DISASTER RELIEF AND REHABILITATION: POLICY ISSUES RELATED TO WOMEN AND CHILDREN

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> All persons who do not take part.... in hostilities are entitled to respect for their person and honour and they shall be in all circumstances treated humanely without any adverse distinction..... Acts of violence to life, health and physical and mental well being of persons shall be prohibited at any time and in any place whatsoever.... Children shall be provided with care and aid they require.

Extracts from : Article 4 , Part II of Additional Protocol II , Geneva Convention

1.0 INTRODUCTION

Since 1980, over two million people have died as an immediate result of natural and man-made disasters. The refugee population has grown 500 percent since 1970 compared to a 20 percent growth in the world population, registering nearly 16 million refugees in 1992. This estimation does not include the internally displaced, of which there are 1.2 million in the Philippines alone More than half of these are women and children. In the year 1992 alone, more than 300 million people have had their homes or livelihoods destroyed directly by disasters and UNICEF estimated about 4 million children to have been permanently disabled due to natural and man-made disasters. Even as this paper is being written, nearly 7 million people are homeless and displaced in Bangladesh due to severe floods (UN DHA Situation Report, 1993).

Other statistics on numbers affected, hectares of land flooded, harvests lost are equally alarming But statistics, however, alarming will not help reduce disaster impact, unless they are seen by policy makers as a reflection of the human misery,

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economic deprivation and social injustice that it really represents. The key to reducing disaster vulnerability is to recognise that the impact of disasters are essentially the unsolved development problems of the world.

This paper is divided into two main parts. The first part describes the context of natural disasters in terms of its scope and trends. The second part deals with priority issues related to disasters that particularly affect children and maternal status of women. While some of the issues are better documented than others, most of the evidence remains scattered and often anecdotal. Non-governmental agencies have been practically the only group to raise the relief problems to public light and occasionally to conduct systematic study But by and large, emergency relief, despite significant outlays that runs into billions of dollars per year, remains ad hoc and unplanned - essentially, a cheque writing exercise.

PART I - CONTEXT

DISASTERS: REVIEW OF OCCURRENCES AND TRENDS

The human impact of natural and manmade disasters have evolved over the last three decades. Since the recent unfolding of the disasters in Somalia, Sudan former Yugoslavia, Cambodia, Afghanistan , the world is recognising that economic dislocation, natural disasters, collapsing political structures, famines, mass displacements have all woven together to affect millions in ways both profound and prolonged. Analysis of disaster impact and relief effectiveness has been seriously hampered by the lack of consistent and accurate data or standard management information. Data collection for any analytical purpose has been a task in itself and therefore policy making has remained ad hoc. Since the Sahelian famines of mid-1970s which was followed by a re-occurrence in mid 1980s, world interest in disasters has increased and consequently, reporting has improved.

In terms of the frequency of occurrence , floods and wind-related phenomena claim, by far, the largest proportion. They represent more than 60 percent of all disasters requiring external assistance (Figure 1). Famines and droughts, while fewer, have a greater and more profound impact on populations, generally affecting extensive areas and very large populations. Increasingly, since the 1970s, famines and droughts are linked to civil strife and armed conflicts. Pure famine, such as the Great Bengal Famine in 1942, have become rare occurrences. Armed conflicts (generating famine) have started to claim larger and larger shares of the total disaster mortality. Figure 2 displays a combined chart of percent distribution by type of disaster and percent distribution of mortality due to these events. Civil strife and famines are the categories that affect populations, disproportionately to their share of events.

Representing a little above 20 percent of all disasters, they account for nearly 70 percent of the direct mortality.

The human impact of disasters consists of two elements: the catastrophic event and the vulnerability of people. While countries like Bangladesh and Philippines are geographically in vulnerable situations, there is no doubt, their main susceptibility comes from the weak social and economic structures. Housing quality, pre-existing health and nutritional status, social welfare infrastructure, economic resilience determines the magnitude of the disaster effect and its long term sequelae. Furthermore, broader ecological factors, such as population pressures on land, increasing urbanization, unplanned land-use, marginalisation of populations are aggravating the potential for the increase of disaster losses when it does occur. This is well illustrated by comparing the cases of earthquakes in Managua (1972) and San Fernando Valley, California (1971). As shown in Table 1, despite a lower Richter scale[1] reading, a smaller range of destruction on the Mercalli scale[2] and much smaller population in affected area, Managua suffered casualties 80 times more than California. Similarly, in 1974, Hurricane Fifi in the Honduras left an estimated 8000 dead in the Honduras, crashing through at a wind speed of 250 km/h and causing 80 per cent destruction in the impact area. In the same year, Cyclone Tracy, with comparable wind speed and impact zone destruction, killed 49 persons in Darwin, Australia (Sapir and Lechat, 1986). Finally, the differential vulnerability of persons within the affected zone is illustrated by the 1976 earthquake in Guatemala, where of the 1200 persons killed and 90,000 homeless, the large majority were from the poorer slum sections of the city (Glass, 1977).

The scope of a disaster, in terms of the size of a population it affects, ,shows an increasing trend over the last three decades. Table 2 shows the mortality and affected population per event by type over time. Floods, although less fatal than earthquakes, affect much larger numbers of people and in long lasting ways. Harvests are lost, land is salinated, cattle are drowned, thus destroying people's means of livelihood. Similarly fewer people die as a direct result of famines /droughts but the scope of destitution is higher than in disasters such as earthquakes and cyclones (Sapir and Lechat, 1986).

In conclusion, it is important to recognise that the impact of natural or man-made disasters are not visited upon the affected community equally or at random. Certain characteristics and factors may be identified to define those at higher risk. Disaster relief has been traditionally based on policy formulated from charitable motives drawing on critical and emergency care. This approach is being replaced by a

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1 The richter scale measures the intensity of the seismic activity at the epicentre on a logarithmic scale This means that one unit increase represents an important proportion

2 Mercalli scale measures the extent of physical damage over surface area on a scale of I - XII

recognition that disaster relief and management is dependent on the socio-economic vulnerability of the country, to disasters and within it, the vulnerability of specific population groups at risk.

Whether the number of occurrences are increasing is still a matter of debate. The larger numbers of disasters in recent years may be an statistical artifact due to better reporting and media coverage. On the other hand, environmental degradation, dams and climate system changes (such as the El Nino phenomenon), are known to be provoking cyclones, typhoons and floods. Whatever the numbers of occurrences are, the scope of the disaster impact is increasing in terms of the size of population that they affect. Uncontrolled urbanisation, risky land use patterns, population pressures all combine to place millions more at risk of being destituted by a disaster today compared to 20 years ago.

PART II - ISSUES

2.0 DEVELOPMENT, ARMED CONFLICT AND HUMANITARIAN ASSISTANCE

Armed conflict and international humanitarian law: Relief assistance to war victims are governed by the four 1949 Geneva Conventions and the two Additional Protocols drawn up in 1977. In many instances, separate rules govern international assistance for different categories of victims such as the wounded and sick, prisoners of war, children, women. Basically, two concepts underlie humanitarian action these are protection and assistance. The International Law Association Committee on International Medical and Humanitarian Law differentiates protection as status that fixes certain rights while assistance is conducted to realise some of these rights (Meyer, 1983). As civil strifes, armed conflicts and guerrilla warfare escalates, it is not always possible to distinguish between them. Recent experience has shown us that assistance is not possible without protection. Moreover, in extreme cases, assistance is protection. To further complicate matters, as Meyer points out, the application and interpretation of these conventions vary significantly since there are no uniform or definite formulations of the rules available.

On a different forum, Article 3 of the Universal Declaration of Human Rights proclaims the right to life, liberty and the security of person. Article 25 of the same Declaration states that we all have a right to a standard of living adequate for the health and well being of ourselves and the family. In most humanitarian crises, the issue is not whether the governments are enforcing these rights but whether the people and communities are able to claim them effectively and have a realistic expectation that their government will turn that claim into action.

The relevance of these Conventions and Declarations have increasing significance in the complex emergencies that we witness today. By far the larger proportion of total victims of disasters, in the recent years, are from civil armed conflict (Figure 2). In 1990, war related famine affected about 20 million people only in Southern and North-eastern Africa. In addition, armed conflicts have killed almost three times as many civilians as soldiers (McCrae and Zwi, 1992). Of these, the great majority are women and children (Cliff, 1988, Ascherio, 1992, Rivers, 1982). Protracted civil unrest leaves in its wake dislocated people, disrupted economies, poverty and famine that are long term phenomena. Furthermore, direct actions to affect civilian populations, such as burning of harvests (e.g. western sub-Sahelian African countries 1983 - 1987), contamination of wells or other drinking water sources (e.g. Southern Sudan, 1990) or diversion of food aid to military (e.g. Ethiopia, 1988, Somalia,) are standard practices. Maternal and child health conditions that are precarious, in normal circumstances, are further aggravated by these actions.

The escalating war in countries like Somalia or Ex-Yugoslavia and more recently in North Kivu (Zaire) are, in part, a consequence of the Cold War which has poured billions of dollars worth of arms in the regions. The sponsors of militarization and arming of the third world bear a great deal of responsibility in this rampant state of civil strife. The provision of arms to the government and rebels of the Southern Sudan while , at the same time, providing food aid to the children starving and handicapped as a result of the civil war, is a tragic example of this world dichotomy.

Apart from the direct effect of the arms and weapons on children and civilians, the cost of weapons and related military expenditures affect and kill people indirectly during normal times and limits the country's capacity to protect its people during disasters As a result, countries with high military spending are often those who have the largest disaster affected populations (Table 3). For example, in 1984, the year of the most severe famine of the decade, Africa spent more on arms import than food import (UNICEF, 1986). In addition, the most disaster affected countries are also those whose public welfare spending is lower than average. The UN Department of Disarmament Affairs estimated a current annual world military expenditure to be at 1.9 million a minute while 30 children die from lack of food, vaccines other simple services in that time. Figure 3 displays health expenditure as a proportion of military expenditure of the ten most disaster affected countries. Liberia, Colombia, Philippines and Bangladesh spent more on health than the average developing country proportion of about 25 percent of military expenditure. Sudan was the least, with about 2 percent of its military expenditures going to health.

Irrational government policies in the most affected countries undermine systematically the ability of the population to withstand severe adversity and the reduce the possibility of the state to assist them. As a result international assistance

has to step in or in default of this assistance, millions die or are disabled for life.

Today, given the type of humanitarian crises, reducing vulnerability to disasters in the long term and responding effectively in disaster relief lies, partially, in the firmer implementation of human rights and of the Geneva Conventions. While most countries have ratified the Geneva Conventions, the majority have not ratified the Protocols. Moreover, many of the existing resolutions are not legally enforceable or a simply a declaration of principle. Since 1980, a Convention on the Rights of the Child is being drawn up by a working group of the Human Rights Commission. This Convention will include basic survival rights including adequate health care, shelter and protection from abuse. Although a necessary step towards the reduction of vulnerability of children in disaster situations, Conventions and resolutions are by no means sufficient. These measures need to be accompanied by serious political will from all countries to operationalise these laws, based on the understanding that the victimisation of women and children, is in the long term , detrimental to all parties.

Food as instrument of war: A specially reprehensible practice of primary significance for children, is the use of food as an instrument of war. Scorched earth policies, inhibition of passage for humanitarian food aid, diversion of food for military are all common occurrences in most of the conflicts experienced in recent times. Diversion of emergency food aid for vulnerable groups to the military is so common as to be, in some cases, counted into the calculation for needed supplies as the percentage reserved (or lost) to diversion. In Asmara (Eritrea), for example, the militia was paid in aid food grain (Keen, 1991). In Somalia, Askin (1987) estimated that only 12% of the food aid reached the civilian victims for whom it was destined. Besides diversion, feeding centres for children and vulnerable groups are frequently bombed or attacked. Macrae and Zwi (1992) report that feeding centres were attacked in all of the study countries which included Sudan, Mozambique, Ethiopia, Angola, Liberia. Very few factual reports exist on these issues partly because systematic reporting has been neglected and partly because the publication of such information could jeopardize the implementation of the action.

Mines and disability: The use of mines, like direct atrocities, serve to remind the community that the rebel groups exist and command a certain power. They have a devastating effect on rural communities, particularly because of its power to disable and destroy for years following the war. It limits the ability of the community to migrate which is, in many cases, tantamount to survival. The numbers of persons disabled from mine injuries are growing globally with the increasing use of this method of destabilisation. Save the Children Fund - UK (1991) reported that more than one million mines have been planted in Somalia. Certain countries like Angola, Mozambique, Cambodia are now homes to the largest numbers of mine disabled people in the world (Macrae and Zwi, 1992). Most of the victims of mine related injuries are

civilians and a significant proportion are children. Less aware of mined areas or unseen dangers, children wander across the countryside at will, exposing themselves to greater risk.

Even today, the importance of physical handicaps from mine injuries is not taken into consideration, when planning for disaster relief and rehabilitation. In Mozambique, only one artificial limb service operated in Maputo until 1986, when it saw a jump from 53 patients to 392, far beyond its capacity to manage. These represented only those fortunate patients who were close to or were able to get to the capital. Two more centres were subsequently opened in Beira and Quelimane as the authorities realised the magnitude of the problem (Cliff and Noormohanned, 1988). Disaster relief and preparedness programmes should urgently consider training of local health personnel in fitting of artificial limbs and physical re-education. In addition, relief supplies should foresee the inclusion of protheses and related supplies. Finally and more fundamentally, international authorities should put in place mechanisms for control of traffic in these instruments of war that are specifically targeted at civilians.

Rape and sexual violence: Sexual violence against women (and apparently, men and children, (Black, 1993)) consequent pregnancies and their care have been thrown into the limelight in the recent Bosnia conflict, although it is far from being a rare occurrence in mass conflicts. Women are often forced to provide sex in exchange for food and shelter for themselves or their children and implications for sexually transmitted diseases, unwanted pregnancies and their termination are significant. For instance, the Rwandan HIV Seroprevalence Study Group reported that sex in exchange for security during the civil war in Uganda may be a factor in the high rate of HIV in that country. Rape, sexual abuse, abortions and family planning were recently addressed in an editorial of The Lancet (April 10, 1993), where the complete neglect of maternity care and family planning needs for refugees were highlighted. While data is recognised to be extremely limited on all issues related to sexual violence against women, high rates of pregnancy, sexually transmitted diseases and HIV are recognised as common in these situations and are considered indicative of the levels of desired or undesired sexual practice. Apart from a brief period of media attention in early 1993 along with or in the wake of the UN Expert Team Report on allegations of rape in the former territory of Yugoslavia (E/CN.4/1993/50), there are no discernible signs of follow up within the large humanitarian programmes operating in the conflict zone. The exemplary effort of family planning offered to Khmer refugees in Thailand (Editorial, The Lancet) does not seem to have been replicated elsewhere and the appropriate inclusion of such services in emergency relief programmes urgently need to be addressed.

In conclusion, demilitarisation and reduction in arms trade is a major factor in reducing the impact of man-made disasters , whose main effect is on children. About 75

percent of the arms traded internationally are destined for developing countries. As long as poor governments spent their resources on buying arms, there will not be enough to pay for food, health and education of the people. As in the fight for the narcotic drugs, where suppliers at the origin are prosecuted as well as the end-users, control of arms trade should also be pursued both at the supply and the demand ends. The use of or mines or abuse of food in humanitarian situations directly and in particular, threaten the well-being or existence of children as does sanctions on infant formulas or weaning foods. Sexual violence and family welfare issues, especially in refugee situations, are issues that are often neglected in relief programmes. Armed conflicts are tending to target women and children as their first victims and the application of the International Conventions and Laws seem, as of today, unequal to the task of controlling this trend.

3.0 UNACCOMPANIED CHILDREN, VIOLENCE AND DISRUPTION: MAGNITUDE AND IMPLICATIONS

> "The children of Cambodia are one of the few remaining assets in a devastated population."
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> Williamson, 1981

Probably one of the more optimistic and forward-looking views on a issue whose literature, such as it is, reveals a problem of alarming dimensions together with an equally alarming negligence of the problem by international and national agencies. Abandoned or unaccompanied children are a miserable but inevitable corollary to many emergencies, especially of the type we experience today. In most catastrophic situations, war, famine, refugee movements, natural disasters, children have been separated from their families (Table 4) These children may be abandoned, orphaned, lost, abducted or recruited into the war effort. Ressler et al (1988) estimates unaccompanied children to number in millions and cites 13 million orphaned or abandoned children during the Second World War and about 100,000 each in Spain, Korea and Nigeria during the civil wars. While most often the unaccompanied children are older, in some cases, large proportions have been infants, such as in the Korean War or the Nigerian Civil War. Child abandonment figures from the Korean War show that two-thirds of the children (61.3 and 66.5 %) in the first two years of the war were less than one year of age Of these , the majority were girls. This proportion decreased as the war went on and increased again towards the end of the war. During the Nigerian Civil War of Biafra , 120 orphanages were set up, of which several were "motherless baby homes". No reliable figures exist as to the numbers of

children that passed through these institutions, but the number of orphanages are an indication of the magnitude of the need.

Studies of children's' response to extreme violence, death, abuse, hunger indicate that they are able to resist emotional stress and physical hardship as long as they remain with their families and parents (Black, 1982). Emergencies become significant as soon as separations occur and the child's primary attachments are disrupted. In general, children most often separate from families in which a death has occurred, the parents are separated, there is continuing threat to safety, abject poverty or displacement. These conditions mostly occur in armed conflict, refugee situations or famines. Acute natural disasters such as earthquakes or cyclones are less likely to present such conditions

Relief services generally do not anticipate the needs of unaccompanied children in emergencies and are therefore, late (if at all) in providing appropriate care. Unfortunately, because of their situation, unaccompanied children are frequently unable to access legal, social or community services organised around family groups and, if displaced out of their country, they are not eligible for the host country child welfare services. They do not get included in immunization networks, food distribution systems and other services, which almost always rely on an adult representative for a child. The children of Khartoum are a good example of the consequence of a mass displacement, where large numbers of lost, abandoned or orphaned children now eke out a living in groups, as street children in the city. Unaccompanied children in crises situations are not only at high risk of mortality, but they suffer from psychological and physical trauma affect them for life. The behavioral implications as adults, of children exposed to widespread, senseless violence and death, the banalisation of these acts, disruption of the social fabric are serious (refs). Studies of ghetto children have shown that violent conditions at home and in the environment have tended to breed violence. The urgent need for investment in the care of these millions of children subjected to long periods of social disruption and violence is rooted in the fact that they are the future citizens of the world tomorrow.

4.0 DIFFERENTIAL RISKS IN EMERGENCIES FOR MORTALITY AND MORBIDITY AMONG WOMEN AND CHILDREN

It would perhaps, seem obvious that children and women are particularly vulnerable in disaster situations. However, until lately, at least natural disasters were thought to affect people in an non-discriminatory fashion. This notion, fortunately, has been thoroughly effaced, at least with regard to sex discrimination, by the seminal works of Rivers (1982) and Sen (1981) related to famines and the work of

Beinin (1981) on earthquakes. Their work on famine crisis and the socio-economic determinants of its impact has gone a long way in changing (some) people's views on the response to disasters. Unfortunately, the changes are yet to trickle up to decision makers of development programmes and humanitarian assistance where the prevailing attitude remain largely unchanged from few decades ago.

The targeting of relief, whether food or materials, is an implicit or explicit factor in all relief programmes. No relief gets distributed equally to the needy. Choices are made and indeed, in situations of resource constraints, they have to. In planning relief therefore, questions of increased risks of population subgroups, or diseases are relevant. While relatively little systematic research has been done in studying population risks for morbidity and mortality, there are nevertheless some interesting data from small surveys and case reports that merits attention

Recently, a few studies of child mortality and morbidity are producing increasing evidence of the vulnerability of the children and women in these situations. Occasional studies and reports provide valuable insights to the nature and scope of the risks and pathologies to be expected in these conditions.

Rivers (1982) has made a classic and convincing case in differential mortality among female children and adults in disaster situations. Although most of his case is based on famines, the conclusions are generalisable across other situations of extreme social and environmental stress Table 5 displays sex differences in the prevalence of malnutrition in two African and the Bangladesh famine, which, he argues, goes against existing evidence pointing to greater physiological resistance of female compared to males, all other things being equal. [3]

Among the health effects of man-made disasters on children, mental illness is a much neglected but important aspect, particularly in violent social disruption, refugee situations or displacement. Their impact on children are especially serious as they are less able to resist the psychological and physical aggression that surrounds them. For example, in the Philippines, there is over one million internally displaced persons, 60 % of whom are children Although figures are not available, reports from the agencies working in the evacuation and drop-in centres of the "militarized zones" indicate that the prevalence of children who arrive at these centres, in states of apathy and mental derangement is alarmingly high. The local health system, including the non-governmental agencies, are badly prepared to handle these children and in most cases, the mental disease in children are left to degenerate until death.

With regard to children in situations of war, a Harvard Study team (1991) visited several pediatric wards of hospitals in Iraq following the Gulf crisis in 1990

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3 To this end, he cites the mean sex ratio of mortality in low-income countries as 99 males per100 females compared to presumably more natural ratio of 144 (166 including Iceland)per 100 females in developed countries He also cites animal studies to support this point.

They reported high mortality and prevalence rates of preventable diseases which they attribute to the war and trade sanctions. Gastro-enteritis and severe malnutrition featured high among the causes of admission of children in the hospitals. Reduction in breastfeeding, based on a UNICEF survey in 1990, was suggested as contributory factor by the authors for both malnutrition and gastro-enteritis. The authors also cited reports from mothers of substitution of other, inadequate foods (e.g. rice water, sugar solutions) for infant formula which was prohibitively priced due to the embargo. While the authors admit the anecdotal nature of the report, they also correctly point out, it does provide insights into the effects of modern warfare on children. The findings of this team was further supported by Morley (1993), who reported a threefold increase in mortality of Iraqi children (aged under five) based on a cluster sample study of 299 groups

Local studies in Somalia with small samples have reported astonishingly high crude death rates of children <5 years of age. A study done in the Baidoa camps by Moore et al (1993) reported 75% of the children < 5 years of age to have died in an eight month period. [4] Deaths peaked in August and September during epidemics of measles and *Shigella dysenteriae* infections. Risk factors reported include displacement and mortality from preventable diseases as the main cause of death In another study, Manoncourt et al (1993), in a study of the displaced population in Merca and Qorioly, south of Mogadishu reported a mortality of 25% among children less than 5 years of age in the year preceding the study . They cite malnutrition as the main cause followed by war casualties. A study in famine struck areas Chad by Sapir and Pambu (1988) compared households according to those who moved out of their village in search of food and those who remained in place. They found children from displaced families to have lower vaccination rates and nutritional status compared to those who remained in their villages (Table 6). All of the above studies conclude displacement as a high risk factor for child mortality, morbidity and malnutrition Studies by Toole and Waldman (1988) in the Thai-Kampuchea camps report highest risks of death in children from acute respiratory infections, diarrhoeal diseases, malaria and malnutrition, but diarrhea remains the most important killer in most instances. The extreme vulnerability of under-fives is reflected by mortality rates that ranged from 5 to eight times the normal rates. Camp conditions, prolonged malnutrition and famine preceding the displacement aggravate, clearly, the conditions in normal life. Table 7 displays mortality rates of infants and children as reported in some of these studies.

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4 The potential for epidemiological error of calculating death rates based on the initial period following arrival of a destitute, nutritionally deprived population with history of low health status and prolonged exposure to drought and civil war seems substantial. It would not be surprising to note that following the eight months when the most vulnerable had died off the mortality rates would have decreased to less astonishing levels

Other studies addressing the effect of disasters on children, in particular with regard to malnutrition have found displacement from villages to be strongly associated. Sapir and Pambu (1988) in a study during the Chad famine of 1985, found that families that displace are frequently women headed families. The men had typically left earlier in search of food and revenue. Following long absence of the main income-earner and finally, total destitution of the village, the family moved to an urban centre with the mother as head of household. Nutritional stress was apparent for all children below the age of three years, with over 15 percent of below 80 percent of WHO standard. While there was no systematic data collected, the experience in this study indicated that malnutrition among the older children, between 5 - 9 years old could also be a serious problem in acute food shortage conditions The authors suggest that, children at those ages are considered old enough to search out their own food and fend for themselves. In fact, they are still too young and are unequal to the task of foraging of their own food In addition, high proportion of infant malnutrition, despite practically universal breast feeding, indicated the grave deterioration in the nutritional condition of the mother. Family occupation was also been observed as a risk factor for early and severe malnutrition in children during acute food crisis (Table 8). Artisanal services (such as forgery, mat-making, repair, hair-cutting) are frequently the first consumer product to be dispensed with at times of crisis and thus place these families at immediate risk of under-nutrition. As the crisis deepens other occupations also lose their demand and finally, only those who undertake some subsistence farming have access to food (Sen, 1981).

Acute natural disasters such as volcanoes or earthquakes would, a priori, be considered as events where the potential for differential risk between population groups, is limited. Data is extremely limited and studies even rarer, since the focus of relief has been rather broad, health problems related to specific population groups have been neglected. As long as blankets and tents have been handed out, the rest of the problems have been left to take care of themselves.

It is generally suggested that acute natural disasters such as earthquakes or cyclones do not produce epidemics following their occurrence. While this is probably true, some examples exist, where a specific efforts have been made to monitor the disease situation Epidemic diseases pose a special threat to children and other groups normally with fragile health status in normal circumstances. One recent example of epidemic disease that spread through an volcano affected population demonstrates the unusual ways by which this may occur. The main (and practically the only) cause of death among the displaced "Aeta" tribal population was measles, following the Mt. Pinatubo eruption. In this instance, it was a direct consequence of the fact that the normal immunization rates among that group was low. When exposed to adverse conditions, the children were susceptible and contracted the disease rapidly. The

relief programmes, not being prepared for this eventuality from a volcanic eruption, reacted late and thus lost several hundred children before the immunization campaign began. Examples may also be had from Hurricane Flora (Figure 4), which was followed by a malaria epidemic and Hurricane Dominica (Figure 5), followed by outbreaks of Shigella dysentery.

In terms of direct trauma and vulnerability of children to earthquakes, evidence from a study done in Italy (Debruycker et al, 1983) following the 1980 Campania earthquake shows that mortality of older children (between 5 - 9 years) was disproportionately higher. Similarly, the mortality from the Sumpango earthquake in Guatemala (1976) and the Managua earthquake in Nicaragua in 1976, show excess mortality in the older age-groups of children (Figure 6 and 7).

Breakdowns of data on health impact such as injury, disease or death by sex is also fragmentary, preventing analysis related to sex differentials. Beinin (1981) analysed data from two earthquakes in Russia. He reported the mortality by sex and age, where 47% of the dead were women, 35 % were children and 18% were men in the Ashkabad (1948). Subsequently, of the 7 who died in the May 1966 Tashkent earthquake, he points out, five were women.

In conclusion, most of these studies provide much-needed insights into the patterns and trends in mortality and morbidity in these special situations. But in general, knowledge of the diseases or health risks that children are especially exposed in these conditions remains limited. It is hard to draw convincing conclusions from these studies and generalise for policy change. Further confirmation and support for better studies are required. It is true that the chaotic nature of civil wars and disasters makes systematic evaluation of health effects on civilian populations very difficult. But a better understanding of these aspects of the impact of disasters on children would greatly improve response planning and public health services.

Regarding studies based on nutritional status in famine or food crisis situations, prevalences of different types of malnutrition are commonly used as indicators of the gravity of the situation. These can be sometimes be misleading due to the fact that the most severely malnourished children in famine situations die within a very short period following their degradation into this category. Thus, unless mortality statistics are considered along with assessment of nutritional status, chances of capturing only the survivors or the better nourished are significant and thereby, can lead to erroneous conclusions Limited periods of observation (point-prevalence data) and the non-inclusion of the mortality data in most of the studies, leave some doubts on the validity of their extrapolation to all exposed persons or as a reflection of the situation.

Generally speaking, there is concurrence that, in most cases, sophisticated equipment, expatriate medical personnel and hospital based care is inappropriate and

unnecessary. Standard public health measures, including strong surveillance systems, rapidly deployed with immunization programmes (especially in countries where pre-existing immunization programmes are not reliable) could go a long way in reducing these alarming death rates. Scattered evidence indicates that most of the excess mortality in disasters are among children. Studies that could identify the mechanisms by which these vulnerable groups are differentially exposed to mortality and morbidity from disasters could provide concrete directions for disaster relief and rehabilitation policies.

5.0 DEVELOPMENT AND DISASTERS: WOMEN AND CHILDREN LAST ?

Although it is very difficult to define why a country suffers more from a disaster than another, it is clear that the economic and social underpinnings of a society goes a long way in discriminating between these countries. As displayed in Table 1, human damages are much higher in the poorer countries than in the richer ones. The ability to recover and rehabilitate are also functions of the infrastructure and the national will and capacity to support its people. The vulnerability of populations to disasters is linked to the efforts invested by the governments in social and health spending Therefore, disaster preparedness programmes need to recognize that, along with improvements in post-disaster response, strengthening of certain regular health structures and social programmes would contribute significantly to reducing impact.

Traditional practices that promote gender discrimination guarantees the preferential victimization of women and children and in particular female children in disasters. They suffer both as a direct result of the event since often they are the last to leave or because they are least able to escape as well as indirectly due to social inequities in access to food and other services. Often assistance is provided in forms that women have difficulty using effectively without male support, such as housing materials or trade tools. The death or disablement of male head of household creates women headed households whose physical, social and economic destinies are well-documented in many traditional societies.

A discussion on the effects of disasters on children is not complete without considering the greater developmental context. The national social and economic policies have a direct link to how many and how deeply people are affected by disasters For example, Gurdon (1988) discusses the influence of the national debt burden on crises situation in the Sudan Severe financial crisis has put enormous strains on its capacity to provide services to millions of persons displaced by war, floods, drought and famine. A protracted civil war has not only diverted scarce resources into defense but has effectively stalled many of the development programmes that would

have otherwise contributed to economic growth. The drain of war and debt dramatically slowed recovery from floods in 1989 which destroyed thousands of homes in Khartoum and farms along the Nile in Northern Sudan. The continuing civil war and famine of 1984 - 85 and 1990 displaced nearly two million people, most of whom now live in shanty towns around major urban areas. In addition, there are over a million refugees from Ethiopian, Chad, Uganda and Zaire. In all, as many as 5 -6 million people or a quarter of Sudan's population are on the move or displaced from their homes. Sudan's external debt burden totals over US $ 12.1 billion of which US$ 600 million is owed to the IMF - more than any other country. Although at a minimum, actual debt servicing totals over half of all government revenue. The government spends nearly 6 per cent of its GNP on defense (a non-productive sector) and has had, not unsurprisingly, a negative growth rate (- 4.2 %) in the 1980 - 88 period. This, along with inflation and lack of foreign currency has meant much of the country's infrastructure and planned upgrading has been neglected and the price for this inadequacy is paid by the common citizen of the country.

Another similar example is the Philippines where there are more than half a million registered children, who have been implicated in a civil conflict and as a result been orphaned or been subject to terror, killings and torture. As a consequence of financial constraints for public sector health services , many of these children have not received basic health care and are frequently malnourished. Investments, such as training the local health workers for mental health care and other health support are not even considered due to lack of funds. Although, mediating factors exist, no doubt, the public sector policy priorities are reflected in the fact that the country's national budget spends over 40 % in military sector and a similar amount for debt-servicing.

The Case of Bangladesh: In a different situation than the two examples described above, Bangladesh provides a good illustration of the links between socio-economic development and disasters. The country is known for its continuing series of vicious famines, cyclones, floods and storms that regularly kill hundreds of thousands, almost always more than any other single event anywhere else in the world. In 1991, for example, Bangladesh had three separate international appeals for emergency assistance with deaths over 100,000 for each event. To take a specific example, on the night of 29 April, 1991, a severe cyclone struck the coastal areas and offshore islands of Bangladesh. The cyclone killed 138, 882 persons and made over 10 million homeless. Nearly 1.5 million of these would be children under five and about 400,000 women could be expected to be pregnant at that time. The losses sustained,from this cyclone both human and physical, is summarised in Table 9. One month earlier, in March, a flood killed nearly 150, 000 people and affected more than one million people In July 1993, the floods have killed over 2,000 and made nearly 7 million homeless. Final estimates are yet unreported.

On the development side, the country spends less than 1.3 percent of its GNP on education and 0.6 percent on health. More than 60 % of total population is landless. The lowest 40 percent of its households command 22 percent of the total income share. In short, social equity and social spending is one of the lowest in the world. The prevailing health backdrop against which the cyclones and floods strike is not one that indicates the least capacity for resistance. Over 70 % of all pregnant and nursing mothers are anaemic and malnourished, maternal mortality rate is around 600/100,000 live births and over 70 per cent of the population are without the minimum daily calorie requirement. Between 1973 and 1985, military expenditures grew over 400 percent while increasing landlessness, debt and dependence of foreign food aid sets the stage for the vulnerability of millions to the inevitable cyclones and floods and the ravages of famine.

While the country is undoubtedly, situated in a naturally hazardous region of the world, its prevailing socio-economic, health and nutrition conditions clearly increases the vulnerability of its population to the slightest perturbance. Relief, although generous, tend to go to reconstruct government buildings or purchase major equipment and vehicles. Community resources or services for children and women, if destroyed by a disaster, are rarely included in rehabilitation plans. For example, primary schools destroyed in the 1988 floods have largely remained unrepaired (Haider, 1992). Rural dispensaries or storage spaces, essential for the immunisation programmes and primary health care rarely receive low priority in the relief. Bangladesh presents a most convincing example illustrating the importance of improvements in the standard development sectors, without which any disaster can ravage a community.

In conclusion, reductions in disaster vulnerability and mitigation of its effects cannot be discussed without addressing the developmental issues that create the conditions for requiring relief. In most disaster prone countries, the national governments have policies that ignore social and public welfare sectors which are essential to disaster preparedness. As a result of this neglect, large sections of the country's population are vulnerable to the smallest disaster.

Recently, relief has received much attention in international fora. With the increasing numbers of appeals for humanitarian assistance in the world today and shrinking resources, most parties are looking for efficient ways to disburse relief. But vulnerability continues to increase as more people are affected by a disaster today than they were twenty years ago and the impact of the relief still remains questionable. Most of the assistance goes towards reconstruction of government buildings and hospitals School buildings or primary health care centres are often left unrepaired. Donors are increasingly demanding evaluation of the relief action and

should these be implemented, increased effectiveness of relief efforts could be expected in the future.

6.0 CONCLUSIONS

While it is satisfying to propose sweeping changes in non-democratic governments or increase equity in power struggles, unfortunately, reality dictates that progress be made with small steps at a time. Having said that, the review of the available evidence points to two main and fundamental conclusions which perhaps, corresponds more to sweeping changes than small steps, but without which relief policy and international concern are meaningless.

First, the largest proportion of the total disaster victims in the world today are from civil strife and related food crises. The majority of these victims are children and women who are killed, disabled and permanently destituted. Much of this is due directly to the militarisation of the world during the Cold War and continued support of the arms industry. Action for disaster preparedness and relief will remain only an alibi until steps are taken to control the arms traffic at the source and among the users and serious efforts are made towards global demilitarisation.

Second, reducing the effects of a disaster depends largely on how strong and well organized the normal health and social structures are in the country. It is precisely in times of crisis that well-functioning health and social systems are essential. Therefore, disaster preparedness programmes and development programmes (in particular health and family welfare) should be mutually reinforcing. Disaster preparedness activities that are in parallel to development programmes will simply inflate costs and duplicate efforts. On the other hand, development plans should take into account the country's vulnerability to disaster and funds allocated for disaster preparedness should be integrated into this effort.

The paper concludes by identifying seven areas where concrete steps could be taken to improve the current situation

* The current international legal situation does not provide operational rules and guidelines for mis-treatment of children in situations of civil strife or disasters, that are sufficiently clear for easy interpretation and application Clear rules and provisions should be developed with regard to abuse or unusual physical and mental stress for children to support field agencies in their relief tasks orto aid agencies monitoring ambiguous situations.
* Part of the reason for which relief response remains late, inadequate and often ineffective is because of the limited and fragmentary knowledge of the patterns and risks that characterize these situations Epidemiological

and operational research studies that bring to light who, how and why people are affected by these events would contribute significantly to improving relief response and preparedness programmes.

* While sanctions can be an non-military option for registering international concern for oppression or abuse of human and civil rights, pediatric drugs, infant formulas or other materials destined for children should be exempted from such action.

* Three important areas have been grossly neglected by relief agencies in the past in the implementation of relief action. These are (i) unaccompanied children (ii) rape and sexual abuse (iii) mental and psychological health. Studies are needed to clarify appropriate strategies, including the special training needs of field personnel to address these problems.

* Scattered evidence indicates that inequity and discrimination towards women and children in relief procedures may be a significant problem. The availability of relief does not necessarily imply its access by the weaker sections of the population. Moreover, the needs of those who are least vocal or demanding will tend to be excluded from the standard disaster needs assessment Specific efforts to consider the needs of women and children and their ability to make effective use of materials and services should be made.

* The needs of women in emergencies (in particular refugees) with regard to family planning and pre-natal care have been completely overlooked. It should form a standard component of health services in situations requiring sustained assistance.

* Evaluation or assessment of relief should be undertaken regularly, if the victims are to be protected from inequities or irregularities. These should be highlighted even at the expense of the programme, in the greater interest of the action. The use of independent reports, the presence of a free press should be encouraged and facilitated.
