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# Disaster Preparedness in the Developing World

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Disaster has many faces. The effect of similar circumstances—flood for example—can influence the lives of peasants in Bangladesh in a way which is entirely different to the way it might affect Mississippi farmers. The one has little to lose but is left destitute, the other with much more at stake is unlikely to suffer noticeably.

In this paper I am considering the interface of people in the developing world with the extreme situation caused by natural or man-made catastrophe other than war. People are the essential ingredient. Without people, there is no disaster in this interpretation. Disasters arise from earthquake, flood or hurricane which create immediate change in the environment or through the gradual development of an erosive situation such as famine or epidemic. Such situations demand total integration and coordination of all life support systems available to the responsible administrators, including any which may be provided from external sources through international, bilateral, or charitable aid. My research has concentrated on the role of the administration in maintaining life support systems in the post-disaster situation. That is, the requirements for food, water, medical aid and shelter and the communication and transportation systems upon which provision of these depends. It is clear from the case studies which I have been able to make of a number of different disaster types in different continents that the role of the administration is of paramount importance. Natural catastrophes will continue to cause death and damage into the foreseeable future but it is possible now for administrators in disaster-prone developing countries to initiate action which will mitigate the effects of disaster upon the populations for whom they have responsibility, and to help ensure the maintenance of essential life support systems. This action is the process of pre-disaster planning which would define the threats and their probability, assess the vulnerability of communities and essential services and allocate responsibility, authority, and resources so that a sound state of Disaster Preparedness can be created.

Unhappily the indications are that in very few of the developing countries threatened does any state of effective preparedness exist. This is evident from surveys carried out by the League of

Red Cross Societies and the United Nations. There are also grounds for supposing that in many other circumstances, where plans do exist, these are little more than documents with neither the machinery nor the resources to permit their implementation.

Nevertheless, there is a growing awareness and concern throughout the world, of the occurrence and effects of disaster upon the world's poor. Although the General Assembly of the United Nations talked of the need to do something for many years it was not until 1972 that a UN Disaster Relief Co-ordinator with a small staff (UNDRO) was set up in Geneva. Judith Hart established a Disaster Unit within the Ministry of Overseas Development in 1974. The League of Red Cross Societies, the national and international charities, US AID through the Office of Foreign Disaster Assistance, and other UN agencies, including UNDP, have of course been involved in disaster for many years. All have one factor in common. By far the greater part of their available resources is allocated to relief activities. This, in spite of the fact that the weight of the available evidence indicates that the most effective and cost-effective means of mitigating the effects of disaster lies in improving standards of pre-disaster planning and preparedness and management of resources when disaster strikes.

A similar imbalance exists in the field of disaster research. Here too the greater proportion of money and effort is devoted to scientific research into examination of the natural phenomena and to technological work related to emergency shelter and sanitation. This may lead to better standards of prediction, although success demands great investment in technology and in human resources. Nevertheless the usefulness of prediction and warnings is entirely dependent upon a government's ability to effect action and a peoples' willingness to comply. Again we have returned to the essential ingredient—people. Crying 'Wolf' is not a story about bad prediction. It is a story about human failings and poor communications analogous to many disaster situations.

In most activities guidelines for action are evolved from study and experience. In disaster management we know far too little about what has happened and has gone wrong in the past. Useful data is extremely difficult to find for a variety of

reasons, but principally because little effort has been made to identify the requirement and to collect the information. Realising this some two years ago, the Disaster Research Unit at Bradford University in conjunction with the Department of Administrative Studies, Manchester University, proposed to the United Nations Disaster Relief Co-ordinator that he should use our combined resources to mount a data-collecting exercise at some future disaster occurrence, as quickly after the event as possible. The objectives would be the identification of sources and channels of information within, and outside, the stricken country, concerning relief requirements, available relief resources within the stricken country, and in neighbouring ones, methods of control and allocation of relief requirements, how and when planning for rehabilitation, reconstruction and redevelopment began.

These are only some examples of the sort of information which might provide a basis upon which sound disaster preparedness and disaster management could be framed. As yet no proper plan has been made to collect this information or to disseminate it.

Study of the information requirements of pre-disaster planning and of development planning, in the poorer and disaster-prone countries, reveals interesting comparisons. These relate to population distribution, health and education, agricultural economy and practices, trade and professional skills, infrastructure, topography, climate and many more. Investment in the collection of information necessary for the one provides data essential to the other.

There is a clear and easily identified relationship between the effects of disaster and development projects. It has been shown, although the data upon which the cases are based are of dubious quality, that in the poorer of the disaster-prone developing countries, growth, and by assumption, standards of living, is not only retarded but is declining due to the recurrent effects of natural catastrophe. Some of the best evidence appears in a study 'Famine and Famine Policies: Some Empirical Evidence' by N. S. Jodha in the *Indian Economic and Political Weekly* dated October 18 1975. Although the sample is small and somewhat concentrated in time and in space, Jodha provides good evidence of the way in which living standards were affected by recurrent drought in a number of Indian villages. The study is of great value to the administrator because it identifies a number of useful pointers by which the onset of shortages resulting from poor harvest can be identified and the consequences of

delaying the provision of relief, once a general picture has indicated the need for it.

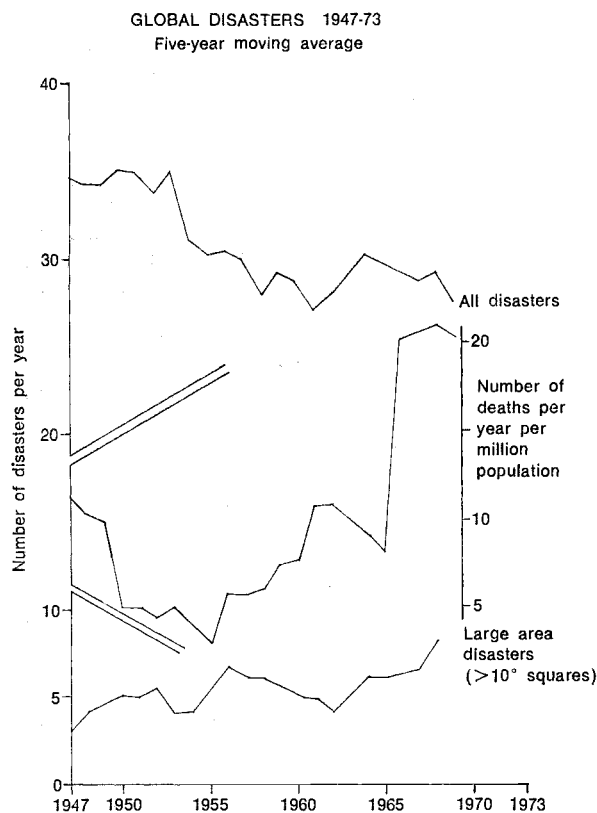
Not nearly enough useful research of this kind is being done outside India. We know that disaster results in displaced persons who are deprived of their livelihoods and who must be provided with food, water, shelter and medical care. But we know very little of the implications of doing so for people who have lived their lives on the border between hunger and starvation and for whom even small changes of circumstances imply destitution. We know how best to supply the necessities of life but little of the best way to provide them to people who are destitute.

A more subtle, interesting and in some ways significant relationship can be identified however, between development strategies and the proneness to disaster which these sometimes create. This subject has been dealt with in *Towards an Explanation and Reduction of Disaster Proneness* (A. Baird *et al*, August 1975, University of Bradford). The paper explains the increase in disaster awareness throughout the world resulting not only from improved communications but through poor social policies, pressure on land and less than comprehensive development strategies which concentrate large numbers of the world's underprivileged at risk in disaster prone areas (Bangladesh, the slums of Managua and Guatamala cities) or on land which is only marginally suited to agriculture (the Sahelian areas of Africa and in Ethiopia) and where minimal changes in climate and agricultural practice can cause disaster through famine. The paper argues that the occurrence of major disasters is on the increase as shown in Figure 1.

An example may be seen in the following hypothesis. It can be assumed that through improved animal husbandry and health over the last 20 to 30 years, herds in Ethiopia, in the Sahel and in parts of India have increased in size. In some areas, West Africa among them, this increase has resulted from demands for greater supplies of meat, but in some cases at least, the larger herds have only made greater demands on the available land without corresponding outlets for animal products having been created. To meet the demand for water for these herds, technology provided tube wells making nomadic farmers less dependent upon surface water and its conservation. Cisterns and tanks which had been kept in repair for generations fell out of use. Improvements in water supplies were not matched by improvements in the available grazing: grazing areas became wider and over-grazing became a problem. At the same time the administrative

boundaries of the colonial era, which did not inhibit migratory grazing, were being replaced by more rigid political boundaries. Areas which were only marginally and seasonally suitable for grazing were being over-grazed. Any reduction in rainfall caused these to fail and when this happened herds began to concentrate on areas served by tube wells and such of the surface water sources as remained in use. Very rapidly areas were grazed out and herdsmen moved south to areas which although only marginally suitable were under agriculture.

FIGURE 1



SOURCE: Dworkin, 1974

I suggest that the Sahelian famine was the result, not of climatic change and drought, but of unco-ordinated development and pressure upon land unsuited to the demands placed upon it.

It can be seen that the catastrophic event places strains upon an administration which, unless it has made preparations to meet disaster, will

cause it to fail through its inability to meet the demands placed upon it and to deploy the resources available to it. In the case of drought and shortage almost the converse is true. If famine develops it is the result of the administration's failures before the event. The drought has acted as a catalyst, producing disaster from a series of administrative failures and poor agricultural policies and practices, leading up to the event. It is also interesting that famine is the disaster which it is most difficult for a government to accept and having done so, for which to seek aid. No criticism is implied from deaths due to earthquake, hurricane or flood (the "Acts of God") even though these may result from inadequate housing, land use and social policies, but famine holds its implied criticism of government though the victims suffer through no fault of their own other than their existence in circumstances of poverty.

We have now set a scene in which the weight of responsibility in disaster has been placed upon the shoulders of a country's administrators. What are the implications of this? Several proposals have already been made, including that Disaster Task Forces might be provided by either NATO, Sweden or the Commonwealth. The idea has attractions and severe limitations. Perhaps the NATO force could provide the most effective and integrated body but could it operate outside NATO countries? Would it be acceptable in Africa or in South East Asia? Could it get to Central or South America quickly enough to be effective and would the USA accept assistance in an area where her influence and assistance in disaster is a firm part of her foreign policy and has been effective and immediate, if expensive, in the past? The Commonwealth is so far-flung as to make integration, concentration and command of a Commonwealth Disaster Task Force difficult to organise. Happily the South Pacific can rely on rapid assistance from Australia and New Zealand or the USA when disaster strikes, making the need for more formal and highly organised forces hardly necessary.

The idea of a Disaster Task Force implies the employment of existing military forces because any separately recruited, organised and equipped force would be precluded by cost. Furthermore, my own research shows, and this is supported by the Red Cross, that foreign military forces are increasingly unacceptable as assistance in disaster, except, perhaps, in the case of US military assistance to Central American Republics and more generally to service ships and aircraft transporting aid or carrying evacuees. There is

even a recent example of a solitary medical soldier being unacceptable as an adviser in the erection and operation of a field hospital supplied as disaster aid, and offers of service, communication and transportation advisors have been unacceptable even within the Commonwealth to help in the rehabilitation of the stricken country's infrastructure. Other proposals have related to the provision of teams of expert administrators. This presumes either, that these administrators are given executive authority to produce order out of chaos in disaster, or alternatively, that there is an effective administration on to which they would be grafted when necessary. Both assumptions are based on improbabilities. A poor administration is unlikely to abandon its authority in any circumstances and an effective administration is more likely to have established some degree of disaster preparedness. In either case it is unlikely, except in the case of the slow moving famine-type disaster, that new administrators would be able to influence a situation quickly enough to be effective. My previous comments on the causes of famine qualify the probability of administrative advisers being acceptable in such cases.

This brings me to a third and perhaps more useful possibility. I have already indicated the importance of the role of the administration in maintaining life support systems and in mitigating the effects of disaster by establishing a sound state of disaster preparedness. Nevertheless, at present, the training of administrators in disaster-prone developing countries does not include this subject. It is true that the USA holds a Disaster Preparedness Seminar for Disaster Co-ordinators from developing countries from all over the world at two-year intervals. But this seminar is held in the United States and relates to US problems and resources, which at least some of the participants find irrelevant: as one recently said to me. "They talked of helicopters and I thought about donkeys"!

The Department of Administrative Studies for Overseas Visiting Fellows of Manchester University has made proposals for an alternative course of action to the UN, the Commonwealth Secretariat, the League of Red Cross Societies, the UK Ministry for Overseas Development and others. This would expand the current training of administrators, particularly in the disaster-prone developing countries, to embrace pre-disaster planning, disaster preparedness and management.

The objectives of this training would be:

—study and practice in situation analysis and in the planning processes related to disaster vulnerability and disaster preparedness;

—training, through practice in syndicate exercises, in the problems and techniques of crisis (disaster) management and resource deployment;

—study of the relationship between development strategies and disaster and of the special problems of disaster proneness in communities.

It is proposed that this training should take place on a regional (e.g. Caribbean, East African, South Pacific) basis, in universities and colleges where administrative training currently takes place. Disaster training organised in this way would have the following advantages:

—it would indicate that disaster responsibilities are a natural extension of the administrator's routine responsibilities;

—disaster problems would be studied against the background of a common regional concept of the disaster threat; earthquake, hurricane, drought etc.

—those studying together from one region would be from similar cultures, with similar experience and attitudes to disaster and from countries at similar stages of economic, political and social development;

—regional cooperation would be engendered by the study of similar problems and by the realisation that the employment of national and regional resources is likely to provide the most rapid, effective and appropriate aid in disaster;

—being based on existing regional institutions, a programme of this kind would create the capability, within these institutions, to develop and maintain training of this kind as an on-going element of their curricula.

Through programmes which develop administrative competence to plan for and to manage disaster situations, we can hope to ensure that indigenous and regional resources are employed and deployed rapidly when required. It is also reasonable to assume that, if the machinery to manage national resources exists, then the massive influx of foreign aid, which frequently follows disaster in developing countries, will be integrated and coordinated as the situation demands. It is also more probable that the requirements for foreign aid will be defined realistically and rapidly so that foreign donors can react in the best way. Implementation of a world-wide disaster education and training programme of this kind would provide a rapid and extremely cost-effective means of improving world standards of disaster preparedness. At present the United Nations Disaster Relief Office (UNDRO) engages a few consultants each year who spend about six months

examining a country's problems and provide a report. Their recommendations are not always either accepted or implemented. Progress by this means is slow and on a narrow front and has very limited effectiveness.

The UK Ministry of Overseas Development looks upon those proposals for education and training favourably, seeing these as major factors in the development of disaster preparedness. But policy inhibits the Ministry from offering training in this way and maintains an attitude of customer orientation, ready to act as circumstances demand. It has been left to the League of Red Cross Societies and to the Commonwealth Secretariat to take initiatives. In September 1976 they jointly sponsored a Disaster Relief and Preparedness seminar for the territories of the South Pacific. This was

successful in that it caused these territories to see the importance and relevance of their own resources in disaster and should result in a course at the University of the South Pacific for those with principal responsibilities for pre-disaster planning in these territories.

The opportunity exists now for the industrialised and rich nations of the world to take initiatives through existing agencies such as the UN, the EEC and the Commonwealth Secretariat or through bilateral technical assistance programmes which would provide the means of developing indigenous resources in developing countries to ensure the rapid and co-ordinated deployment of relief, so that the distress resulting from disaster would be effectively mitigated through Disaster Preparedness.