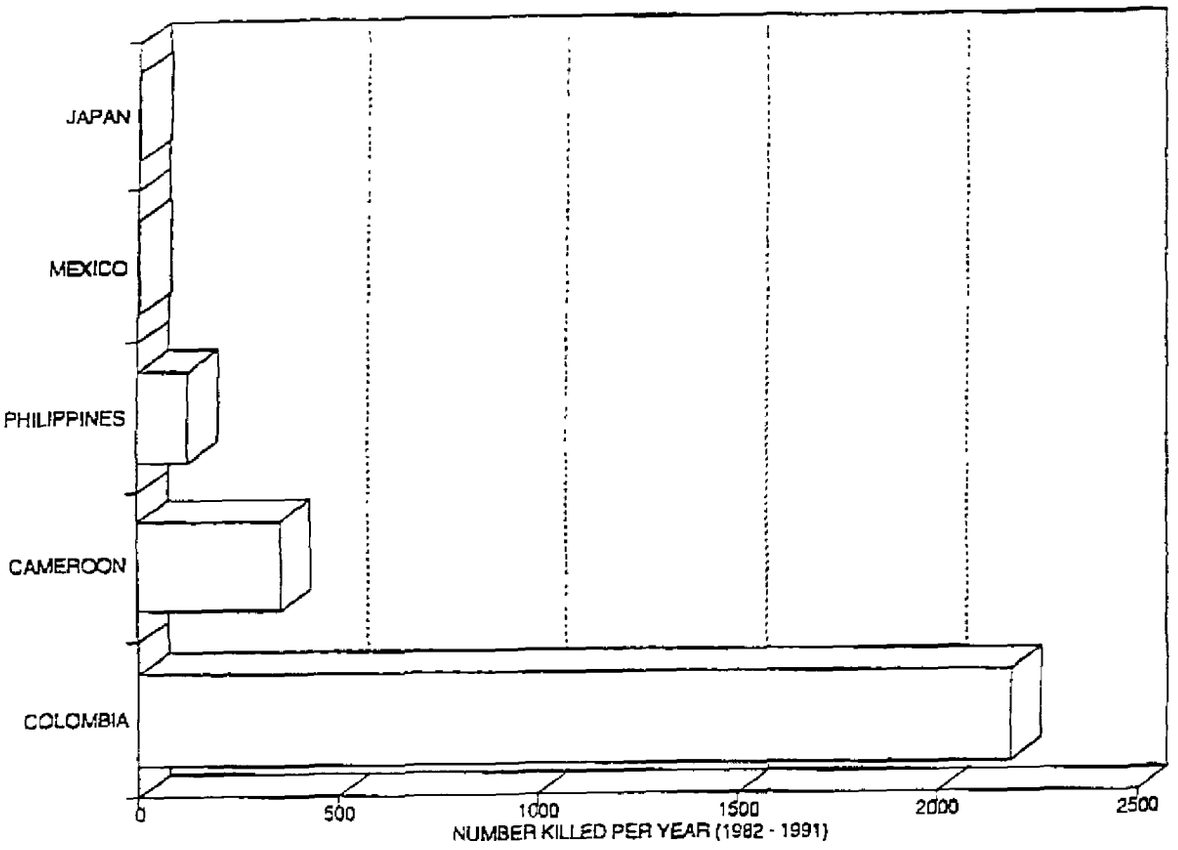

Fig. 8. Top five countries most affected by volcanic events (1982-1991 inclusive): 2,687 killed per year worldwide (1982-1991)

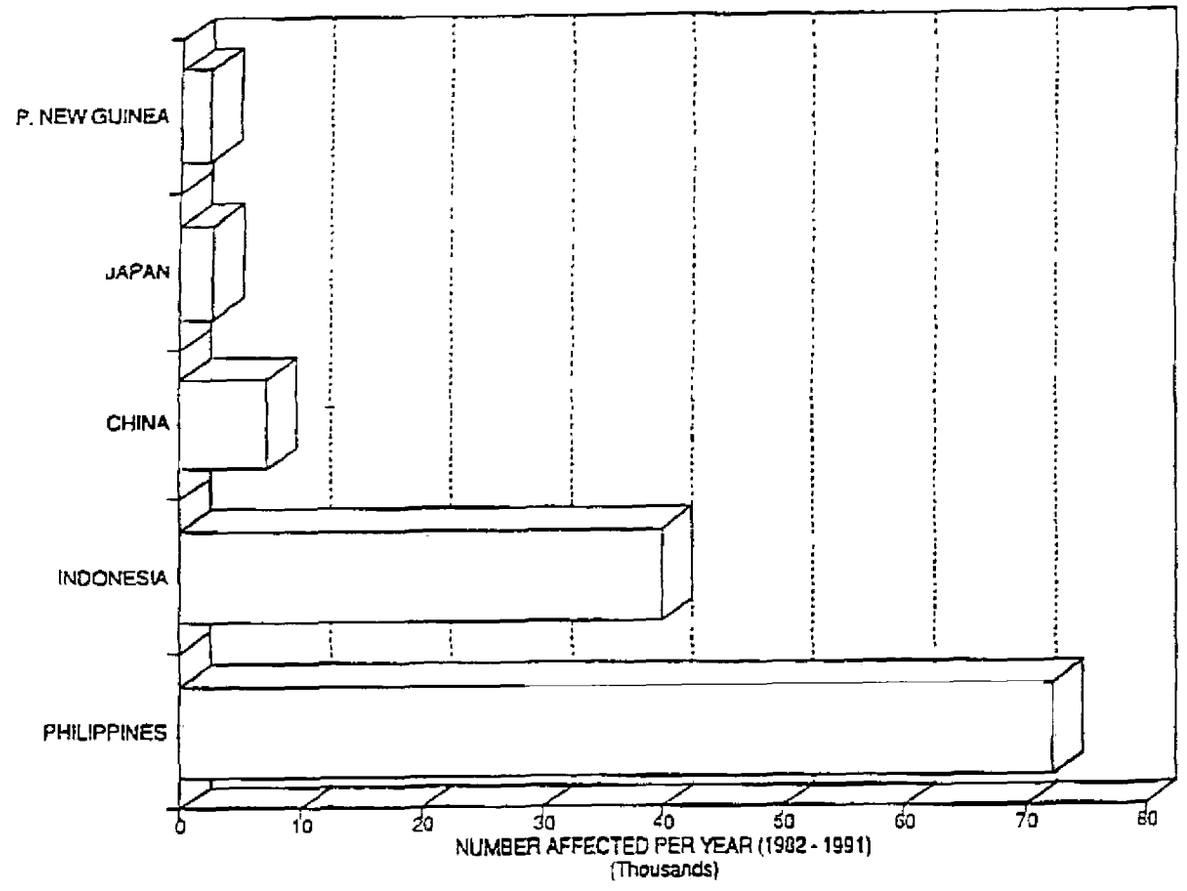

Fig. 9. Top five countries most affected by volcanic events (1982-1991 inclusive): 130,368 affected per year worldwide (1982-1991)

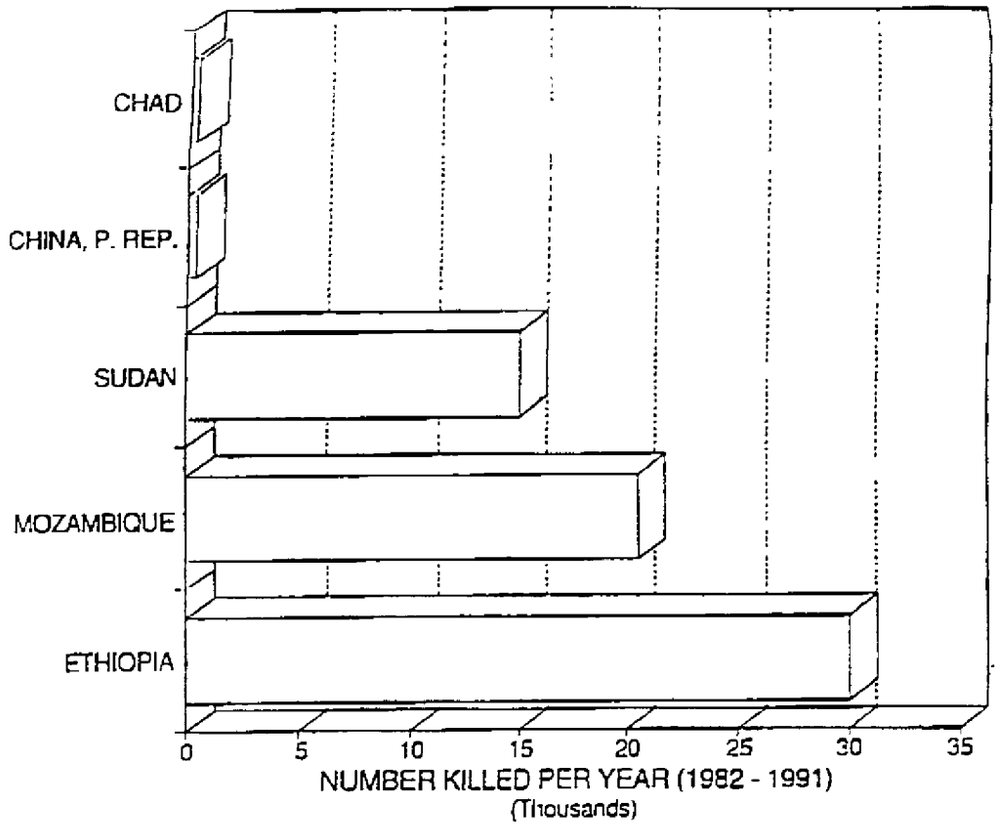

Fig. 6. Top five most famine affected countries (1982-1991 inclusive): 192,726 deaths per year worldwide (1982-1991)

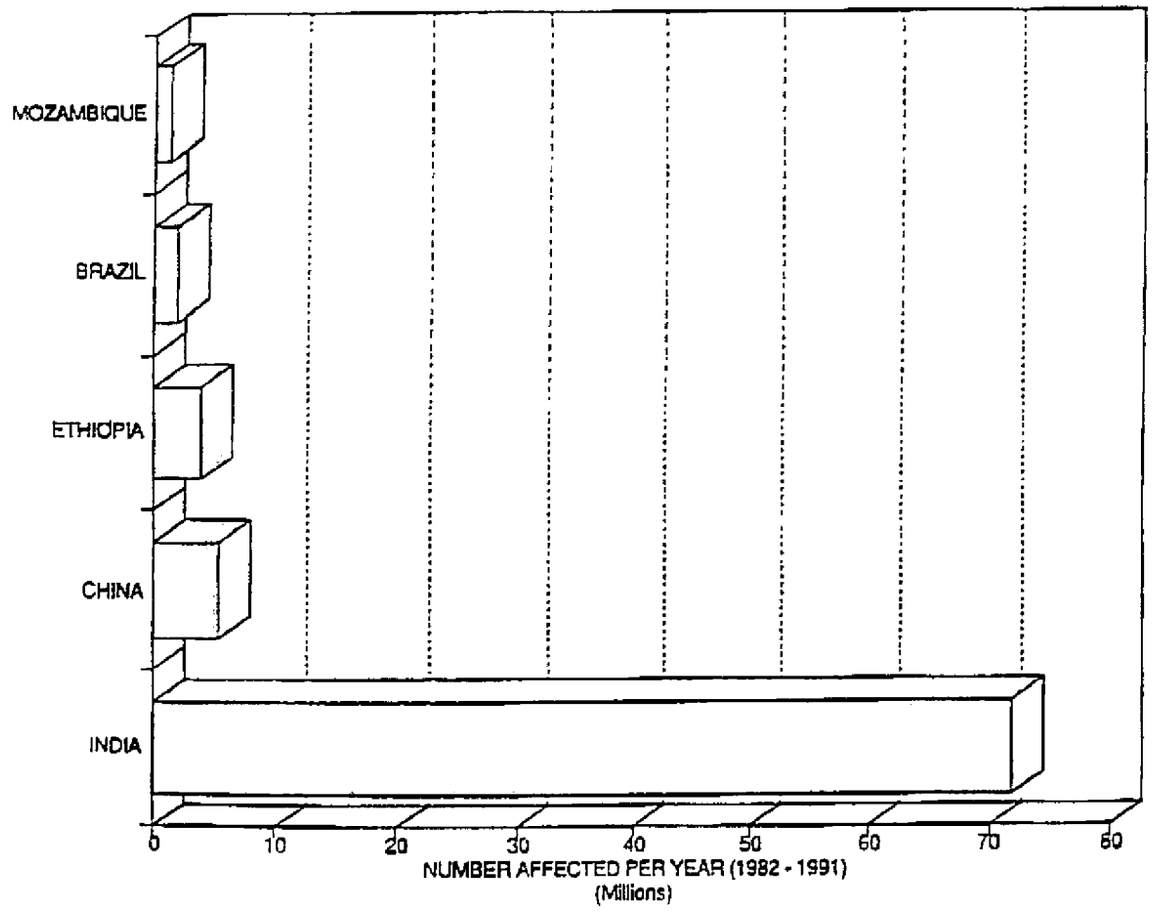

Fig. 7. Top five most famine affected countries (1982-1991 inclusive): 959,183,300 affected per year worldwide (1982-1991)