FLOOD INSURANCE AND RELIEF IN THE U.S. AND BRITAIN

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January 1990

Working Paper #68

Natural Hazards Research and Applications Information Center
Institute of Behavioral Science
University of Colorado

This paper is a modified version of Chapter 3 of Flood Insurance and Relief in Australia, D.I. Smith and J.W. Handmer, eds., 1989, Canberra: Centre for Resource and Environmental Studies, Australian National University.

PREFACE

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SUMMARY

Within the broad range of strategies available for hazard reduction, insurance and relief focus on loss redistribution, rather than loss reduction. The use of these measures will affect every part of the flood hazard management process. Successful implementation requires that they not be treated in isolation from other mitigation measures and their social context.

This paper briefly examines the different roles government can adopt in loss redistribution. Two of the seven identified approaches are examined further using the United States and Britain as contrasting examples. At the federal level the United States presents an integrated program based on a national flood insurance scheme, which itself is tied to land-use regulation. Furthermore, the program is administered by one central agency. The British approach, in contrast, appears uncoordinated and ad hoc. There are no explicit national flood-related policies or standard procedures for disaster relief. However, flood insurance is generally included in normal commercial and household cover. Relief relies heavily on public appeals. In turn, the success of these appeals varies dramatically with the disaster.

All approaches raise serious questions for industrialized countries about the proper role of government, about equity, and about the desirability of special disaster provisions.

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INTRODUCTION

More than half the insurance claims paid worldwide have been in response to natural and technological disasters (El-Sabh and Murty, 1988). At a global level, relief is a multibillion dollar business and is an area of massive growth (Davis, 1984). It has even become an important part of the mass media entertainment industry through the growth of telethons and charity concerts (The [London] Independent, 1988). While much relief is aimed at the victims of events triggered by natural phenomena and technological failures, an increasingly substantial proportion of global aid is for those affected by war and civil unrest.

A wide range of strategies is available for the management of hazards or risks. Common strategies specifically for flooding are set out in Table 1. The table shows the conventional classification based on whether the measure seeks to influence flood waters or people--the two approaches being termed structural and nonstructural, respectively. A second common classification is based on a strategy's effect on flood losses. A typical taxonomy puts such measure's into one of three classes: those that redistribute flood losses (insurance and relief); those that modify the susceptibility to loss (such as warnings and land-use planning); and those that attempt to prevent losses (generally, engineering works). A third approach to classification is based on the mode of implementation or level of government intervention. Structural or engineering strategies and many nonstructural measures depend on a strong government agency (or equivalent

TABLE 1

CLASSIFICATION OF FLOOD ADJUSTMENTS: STRUCTURAL/NONSTRUCTURAL, MODE OF IMPLEMENTATION, AND THE THEORETICAL EFFECT ON LOSSES

	Governmental*		Individual	
	Engineering**	Institutional***		
Structural	•dams •levees •diversions and channel improvements •retarding basins			Prevent losses
Nonstructural		•acquisition •nonregulatory measures: fiscal and financial incentives, infrastructure provisions •regulations: zoning, subdivision and building regulations •information and education •forecasts, warning systems, emergency plans •salvage •state and national emergency services	•house raising •small levees •other floodproofing •local warning systems •response to warning •salvage	Modify losses
		•insurance •relief		Redistribute loss
Do nothing				Accept loss

*Governmental measures are those requiring a central authority to make and enforce regulations, to administer financial incentives/disincentives, and to finance, construct, and maintain major works. In the last case, involvement may be through an agency regulating private enterprise.

**Engineering refers to the construction of major public works.

***Institutional measures are those requiring the direct involvement of government authorities through, for example, land-use regulations, or their indirect involvement as guardians of the public interest, for instance by controlling the insurance industry.

level of organization) for their implementation. In the Australian context these include insurance and relief. In contrast, other measures rely on the initiative of individual floodplain occupiers or groups of occupiers, and may be quite successful in the absence of government action (Handmer, 1984).

More radical approaches than those in Table 1 suggest changes to the structure of society, such as the elimination of poverty, changing cultural attitudes inhibiting appropriate response to hazards, and major restructuring of the bureaucracy. A study by Handmer (1984) of some Australian rural towns shows that many of the communities' poorest people live in the most dangerously flood-prone areas because the housing there is all they can afford. Furthermore, many of these people lack the resources to undertake even inexpensive flood mitigation measures. Other nonfinancial barriers, such as racism, may also increase the difficulty of people helping themselves.

Insurance and relief are redistribution mechanisms. In terms of national economic efficiency they do nothing to reduce tangible damage--that is, damage conventionally valued in dollars. They simply transfer money within the economy (Handmer, 1985). In fact, losses may be increased if the easily available money after a disaster or emergency acts as a disincentive to reduce losses by other means including salvage. Nevertheless, insurance and relief may have an important impact on intangible losses and effects, such as anxiety and associated ill-health.

If the relief money comes from overseas then it is no longer

a transfer payment, instead it adds wealth to the economy. Similarly, although disasters may drain a national economy, local or regional economies may appear to benefit greatly from the influx of relief money and insurance payouts. Unfortunately, however, aid is often counterproductive, especially in developing countries where, among other things, it may create dependence on imported goods and undermine sections of the local economy (Davis, 1984).

The use of insurance or relief, as with other mitigation strategies, will affect every part of the flood hazard management process. In a British study, possession of flood insurance reduced the likelihood that people took action to keep water out of their homes or undertook other damage-reducing action (Table 2). The provision of flood protection by levees or other

TABLE 2

EFFECT OF INSURANCE ON ACTION TAKEN TO KEEP FLOOD WATER OUT

	No insurance	Insured
No action	50%	76%
Took action	50%	24%
Number of cases	20	131

Chi-square significant at 0.05 level.

Source: Flood Hazard Research Centre, Middlesex Polytechnic.

engineered works tends to discourage floodproofing, reduce emergency preparedness and weaken community resolve to implement land-use regulations (White and Haas, 1975; Ericksen, 1986). In Bangladesh new levee schemes have been sabotaged by villagers who thought that the scheme would put them at a disadvantage (Thompson, 1987). This shows the importance of considering the social and political climate of a location before devising mitigation schemes. Similar attitudes are found in the industrialized world in the opposition typically expressed towards relocation schemes (Handmer, 1984).

Although these and other relationships have been described in the research literature, authorities have tended to examine strategies as if they were completely independent of each other and of their social context. In particular, interactions over time are ignored, and opportunities which arise during disaster recovery for reducing vulnerability to the next event are generally overlooked. Disaster recovery should not be seen in isolation, but should be part of a circular process reducing vulnerability and increasing preparedness for the next event.

An important reason for this lack of integration has been the fragmentation of responsibility for hazard management. Different strategies are frequently the responsibility of different government departments, levels of government, etc., with little incentive for coordination. Agency goals may be in conflict, administrative procedures may vary, policy statements may be interpreted differently and so on. In some cases differences

between departments may erupt into open conflict.

This paper briefly sets out some of the different approaches to disaster management and loss redistribution. Case studies of the distinctive approaches employed by the central governments of the United States and Britain are used to examine two of these in more detail.

THE ROLE OF GOVERNMENT

A central issue in hazard management is the role of governments, whether we are concerned with developing an integrated approach to flood management or with determining the appropriate level of government involvement in relief and insurance. The modern nation state has largely taken over the functions formerly provided by kinship networks, the church or temple, and the local hierarchy in feudal societies. Approaches to loss redistribution can be broadly classified into seven categories:

Self Reliance

A "self reliant" approach is characterized by a relatively low level of government involvement because of the current social or political ideology or simply inadequate resources. An example from the industrialized world is Thatcher's Britain, with its apparent emphasis on individual choice as a basis for action. In these situations the courts have a potentially major role in redistributing losses.

Humanitarian

Where government involvement is low, aid to disaster victims may result from the altruism of fellow citizens or those in other countries. In Britain such beneficence is often the major source of relief funds. Many nongovernment international aid agencies rely on appeals to people's humanitarian values for their funds, although occasionally the appeals may seem more directed at people's feelings of guilt for being relatively fortunate. The generosity of people depends very much on who is affected, the type and timing of the disaster, media interest and/or the marketing ability of the aid organization. Journalists play a major part in obtaining disaster aid, but in the process may reinforce disaster stereotypes overturned by research decades ago. For example, disaster victims and their communities are typically portrayed as helpless.

The Welfare State

In theory at least, government in the welfare state looks after the people. But despite the benefits, government intervention may also increase tangible and intangible disaster losses by reducing or removing the incentive to move and salvage items and by increasing people's feelings of lack of power. In disaster management this approach is well represented by the United States and New Zealand.

For example, after the 1972 Buffalo Creek dam burst in West Virginia, the National Guard sealed off the area. Unfortunately,

many survivors viewed the National Guard as an invading army preventing them from searching for relatives and possessions. In addition, the temporary housing provided by the federal government exacerbated the psychological strain felt by many survivors and caused further serious problems for the communities because the housing allocation system did not keep members of each small mountain village together. In fact, speaking about Buffalo Creek, Harshbarger suggested that

> it might be argued that if a brilliant, but deranged, social scientist were to design a system of disaster intervention that would maximize pathology, it is likely he would do precisely what was done. (Morris, 1975)

After recent flooding in Invercargill, New Zealand, the authorities instructed that flooded household items, in particular furniture, should be discarded because the floodwater had been polluted with sewage. People were compensated for this action, greatly increasing the tangible losses.

Cargo Cult

Put very simply, devotees to the Papua New Guinea "cargo cult" believe that after some nominal act on their part, desirable objects such as food, consumer goods, etc., will just appear. Explanations for the cult's emergence include the need to explain modern technology with traditional "stone age" mysticism. Gerritsen et al. (1981) argue that the cult is a reaction to feelings of deprivation engendered by the contrast in material wealth between the indigenous people and the colonizers. Some relief programs appear to cater to a cargo cult mentality. One

could argue that an attitude of total dependence has often been encouraged by governments and organizations acting to consolidate their power, as outlined in the discussion of agency legitimacy below.

Traditional Tribal or Village Societies

Traditional tribal or village societies do not possess insurance or relief as we know them, but mechanisms for spreading disaster losses normally exist. Furthermore, as losses are borne by the immediate group and extended kin network, considerable pressure exists for all members of the group to undertake whatever predisaster mitigation actions the group considers appropriate.

Hazard preparedness and postimpact measures employed by New Guinea highlanders in response to the frost hazard are described by Waddell (1983). The measures are typical of traditional societies. Frost-vulnerable crops are grown in small amounts in different ecological niches of different fertility and vulnerability. Also, food gardens are maintained in two separate areas two days walk apart--again, reducing the risk of serious crop losses. If these measures fail and extreme frosts destroy much of the highlanders' crop, "[temporary] migration occurs to frost free areas up to seven days walk away, to stay with customary hosts and establish food gardens" (Waddell, 1983). These extended kinship networks are the traditional equivalent of reinsurance.

Remnants of this approach may still be found in the industrialized world in some rural areas, among certain ethnic groups, and in "utopian" or religious communities such as those of the Amish and Mennonites. It is apparent that this sort of coping mechanism would be easily disrupted by the arrival of a modern western-style land tenure system, or by the emergence of a government that strongly discouraged any tendency to nomadism or that was intent on breaking down traditional regional alliances in the name of creating national identity.

Budgetary Support

Some regions of the world appear to be so disaster-prone that disaster aid forms an important part of their regular budget. The word "appear" is used to emphasize that a state of chronic disaster is not simply the result of geophysical phenomena. Many of the people inhabiting such regions are frequently "marginalized"--i.e., in a state of poverty, with food shortages, and inadequate or nonexistent housing, health services, transport, and other infrastructure. These situations may arise from war (as in parts of Africa), political repression, or the destruction of traditional coping mechanisms. Thus a natural event like a flood may trigger losses out of proportion to its size.

Agency Legitimacy and Survival

Cynics might identify another approach that primarily gives the organizations (or individuals) involved profile and legitima-

cy to enhance their own survival rather than the survival of the disaster victims and to pre-empt political intervention. These concerns might motivate insurers to pay out when they consider that they are not legally required to do so, or to extend coverage to flooding (Arnell et al., 1984). However, as is frequently the case, international aid agencies provide the best examples:

> The Red Cross delivered 3000 tents to the town of San Marlan after the 1976 Guatemalan earthquake. In doing this they probably satisfied their immediate superiors, and their funding public who contributed roughly US$800,000 to pay for the tents. Rather distant photographs . . . appeared in the Red Cross brochure, and as far as the agency was concerned the mission was completed. Turning to the victims, despite attempts by the Guatemalan army to move people into their "gifts" at gunpoint the inhabitants of San Marlan town resisted. After two weeks, precisely 7 tents were occupied. (Davis, 1983)

Some writers blame the lack of accountability of international agencies for this situation (Davis, 1983). In any case the approach, as described, represents the antithesis of integrated hazard management.

In many countries flood relief and engineered flood mitigation works have been closely associated with politicians seeking electoral advantage or personal monuments. In Australia, the widely publicized aerial flood survey over Sydney in August 1986 by Prime Minister Hawke and Premier Unsworth was undoubtedly designed to confer electoral benefits. It is worth noting that in the recent disasters in Britain there was little attempt by politicians to use the events in this way.

In the sections that follow, the first two approaches listed above, self reliance and the welfare state, are explored further using Britain and the United States as examples. Note that the discussion is primarily concerned with the role of central government and with urban households.

THE UNITED STATES: AN ATTEMPT AT INTEGRATED DISASTER RELIEF AND INSURANCE

The United States federal government's involvement in flood hazard management was formalized by the Flood Control Act of 1936. This act set out economic criteria for federal investment in flood control structures. Its impact was most recently examined at a fiftieth anniversary symposium (Rosen and Reuss, 1988). In addition to engineered works, the Congress has long been involved with disaster relief. Prior to 1950 Congress passed legislation on an ad hoc basis to provide assistance for over 100 separate disasters. A 1950 act provided for a permanent program of direct federal assistance to state and local governments and also provided limited aid to individuals in cooperation with the U.S. Red Cross. Various amendments provided for emergency housing and the distribution of surplus federal commodities.

The federal role was greatly expanded in the wake of the Alaskan earthquake and Hurricane Betsy, both in 1964 (Sorkin, 1982). This expansion may have been due to the limited resources of the Alaskan population (less than 250,000) and the region's transfer from direct federal rule as a territory to statehood

only five years earlier. In addition, federal agencies may have seen disaster assistance as a way of enhancing their profile and legitimacy within the federal government.

Federal disaster relief law was consolidated by the Disaster Relief Act of 1974 which also introduced a number of new programs, many of which are now tied to the U.S. National Flood Insurance Program. In general, the provisions of the act apply to presidentially-declared disasters, although there are some exceptions. The main provisions of the act are (Sorkin, 1982):

1) a requirement that local officials obtain insurance to protect against future disaster loss on any public property repaired or restored with federal assistance;

2) the provision of 75% grants for repairing or reconstructing public educational, park, and recreational facilities, as well as nonprofit private educational, utility, emergency, medical, and custodial-care facilities;

3) the creation of an optional 90% grant program for damaged public facilities;

4) the provision of 75% grants to states in order to make funds available to individuals and families incurring disaster-related losses;

5) the authorization of professional counseling services for mental-health problems caused or aggravated by a disaster;

6) the establishment of a long-range economic recovery program (including the establishment of a recovery planning council) for major disaster areas, with the provision of grants and loans

for public works and development facilities with a total authorization of $250 million; and

7) the extension of disaster unemployment assistance to a maximum of one year.

The first comprehensive revision to the 1974 Disaster Relief Act came with passage of the Robert T. Stafford Disaster Relief and Emergency Assistance Act in November 1988. This act makes substantial amendments to the 1974 legislation. In general, disaster relief is expanded. An important change is the new authority given to the Federal Emergency Management Agency (FEMA) to participate with states in hazard mitigation projects. Participation is permitted in cost-effective projects on a 50-50 matching grant basis, up to a total of 10% of the grants for all public facility restoration following a disaster (FEMA Newsletter, 1988).

Flood Insurance

At the same time that the federal role in disaster relief was becoming more formalized, the U.S. flood insurance scheme was evolving. Although never implemented, a first significant step was the Federal Flood Insurance Act of 1956 (Arnell, 1984). The major change, however, came in 1968 with establishment of the National Flood Insurance Program (NFIP). Three key factors influenced the creation of the program (Arnell, 1987):

1) the private insurance industry was unwilling to sell flood cover, primarily because of the exposure to potentially

catastrophic losses;

2) flood losses were escalating mainly as a result of floodplain encroachment. These rising losses, combined with increasingly liberal disaster relief, led to higher federal flood-related expenditures;

3) during the 1960s there was increasing interest in non-structural floodplain management methods. This resulted from dissatisfaction with the effectiveness of structural measures, environmental concerns, and the rising cost and scarcity of capital.

The NFIP was therefore designed to halt or reduce the rate of floodplain encroachment, to shift some of the costs of flood disasters onto those using the floodplain, and to reduce federal expenditure on relief and flood control works.

Although the U.S. federal government has a long history of planning and constructing engineered flood control works, the NFIP can currently be considered the core of the federal flood hazard management effort, as well as the central element in both state and local flood mitigation activities. The program can be seen as a national floodplain land-use planning scheme rather than simply an insurance program. Under the NFIP, subsidized insurance, technical assistance, and guaranteed disaster relief is offered to a community in exchange for the enactment of floodplain land-use and building regulations. As well as these incentives for participating, there are penalties for non-participants including restrictions on most forms of federal

funding, disaster assistance, and federally guaranteed mortgages. After a very slow start, adoption of the NFIP increased rapidly with the passage of the Disaster Relief Act of 1974.

The program is based on maps of the 1% or 100-year floodplain and equivalent areas subject to flooding by the sea and the Great Lakes. Performance standards are spelled out in detail. Under the program opportunities exist to implement mitigation during postdisaster recovery and thereby end cycles of repeated flood damages. Insured properties which are severely or repeatedly damaged can be bought and demolished or relocated. As of January 12, 1988, 727 properties had been purchased under this provision (U.S. General Accounting Office, 1988).

The flood insurance program and federal disaster assistance are largely administered by one organization: the Federal Emergency Management Agency (FEMA). The agency was established in 1978 to consolidate federal disaster-related activities. In theory, at least, this should promote an integrated approach. Integration is further helped by Executive Order 11988 issued in 1977 by President Carter requiring all federal agencies to consider nonstructural approaches to flood hazard management. The order also requires federal agencies to locate their activities outside floodplains when possible. National policies emphasize an integrated approach to flood damage reduction through the NFIP.