World picture of disasters

Disaster trends

Over the past three decades, the stream of disasters shows major variations in impact. On a global level, disaster data reveal two important variations in disaster mortality, the most thoroughly documented indicator of disaster severity: an increase over time, indicating the rising number of vulnerable people worldwide, and a geographical correlation. Figures for those affected show similar trends.

The mortality rate per 1,000 people exposed to disasters has increased significantly over the past three decades for all types of disaster except floods, although the increase is relatively slight in the case of earthquakes, mainly due to their nature as high risk disasters with comparatively localised effects.

The greatest increase is in drought-related famines, in which the vulnerable population gets progressively weaker from the effects of successive famines and succumbs in each succeeding crisis in greater numbers. Figures for flood mortality show a slight improvement. However, the mortality impact of floods is typically spread over the period following the flood rather than being a direct and immediate effect of the event.

This increase in the mortality rate partly reflects the inability of current disaster management policies to reduce community vulnerability. Despite significant disaster relief assistance, the increase in mortality indicates a steady decline in people's resistance, yet it remains notoriously difficult for international agencies to raise funds for disaster prevention and preparedness, the very activities which reduce

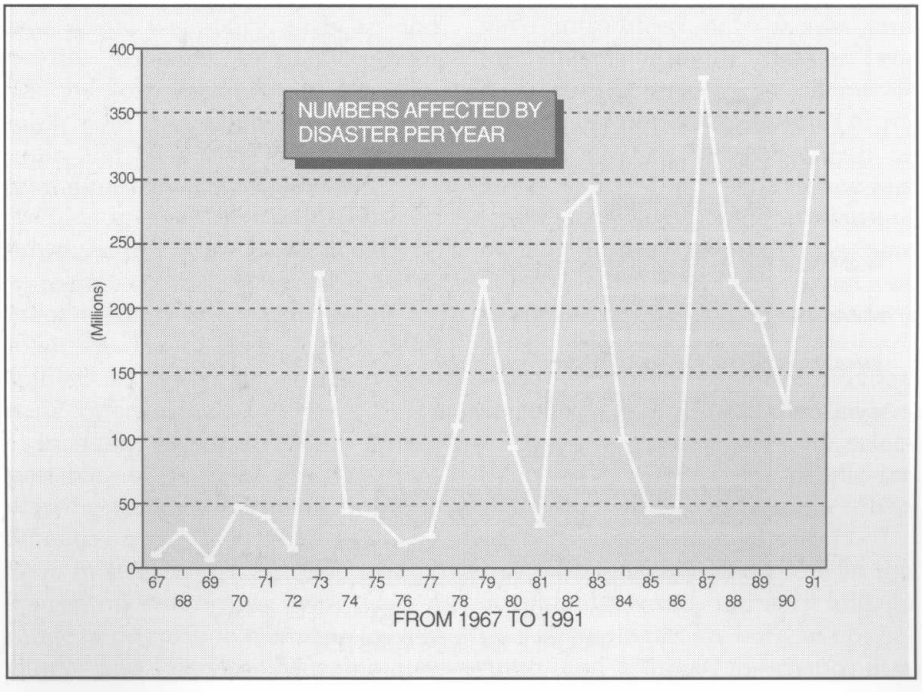

Figure 9: Numbers affected by disaster per year 1967-1991. Although figures vary greatly from year to year, there is a very definite rising trend in the number of people being affected by disaster.

disaster vulnerability.

Death rates per disaster consistently match economic development levels, being substantially higher in poor countries. On average, citizens of low-income countries are three to four times more at risk of dying in a disaster than those in a high-income countries.

Comparing the 1972 earthquake in Managua, Nicaragua, with that in California in 1971 illustrates the point. The seismic activity level of the California earthquake was significantly higher, registering 6.8 on the Richter scale as compared to 5.6 in Managua. On the Mercalli scale (measuring the extent of physical damage over surface area) the California earthquake caused major damage (IX-XI level damage) over 100 square kilometres, whereas Managua registered a lower level of damage to a smaller area. The population directly affected by the earthquake in California was 13 times that of the earthquake in Managua. But in Managua around 5,000 people died; in California just 60. Clearly, levels of economic development and disaster preparedness have a profound impact upon the suffering caused by natural events.

Nowhere is this more evident than in the shanty areas of the towns and cities of developing nations. The unprecedented increase in these slum populations has contributed to the rise in the number of disaster victims. Poor and powerless people must live on cheap or free land, which in many coastal or flood plain cities means areas known to be at risk of flooding.

When even minor floods occur, river or canal water contaminated with sewage overflows into the homes of the slum-dwellers, bringing outbreaks of typhoid and gastro-intestinal diseases, and raising infant and child mortality. Flooding in low-lying areas of Bangladesh, for example, exacerbates endemic cholera and other diarrhoeal diseases.

Practitioners of disaster prevention and relief can no longer afford to ignore the evidence that the increase in the numbers of people vulnerable to disasters is linked to greater poverty among a larger number of people.

Complex disasters

For 20 years, work has increased to improve the knowledge and understanding of the mechanisms of disasters. Urbanisation, rising population, industrialisation and technol-

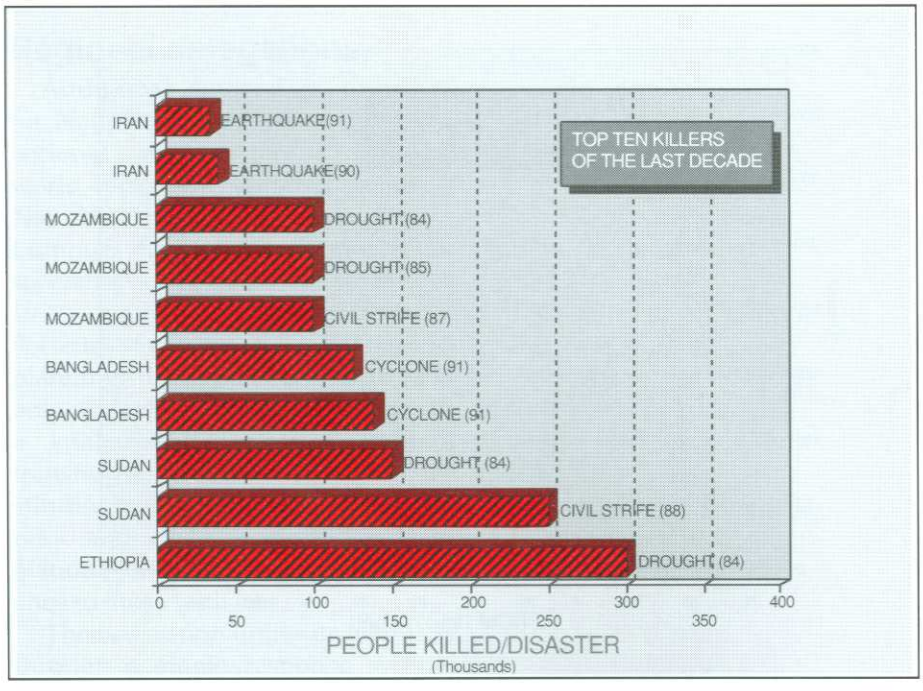

Figure 10: Top 10 killers of the past decade. Over the past 10 years, drought in Africa triggering famine has been the most consistent killer among disasters, along with floods from cyclones and storms in Bangladesh. In every case, it is the poor, living on marginal lands, who are hardest hit.

ogy have all influenced the impact of disasters, and agencies dealing with disasters have begun to appreciate and understand the complexity of causes and effects which lie behind almost every disaster

From earthquakes to floods, the vast majority of natural disasters which have no link to conflict remain similar in their nature, even though there are more people vulnerable to their effects, rising numbers of agencies willing and able to respond, and greater media coverage of disasters and relief operations.

Of particular concern, though, is the complexity caused by military and political conflict, especially if combined with a natural disaster such as drought. Until the beginning of this century, warfare was frequently a ritualised event involving the warrior class on two sides engaging in set-piece battles where conduct and casualty levels were carefully controlled. Very few civilians were killed directly.

Particularly in the past 45 years, conflict has changed to target civilians. At least 40 million people have been killed in 125 wars and conflicts since the Second World War. Today, in conflicts such as Somalia and the former Yugoslavia, nine out of every 10 people injured or killed are civilians. Basic weaponry is cheap and readily available. In many poorer nations, torn by civil war, an automatic rifle is cheaper than a sack of grain and a Kalashnikov is a better guarantee of food security.

Guns are not always guarantees, however. In Ethiopia, as the Mengistu regime collapsed, fleeing government soldiers sold armaments for food. At one point, people told of soldiers exchanging one hand grenade for one egg.

In many conflicts it is no longer possible to define clearly two warring factions. In Liberia in 1990, Somalia in 1991 and former Yugoslavia in 1992, war was characterised by central authorities vying with a range of opposition elements for territory and power. Mozambique, Ethiopia and Sudan are typical of the many countries in which feeding or starving civilians has become a deliberate strategy of conflict, and food aid brought in by humanitarian agencies becomes another weapon of war to be supplied or denied at will by the factions involved, or diverted for military use or sale.

As agencies have discovered to their cost in recent years, delivering humanitarian assistance may itself be interpreted as an act of aggression by the party that does not receive such aid.

In some countries, cheap armaments and growing anarchy creates a new generation of young people who have known only violence. Amid political chaos, economic collapse, violence and famine are people whose lives have been scarred by the atrocities they witnessed or committed. No simple relief operation can heal the wounds of today's complex disasters. Space must be won for diplomacy and political dialogue, to rebuild economies and disarm armies, but the time needed to rebuild the minds twisted by war and communities torn apart by hatred may be measured in generations.

Technological disasters

Technology and industrialisation have introduced new factors and mechanisms into the disaster process, from the risks of chemicals stored near population centres or released into the environment as waste, to ever-larger aircraft and faster trains Given the accelerating pace of technological change, new dangers will emerge even as improved controls are developed for existing risks.

Just as the benefits of technology are not evenly spread, the dangers of technological disasters are selective. Particular groups of people are rendered more vulnerable than others to technological disasters

For many of the poor in the developing world, industry and its new technologies are both an opportunity and a threat: the chance of a

job, directly or indirectly, which encourages them to live close to industrial plants in overcrowded, insanitary conditions without access to health care, and the risk of toxic emissions.

Many technological disasters, such as explosions or transport accidents, are sudden-onset events but some, particularly air, water or soil pollution from chemicals, may be more insidious.

The distinction between technological and natural disasters is often unclear or unhelpful. Earthquakes can lead to fires; floods can damage chemical plants. The primary agent of a disaster may be 'natural", but human factors, including design, safety, security, maintenance and supervision, may overcome sophisticated protective systems and be the more direct cause of an event which overwhelms local coping capacities.

Hardware failure or human error are the primary causes of most industrial disasters. Examples include the sudden chemical releases at Seveso, Italy, which may affect the local people for years to come; Bhopal, India, where thousands of people were displaced and more than 4,000 died; or Guadalajara, Mexico, where chemicals dumped into the sewage systems exploded, killed nearly 200 people and destroyed parts of the centre of the city.

Slow-onset technological disasters can include the deliberate dumping of waste into the environment or unintended chemical poisoning, which will remain hidden until exposed by its impact on plants, animals or people, such as the human birth defects occurring around the Aral Sea from uncontrolled use of fertilisers, pesticides and herbicides in cotton growing.

The most dramatic impact of chemical contamination is on food. The methyl mercury poisoning in Iraq in the early 1970s is a good

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Focus 6: Recurring disasters - why is it happening again?

Disasters appear to be happening again and again all over the world. In part, this is because improved communications ensure that news of disasters travels quickly, and because population growth, urbanisation and increasing poverty means more people are more vulnerable, allowing more disasters to occur

In a world where communications bring each disaster closer to us, many share two reactions first, the impetus to care and help, and second, the reaction labelled compassion fatigue, in which we feel overloaded or inadequate in the face of suffering

Whatever the reaction, humanitarian needs created by a disaster will not disappear if we ignore them. Indeed, ignoring disasters will almost certainly ensure that the suffering we abhor will return faster or deeper than before. And even as we turn away, our guilt is evidence enough that there remains in all of us a moral imperative to assist those in need.

In any case, cynicism or guilt may be misplaced the disaster we hear of today may well not be the same as last week or last year Africa's major famines have often reached their peaks 10 years apart, for example, and Bangladesh's 1992 refugee crisis was clearly not the same disaster or from the same cause as Bangladesh's 1991 cyclone which killed 138,000 people.

Thus while many disasters do repeat themselves, the "same country" affected by the same disaster again and again may well be a different country suffering a different disaster from different causes and with different needs.

The increasing worldwide attention to disasters and experience in dealing with them and their causes should ensure important improvements in how they are prevented or mitigated

Relief assistance is being better targeted to reach those in need, and being better used to ensure quicker recovery from disasters and promote a greater resilience to any future disaster.

Vulnerability is a key reason why relief assistance is required. One disaster makes people and countries more vulnerable to the next. Disasters are selective, putting already vulnerable people and countries even more at risk.

At a time when the humanitarian gap between disaster needs and the international response is widening, the single most likely reason for the same country requiring relief assistance again and again is that national and international relief and development aid has been insufficient or inadequately targeted to reduce the vulnerability of people and communities to disasters.

Without assistance, the vulnerable will be even more badly affected by the next disaster, they will be back needing help even more quickly. The impact of the next disaster will be greater and the cost of assistance much higher.