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ENVIRONMENTAL HAZARDS IN A GLOBAL PLANNING CONTEXT.

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The Disaster Research Unit was formed in December 1973 out of a grant from the Leverhulme Trust which ~~was~~ now been matched by the University of Bradford. The aim of the Unit is to coordinate research in a three part programme to produce a precautionary strategy for application in disaster prone locations, as either a manual for decision makers and planners, or in the form of a tailor made plan for specific locations.

'Disaster' in the Unit's working definition is the effect of violent natural phenomena on a community and the three principle sectors of it's research will be:

- Precautions against disaster.
- Assessments of the degree of risk.
- Economic studies.

The interdisciplinary nature of the Unit's work is already expressed by it's founder members. Dr. Michael Gane, who is Director of the Project Planning Centre at the University of Bradford to which the Disaster Research Unit is attached, is a development economist who has done some work on assessing the risk from hurricanes in Fiji and who is involved in applying computer techniques to hurricane track models for that part of the world. As the Unit Leader and an architect with much overseas experience and a planning background I shall be coordinator with a particular interest in precautions. The need for pre-disaster planning was seen by us both before the creation of the Unit and a paper I had written as a 'Working Method' for an aspect of pre-planning had been well received. Appointments have been advertised to cover research into assessments of risk and warning systems which will require statistical expertise and for an economist to provide support information on costs and to carry out research into the effects on development of continuing natural disaster events. The coordination of these research projects and the relating of them to organisational structures and administrative machinery will create the precautionary strategy referred to. Our aim is to see this strategy become a part of national development plans acknowledging the threat of disaster as being a part of a community's environment.

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It will be clear that by applying ourselves to pre-planning we will be concentrating our attentions on the period of time before the disaster event, but this is not to say that actual study will be restricted to this area. The sequence of events is preferably seen as circular than linear, relief following the event, rehabilitation following relief and rapidly becoming the area for pre-planning for the next disaster event. The Unit hopes to be involved in consultancy and advisory roles to make available it's expertise, to increase it's experience of disaster situations, to test it's ideas in the field and to demonstrate the practical nature of it's purpose.

Examples of precautions against disaster as we see them are the 'Proofing' of civil engineering and building structures including small buildings and self-built dwellings, land use zoning and emergency administration. When set against twelve disaster types, this part of our programme is formidable on its own, but furthermore, in order to demonstrate the 'worth-whileness' of proposed precautions our studies into the assessment of risk will involve not only numerical examination of chronological records of occurrence but an assessment of the degree of severity in numbers killed and in economic terms in historical cases in order to project an assessment of future events. This will lead to the preparation of an 'atlas' of vulnerability, and we believe that we shall be able to demonstrate that a fraction of the losses spent on a mitigating strategy will have a very high ratio of effectiveness. We also aim to cover research into methods of forecasting which may lead to possible warning systems, and the adoption of such warning systems will be a form of precaution in themselves. Community response to warnings is an area of study where we hope to rely to a large part on work being done by other research organisations and one which I see as of paramount importance when we are dealing with less developed countries with social and cultural values totally different from those of the West.

Apart from 'quantification studies' in providing cost information as a supporting service to proposals for precautions, economic research will attempt to assess the impact of continued disaster events on the development of a country and to assess the contributions made by continued disaster events to a state of retarded development. It is not the intent of the Unit to apply itself exclusively to developing countries but it is clear that these are the most vulnerable to disaster. A quick

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comparison of twenty-five most developed countries with twenty-five least developed countries shows a ratio of total numbers killed in natural disaster events over a twenty-three year period as 1:14.

I hasten to emphasise that we must not be regarded as totally technological and economic and as another part of sophisticated western method to be applied willy-nilly into the Third World. It is perhaps only convenient to be able to refer to the Third World as such but highly dangerous to assume that membership of that world contributes to the same loss of indigenous identity as does membership of the 'First'. Only the opposite can be true and therefore social and cultural conditions in all their variety must be the subject of careful study if proposals for change are to be successful. The psychology of such processes must surely therefore be similarly diffuse and varied and a critical and rewarding area for research studies.

Whilst we cannot possibly hope to contain every aspect of disaster related research within DRU we do see the need to relate to current research in sociological science and psychosociological studies and on the other hand see ourselves as offering perhaps a greater comprehensivity for practical application in our chosen area<sup>as</sup> has been previously attempted. It would appear that the working out of forms of relationship between separate areas of research offers much to be gained by all participants and has a high usefulness potential. In other words we have seen the need for a comprehensive framework of a research programme into which may be slotted other research projects or parts of them as may be mutually beneficial. We see this as particularly important where we are hopeful of opportunities to apply ourselves in practical studies for particular locations.

We have already come across one first instance of this kind of working association. We have long seen the need for a bibliography of disaster related publications and papers and shortly after the Unit's formation saw the 'Annotated Bibliography of Disaster Technology' produced by the London Technical Group. We were very impressed but noted a number of inadequacies which we have amicably discussed with the LTG and proposals are afoot to find financial support to enable a combined revision of the work to commence.

Once we have achieved the three member team to match the three part programme I have described we shall be ready to move on our programme with all speed. Since the Unit's formation last December most of our work has been in programme formation and promotional and exploratory exercises. This has not been solely by correspondence but visits have been made to several European countries, principally to the intergovernmental organisations but also to voluntary organisations and Universities and we hope shortly to visit the United States for similar purposes. It is a source of the greatest personal satisfaction to me, having seen as part of my professional experience the frustrations caused by territorial struggles, to be now a member of a University with a Charter which declares the objective of 'the advancement of learning and knowledge and the application of knowledge to human welfare' and where this objective is practiced by the continuing formation of new research projects and courses of study which are 'interdisciplinary' when compared to traditional disciplines but which by their very nature seek to erase the boundaries which such disciplines create. Many of the serious problems which now face the world (and adequate attention to natural disasters is long overdue) can only be solved by such a fusion of thought. My point now is that research above all has opportunities to overcome or extend traditional boundaries and I believe the Disaster Research Unit is offering another such opportunity.

I am grateful for this occasion to further describe the aims of the Disaster Research Unit and hope that there will be many opportunities to meet, to exchange thoughts and ideas and possibly to arrange closer working relationships.