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THE ECOLOGICAL INTEGRATION OF DISASTER RELIEF

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It may not be premature to refer to disaster-relief as the traditional response to natural disaster. During more recent years, there has come to be a more thorough understanding of the socio-economic conditions which, over time, may contribute to the causes of disaster. Adjustment of these conditions towards the mitigation of disaster, is recognised as an aspect of disaster prevention.

Unfortunately, compatibility between disaster relief and disaster prevention is not automatic. Disaster relief is assumed to be required immediately, to answer emergency conditions or to meet severe and urgent shortages; whilst disaster prevention, in seeking adjustments in conditions which have accrued over time, recognises that long-term programmes are necessary and that these are not always likely to show immediate results. Another assumption upon which much international disaster relief is based and which it perpetuates, is that disasters are events of large magnitude; whereas in fact, they are very often of more frequent local significance and may not reach international interest.

Moreover, in its focus on short-term solutions to immediate problems, disaster relief may ignore, or may not be aware of, the long-term accretive processes which have contributed to the causes of disaster. In most disaster prone countries, disasters are recurrent and may be exacerbated by accelerated socio-economic change over time. Where disaster relief has not understood causative conditions and changes to them, whilst seeking to ameliorate current disaster, it may exacerbate subsequent disaster.

In a recent governmental study (Lewis: 1978) containing proposals for disaster mitigation, undertaken within a variety of

post-disaster conditions which it analysed, the effect of disaster-relief supplies on food production received specific mention. Flour, sugar and rice were distributed as a gift from a major donor country subsequent to severe hurricanes. In consequence, it was locally admitted, there had been a marked decline in attention to local food plots and to subsistence food production. Not only was free food reducing the desire to work, but alien "convenience" food was reducing the taste for indigenous root crops. Furthermore, the distribution of the supplies over several months was placing a severe administrative and logistic burden upon government authorities. Indigenous capacity for self-reliance was being severely eroded. It would take a lesser environmental extreme to cause the next disaster, and in the next hurricane, losses would be more severe and dependency on external assistance would be more acute.

In addition to the provision of food, there are other components of basic life-support in which changes over time may exacerbate disaster, and these may or may not be accelerated by disaster-relief. Changes in the construction of dwellings due to a desire to "westernise", or due to new availability of manufactured building materials implemented in ignorance of necessary techniques and standards, may bring about increased disaster damage. In a recent moderate earthquake in a country of the South Pacific, more severe damage was experienced than ever before, where earthquakes of greater magnitude have been frequent. The most severe damage was to recently built dwellings in concrete block or reinforced concrete. Traditional timber buildings were less affected.

Dry periods without rain are to be expected as endemic in most countries, and arrangements for storage of water have in many cases become traditional, both for drinking and cooking, and for irrigation. Where water storage systems have not been maintained, or where local populations have increased to place a greater use upon them, it will take shorter periods without rain to cause draught conditions, disaster will become more frequent, and long dry periods will have more disastrous effects.

Analysis of some of the causative factors of disaster in the community context initiates recognition of the ecological processes undertaken by man in his close relationship with the natural environment. Where these processes have been undisturbed by over-rapid change, or by migration, man has usually been better able to cope with most environmental extremes. In introducing accelerated change, it is even more important to recognise environmental relationships if disaster is not to be caused or exacerbated. Recognition of man as a component of, not apart from, natural environment, facilitates recognition of the networks of human ecology. An essential component of disaster is people. Disaster ecology is those processes of change in mans'

relationship with natural environment which may increase or decrease the incidence or severity of disaster. By the same token, disaster may be mitigated over time, by adjustments in mans' activities and planned processes of change.

Where it is not integrated with current processes of change, disaster relief may have negative long-term consequences which either counter previous success in socio-economic development programmes, and which may also set up additional negative conditions and processes which contribute to the incidence or exacerbation of disaster.

The need for maintenance introduces institutional functions into physical and social conditions and systems. Where maintenance to machinery or to buildings is inadequate, failure is more frequent and environmental forces may bring about failure, which may be critical, which would not have occurred had the need for maintenance been adequately recognised. The failure of institutional or administrative functions may be similarly a cause of disaster, as well as a component of disaster. Maintenance of administrative flexibility, of awareness of disaster proneness, of knowledge and implementation of contingency planning, and of the potential impact of socio-economic change in development programmes are essential aspects of institutional maintenance, as important as physical maintenance, in disaster prevention.

Focus on short-term and immediate needs created in disaster, and concentration by limited and unmaintained administration on distribution and management of relief material and supplies (externally donated and not always in response to specified needs or purposes) serves to obscure "structural" conditions which caused or gave rise to the need for relief supplies in the first place.

These weaknesses could be identified and analysed before the occurrence of disaster. In disaster itself however, is exposed the several weaknesses of social, physical and institutional systems at all levels. As well as the provision of relief in response to long accrued causative conditions, longer-term measures in socio-economic development projects and programmes must be directed to the amelioration of these conditions, thus serving to mitigate disaster. Where disaster relief is specified for precise areas and conditions of need, longer-term socio-economic resources can be directed to reduce the cause of need in the future. Furthermore, identification of "structural" and basic weaknesses can, first, assist the formulation of socio-economic development policy at local community, regional and national levels; and second, having established policy on the basis of identified weaknesses, disaster relief can be pre-planned for specific needs in specific areas and to specific

social sectors, as part of disaster preparedness planning.

Disaster relief can thus be integrated into longer-term local development policy, and be made to contribute to local self-reliance, rather than to the erosion of self-reliance and consequent exacerbation of disaster. Responsibility for this necessary shift of emphasis lies not only with the disaster-relief donor governments and organisations, but with indigenous administrations. Management of disaster relief has to be an indigenous process if it is to be effectively integrated with other indigenous processes in socio-economic development, and with measures for disaster prevention.

By adjustments in approach and improvements in method, disaster response can be made to include relief for long accrued and established conditions, without exacerbating future and recurrent disasters; and will achieve simultaneous mutual compatibility and effectiveness with disaster preparedness and prevention for future disasters, not only those of large magnitude, but for the more frequently recurrent small ones as well - which may, as a result, decrease in number. Disaster relief will integrate with future, as well as current need, and will achieve recurrent, not only solitary, effectiveness.

Reference

Lewis, James: *Mitigation and preparedness for natural disaster in the Kingdom of Tonga* Ministry of Overseas Development (now the Overseas Development Administration) London. 1978.