

NATURAL DISASTERS AND ECONOMIC DEVELOPMENT: INTRODUCTION

W.I. Torry

University of California, Berkeley, CA, U.S.A.

In many rural areas of industrial countries and over much of the Third World, profound socio-economic transformations have taken root. Disasters that occur within these regions tend to foment changes already underway, and even on occasion initiate change, by creating a situation of abundance within hardship. Acute resource scarcity instigated by the destructive agent elicits a torrent of aid. Heightened local dependence on external support enlarges the incentive of administrative agencies and organizations working under their aegis to participate in the long-term planning of community affairs. Such intervention derives also from the relatively sudden, dramatic revelation of chronic overall privation or the highly skewed distribution of power and riches that provided the impetus for development policies prior to impact. Precisely how these inputs affect community stability and growth depends on such factors as government's ideological commitment to eradicate the social and political processes weakening local resistance to crisis, the bureaucratic and budgetary constraints governing the state's ability to deliver on its promises to rebuild, the importance of the region in the broader national context, and the capability and willingness of local leaders to seize on the disaster for pressing home long cherished social reforms. Moreover, to the extent that they can influence the distribution of bounty generated

by the disaster, so local interest groups may follow courses of change they had charted out before the crisis.

It must also be remembered that catastrophes can traumatize governments as well as local communities. In natural disaster settings especially, owing to their typically region-wide scale of devastation, the administrative apparatus is apt to absorb tremendous stresses by virtue of its direct involvement in crisis management. Where established procedures, policies, programs and bureaucratic structures fail under stress, novel approaches to problem solving which contribute to organizational modifications in state or local government may emerge, and these changes in turn stimulate economic development. The metamorphosis of colonial administration in India attests to just this kind of relationship between disasters and development.

The disaster itself may be an immediate or indirect outcome of radical development programs. Widespread ethnocide and pauperization afflicting native Amazonian populations because of state and multi-national efforts to exploit the natural resources lying in their homelands illustrates a direct link between disasters and development. Investments in green revolution technology made by wealthier neighbors is gradually destroying the economic buffers that great masses of monsoon belt dwelling peasants have depended on traditional-

ly as security against recurrent flooding and drought. The overcrowding into mountain zones by subsistence farmers whose original lowland plots have been expropriated for use by large land development concerns or over-taxed, under-capitalized, or divided into hopelessly small fragments has led to deforestation and concomitant erosion of fragile highland soils. The improvident use of these marginal lands accordingly is creating unprecedented flood and landslide hazards. These are only a few of the many different kinds of more circuitous, albeit significant, associations between disasters and development.

It is clear that disasters today are potentially greater in magnitude and frequency than ever before owing principally to rapid socio-technological changes that are dramatically restructuring *cum* destabilizing social and physical environments on a global scale. Yet, regrettably, it is not possible to ascertain with any fine precision just why it is that modernizing pressures either trigger disasters or well up in their wake. Perhaps the biggest stumbling block interfering with the scientific study of disaster causality is the fact that the problem is so colossally complex. Disasters, by definition, involve the complete makeup of entire communities, be they towns, cities, or larger social units. To reach the taproots of disaster genesis one must fathom not only the "routine" workings of a given social system but, with equal rigor, detect, measure and monitor its interactions, intensified by crisis, with systems of other systems. In lesser developed countries it is not unusual for these transactions to telescope out from isolated rural provinces to the international community. Obviously, any exercise of this kind, if it is to make the best use of available scientific methods, is stupendously difficult, particularly when the troubled system is as elaborately organized as a nation-state.

No doubt some simplification will be necessary initially to isolate out primary factors

constituting the disaster—development equation. Unfortunately, the trend in research to date has been either to ignore altogether developmental processes in social systems by focusing on roles, individual cognitive processes, or formal organizations, such as police and fire departments, operating within disaster contexts, or by lumping different empirical instances of disaster together as special instances, or epiphenomena, of global development tendencies. Marxist attempts at explaining disaster vulnerability among Third World peasant communities as an inevitable product of the economic exploitation engendered in class-stratified capitalistic states exemplifies this latter approach.

In-depth empirical field studies focused either on one or both of the organizational domains through which disaster and development processes converge are exceedingly rare. The primary unit of analysis, in one, is the community, while the other comprises segments of government bureaucracy involved directly in local disaster genesis. Both systems will have to be taken into consideration, regardless of the point of departure chosen, for neither process occurs within an administrative or a local community vacuum. Where resources permit, the scope of investigation should be broadened to encompass more of the larger regional system that comes into play or a widened spectrum of participating state or international agencies. Even a small critical mass of a dozen or so such studies will add enormously to the difficult task of building a system of testable theories accounting for variations in disaster causality and coping across a broad spectrum of societies and with respect to a variety of development situations. Most of the following papers are based on the *in situ*, social system oriented research advocated here, and they touch on numerous issues that should stimulate future disaster modelling.