



Improvised shelters in Guatemala, made from any waste materials: cardboard boxes, earthquake rubble, etc

## Policy Guidelines

### *Policies to avoid*

1. Actions which duplicate the efforts of survivors.
2. Bulldozing rubble and burning timber from damaged houses, which could otherwise be recycled into new homes.
3. Importing labour for reconstruction when there is ample labour to be found locally.
4. Importing building materials which can be obtained locally.
5. Compulsory evacuation, especially of women and children: although this can temporarily reduce the pressure on local resources, it can cause social misery and apathy.
6. Relocation of survivors on land which is remote from work, markets, schools and other social and economic needs.
7. Creating large emergency campsites with risks of adverse social and environmental effects.
8. Building imported or prefabricated temporary shelters unnecessarily.

### *Policies to adopt*

1. *Encouragement of people to participate in the assessment of their own needs and resources*

The objective is to minimize dependency on outside support, and concentrate official effort on identifying

gaps and unmet needs with survivor participation. Advice on local housing needs is best obtained from local builders, architects or engineers. In some situations there may be local housing institutions with knowledge of building traditions and resources. Official groups, such as local government housing officers and public works departments, will have knowledge of the local housing process. Advice on how to make low-cost housing safe against future hazards may need to be introduced, but there is normally a shortage of local expertise on this subject.

### *2. Provision of materials and tools*

Establish programmes which make shelter materials available, such as blankets, plastic sheeting, roofing sheets, and locally available or traditional building materials. In addition, tools for building and clearing rubble are always needed.

### *3. In cold climates or seasons, keeping stocks of robust "winterized" tents*

This policy should be balanced against others advocated in this study: in many instances where the climate is mild or warm, alternative strategies can be adopted to mobilize local resources for rapid reconstruction.

### *4. Provision of transport for voluntary evacuation*

Families wishing to leave the affected area to stay with friends or relatives who can receive them temporarily, should receive transport.

### *5. Requisition of public or community buildings*

Public buildings such as schools, churches, community halls etc. can fulfil an important function in providing emergency accommodation for homeless families. Such buildings should be earmarked and checked by qualified civil engineers for their structural resistance to the prevailing natural hazards. The maximum magnitude of hazard against which to check these buildings should correspond to the expected magnitude of hazard for a return period equivalent at least to the economic life of the building in question.

### *6. Cash grants and sale of building materials*

Where stockists are still functioning, the provision of cash grants, or low-interest loans to enable survivors to buy building materials and tools, can be a highly effective policy. However, prior to embarking on such programmes, assisting groups must ascertain the scale of needs in relation to local resources: a small community may be able to obtain adequate supplies from normal stockist, but in a major disaster shortages may rapidly occur with consequent price rises.

Where the supply of materials or tools is limited, assisting groups, including the local government, should negotiate the block purchase of supplies and organize their transport and distribution to the affected area. Various approaches have been adopted to control the prices of essential materials (such as governmental price controls), but these interventions in a market economy may result in further shortages unless it is financially advantageous to the private sector to increase supplies or production substantially.

It should be noted that the distribution of essential shelter supplies is more effective if they are sold rather than given away, though subsidies may be necessary in cases of severe hardship. Although assisting groups may find selling more complicated than free disposal, it is better for the following reasons:

It retains the dignity of the survivor, who will be a *participant* rather than a *victim*, if he purchases goods himself.

Free distribution creates problems of dependency.

Free distribution can have serious adverse effects on local stockists trying to sell their goods in a normal manner (they themselves may also be victims of the disaster).

The money from the sale of shelter goods is needed by agencies for other vital purchases.

Although it is better to offer loans than to make outright cash grants, there are nevertheless certain instances when cash grants may be an important and effective form of aid:

To near destitute people, where they form so small a percentage of the population that they will not significantly drive up prices of commodities.

To labourers, in lieu of wages lost following disaster, in order to enable them to salvage belongings and materials, and build shelters, or begin to reconstruct their homes.

To poor artisans, to replace destroyed equipment essential to their livelihood; also possibly in lieu of income lost as a result of goods destroyed or damaged in the disaster.

To low income groups across a wider spectrum, when essential commodities are available in abundance in nearby, unaffected regions, and where the cash grant

is in effect a subsidy for the part of the price which traders add for increased transport costs.

### 7. Access to land for housing and resettlement

Authorities frequently hold the key to rapid recovery, and must recognise the need to make land available. Ideally such land should be as close as possible to original homes and means of livelihood, but in a less hazardous area. Inevitably this will require loans or subsidies since the new land will require purchase and development (see chapter IV).

### Key References

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## 3.2 ALLOCATION OF ROLES TO ASSISTING GROUPS

*PRINCIPLE: The success of a relief and rehabilitation operation depends on the correct and logical distribution of roles. Ideally this allocation should be undertaken by the local authorities who are best qualified to decide who should do what, when and where. However if the local administration is too weak to assume this responsibility, the priority must be to strengthen it.*

### Audience

- Private sector. Manufacturers/contractors
- Professionals: Architects/planners/engineers
- Policy-making administrators: National (tertiary) level
- Project managers of post-disaster shelter/housing projects: Regional/provincial (secondary level).

### Time phases

- Pre-disaster phase—Preparedness/mitigation/risk reduction.
- Phase 1—Immediate relief period (impact to day 5)
- Phase 2—Rehabilitation period (day 5 to 3 months inclusive)
- Phase 3—Reconstruction period (3 months onward)

## THE ROLE OF NATIONAL AND LOCAL GOVERNMENTS

Second in importance after the surviving community's own role, is that of the national and local government. The local government has the key task of allocating roles for all assisting groups. In undertaking this, it is likely to need assistance from the national government. In spite of the obvious risk of delegation of authority, this pattern of management has been found to be much more effective than centralised control. Local direction is frequently difficult for outside groups to accept, but it is vital to successful co-operation between survivors and assisting groups. The following list identifies the main components of the local government's responsibility in the recovery of shelter:

- Safeguard employment;
- Repair damaged infrastructure;
- Restore social services;
- Provide safe land for rebuilding;
- Assure a steady supply of building materials.
- Provide expertise to introduce safe construction and siting,
- Draw up contingency and preparedness plans for any future disaster.

One of the key responsibilities of local government, *clearing rubble*, must be considered where large numbers of houses have been destroyed, authorities may want to move into the area rapidly and bulldoze the rubble out of the disaster zone. Mechanized rubble-clearance usually takes place after earthquake and cyclonic storms. As heavy machinery (such as bulldozers, scrapers and tractors) becomes more readily available in developing countries, this kind of clearance is likely to

increase. Evidence from countries where massive bulldozing has occurred, shows that it plays a negative role for the following reasons:

1. *It destroys salvagable materials.* Millions of dollars worth of both manufactured and indigenous materials, which could be re-used, are often destroyed by bulldozing. Those responsible for carrying out bulldozing often do not realize the value of the materials being removed. These same materials can actually be re-used to build safer houses, if the appropriate building methods are adopted.

2. *The Removal or destruction of salvageable materials will delay reconstruction.* It may take months, or even years, for a low-income family to raise the money to acquire new materials. Even if a low-interest loan programme is started, it is rare for such a programme to be working within the first three months after a disaster. Survivors, especially those in towns, rely on access to salvageable materials for their initial building needs.

3. *It destroys landmarks.* The psychological need to be able to identify with pre-disaster sites and landmarks must not be under-estimated. After a disaster, people want to re-establish the pre-disaster norm as soon as possible. The greater their sense of identity, and the less they have to replace or rebuild, the faster the overall recovery from disaster.

4. *The very presence of bulldozers inhibits reconstruction.* Mechanized clearance is dusty, noisy and frenzied. In areas where people have had little exposure to heavy, mechanized equipment, bulldozers are often terrifying. In some cases, bulldozing can be dangerous, when knocking down damaged buildings, the debris can spill over into adjoining public spaces. Reconstruction rarely begins until all bulldozing has ceased.



The mechanized clearance of rubble (seen here after the Guatemalan earthquake of 1976) can remove vital building materials which are capable of being recycled for new construction, such as the beam projecting from the front of the bulldozer

(Credit: UNDRP)



After the Corinith earthquake in Greece in march 1981, this man is salvaging roofing tiles from his damaged house

(Credit Kapereiri Voioitias, Athens)

However, there are some instances where bulldozing is required. Following natural disasters in large, urbanized areas, damaged high-rise and other structures may need to be demolished for safety reasons. Finally, it is recognised that some clearance will be necessary to re-establish communications after a disaster. Employed as an automatically-implemented policy, however, rather than as a particular emergency measure, rapid mechanized clearance inevitably retards reconstruction.

#### THE ARMY

The army is often called upon to set up emergency tent camps for disaster victims. Because these camps are too rigid in layout, too uniform, too large, too dense, and often too far from original homes and work, they are the source of unforeseen problems:<sup>7</sup> either they remain half-empty, or they breed environmental and social ills because of induced promiscuity. In the administration of emergency shelter programmes, military organizations seek uniformity and conformity. This concern for order is simply too much to expect from a civilian population stricken by disaster. The period immediately after a disaster is a time when people need to get together and develop a collective responses. A military hierarchy of decision-making inhibits this organic social process

The military nevertheless can play an important, positive role in the emergency phase. It has great potential for rescue and relief since it possesses certain unique advantages over all other agencies, such as the capacity for rapid action, pre-established emergency stock-piling facilities, and considerable logistical resources. The military's most effective roles in relief operations include:

<sup>7</sup> An exception to this broad conclusion occurred after the 1963 earthquake in Skopje, Yugoslavia, when military engineers from many countries provided valuable assistance in the erection of prefabricated housing. However the context was not, strictly speaking, that of a developing country

- Opening up roads and re-establishing telecommunication links;
- Providing emergency water supplies and sanitation;
- Transporting and distributing emergency relief supplies and personnel,
- Assisting survivors in search and rescue operations;
- Demolishing structures which threaten to collapse;
- Stockpiling essential demolition equipment, building tools and vital building materials,
- Undertaking aerial surveys of damage.

#### THE ROLE OF LOCAL PROFESSIONALS

Local professionals have the potential to fulfil important technical assistance roles in the post-disaster phases. However, their involvement is often limited because of professional and social barriers between the liberal professions and the low-income groups who form the majority of those affected by disasters, and who live, mostly illegally, in unsafe buildings on hazardous land.

#### THE ROLE OF THE PRIVATE SECTOR

The private sector includes enterprises operating on widely differing scales, from the small artisan to the large corporation. Overall reconstruction policy determines who will prosper, and it is therefore important to recognise the encouragement that can be given to small or medium-scale enterprises. Governments have a key social role in the way they administer credit, grants or loans to the business sector. The evidence suggests that a major bottleneck in disaster recovery is the lack of "cash flow" to get goods moving. A constraint on the rapid delivery of key building materials has been the monopolistic practices of a few large stockists and producers of building materials.

#### THE ROLE OF EXPERTS

In many developing countries there is an acute shortage of local expertise on many aspects of shelter and housing provision following disaster. Expertise is needed for:

- Contingency planning (preparedness);
- Damage survey methods;
- Preparation of building codes for hazard-resistant construction;
- Appropriate modification techniques to rebuild low-income housing, and make it more hazard-resistant (this will include both traditional housing as well as some "modern" housing);
- Education of local architects, engineers, builders, carpenters, in hazard resistant construction.

#### THE ROLE OF EXTERNAL VOLUNTARY AND RELIEF AGENCIES

In addition to the primary, altruistic motivation of emergency relief, there are extraneous pressures on voluntary agencies which may be harmful to their purpose. These include:

The need to impress their contributors with a rapid and visible response;  
 The need to raise funds;  
 Competition with rival agencies;  
 The need to avoid offending the susceptibilities of the local administration,

In some instances, the limitation of their role to a specific "relief role", thus encouraging them to restrict their shelter perception to an artificially narrow frame of reference.

However, they have certain inherent advantages which are particularly apparent when they operate in close rapport with local counterpart agencies. These include

The capacity to operate very rapidly;  
 A grass-roots link to the local social and political structures;  
 Flexibility of approach;  
 Prior experience of disaster management (often these groups will have greater experience than all the other assisting groups including, in some instances, the central government).

#### THE ROLE OF DONOR GOVERNMENTS

Similarly to the constraints on voluntary agencies, the altruistic motivation of emergency relief provided by donor governments is often tempered by the politics of bilateral aid. However, they have the capacity to fulfil important functions throughout all three post-disaster phases. They are particularly well placed to provide long-term capital and technical assistance for reconstruction, and to link such assistance to firmer disaster preparedness and prevention policies

#### THE ROLE OF INTERNATIONAL AGENCIES (UNITED NATIONS SYSTEM)

The effectiveness of international agencies may be reduced by extraneous pressures, harmful to their central purpose, including:

The need to demonstrate their value to ensure their future growth and funding;  
 Competition among UN agencies where there are overlapping responsibilities;  
 Over-sensitivity to the tendencies and preferences of requesting governments.

However, their distinctive contribution lies in:

The ability to mobilize large-scale assistance from a multiplicity of sources;  
 The reduction of the need for bilateral assistance (where there may be strings attached to assistance);  
 A unique co-ordinating role that no other agency or government can undertake alone;  
 Access to international expertise of the highest calibre;  
 Political disinterestedness.

#### PROJECT MANAGEMENT

Quite apart from the correct allocation of roles, the evidence gathered in this study suggests that many failures in emergency shelter and housing reconstruction programmes stem from bad management. This criticism applies to both governments and assisting groups

A survey of the background of relief and reconstruction programme managers and field directors over the last decade in relief operations (Nicaragua 1973, Honduras 1975, Guatemala 1976, and Andhra Pradesh 1978) shows that none of the key staff personnel had received prior disaster relief training. It also shows that none of the staff had a background in management, or had a formal education in programme administration. The backgrounds of field directors were in specialized fields such as agriculture, sociology, anthropology, economics, and general development studies. Also represented were members of the legal and medical professions, ministers of religion (missionaries), and persons drawn from the public relations field. Of the field directors of the major voluntary/relief organizations, only three reported that they had received training from their own organizations in programme management, and that this was limited to short discussions.

This is not to say that field directors and their staff are not capable of planning excellent programmes. Several projects were well thought-out in terms of philosophy and objectives. The failure was caused by a lack of expertise in several vital functions:

Budgeting, especially estimating real costs;  
 Properly sequencing activities;  
 Forecasting problems;  
 Programme analysis;  
 Personnel administration.

Few, if any, courses currently exist to train field-level staff in programme management. (There are several courses to train executive-level personnel in disaster management; however, most of this training is strictly for governmental personnel.) As pointed out elsewhere in this study, there is a lack of solid information upon which to base project plans. Without management skills, and without the information upon which to base decisions, relief programmes are doomed before they ever get started.

One of the most pressing needs in international disaster relief is for programmes to prepare and train disaster managers at all levels.

#### THE LACK OF INFORMATION

The present lack of training opportunities reflects the severe shortage of information on the effectiveness of past projects. In the field of emergency shelter and post-disaster housing, there are many descriptions of past projects, but there has been little analysis of the cause-and-effect relationships between the conduct of a programme and its results. In reviewing the information available from studies of disasters, we know where the problems occur, but we have not fully described the problems themselves, nor accurately described their causes:

- 1 How do relief and reconstruction programmes relate to development?
- 2 What are the different shelter responses required by different types of disasters?
3. How can technical assistance be best employed to improve emergency shelter management, and accelerate recovery and reconstruction?
- 4 What are the most effective means for controlling the prices of building materials?
- 5 How can experience and technical assistance be communicated to all levels of management and execution, and how can technology best be transferred?
6. What types of organization are best suited to respond to shelter/housing needs?
- 7 What is the true role of emergency shelter in the overall relief and reconstruction scenario?
8. What makes shelter programmes effective?

These gaps in knowledge stem ultimately from a general reluctance to question the fundamental nature of the relationship between donor and recipient. This question is discussed in detail in the concluding chapter.

### Policy guidelines

#### *Policies to avoid*

1. The centralization at the national level of all authority and decision concerning shelter.
2. Permitting an anarchistic situation to develop, where various agencies perform their own tasks in an uncoordinated manner.
3. Allocating key roles to assisting groups who are unfamiliar with the local situation, or who lack any local counterpart group with whom they can effectively collaborate.
4. Any policy that encourages partiality of aid distribution.<sup>8</sup>

<sup>8</sup> A traditional solution to the problem of the proliferation of agencies has been the simple allocation of geographical areas whereby one agency will take responsibility for one community, and so on. This policy has its attractions since it is relatively tidy and it recognizes pre-disaster patterns of working where certain agencies may have established close relationships with certain communities. However, it has many pitfalls, the most significant being partiality of aid distribution, since some agencies will have more resources than others. Given the close contact between adjoining communities, such a policy can cause acute local dissention, and all local goodwill can be rapidly turned into hostility towards a particular agency. Therefore, the role-allocation authority must be extremely sensitive to the question of the choice of different communities for aid projects. The overriding concern must be for fair distribution of resources

### *Policies to adopt* (See table 2)

The local administration should assume responsibility for the allocation of roles and subsequent direction of all assisting groups concerned with housing and shelter provision, whilst making full use of those groups' particular expertise. In the allocation of roles, the following considerations should be borne in mind:

- 1 Avoid mechanical clearance of rubble (bulldozing) where building materials can be salvaged.
2. The local administration should allocate all roles for shelter and housing assistance.
- 3 There are important roles for the military, but they do not necessarily include shelter provision.
4. Local professionals can be extremely useful but are often psychologically and socially removed from the shelter and housing needs of low-income families. Their attitudes and commitments need to be changed.
5. The local private sector, particularly small enterprises, can play a major role in building shelter at economic rates, but they must be protected from cartels and monopolistic practices
6. Local experts should always be used in preference to foreign personnel. However, not all the expertise required can be found locally.
7. Voluntary agencies have a flexible, grass-roots capacity which can be a vital asset in providing assistance at local levels.
8. There is a noticeable lack of effective project management of shelter and housing programmes, with a consequent need for training at all levels.

### NOTE

The majority of issues discussed in this chapter are examined in more detail in chapter V, section 5-3, on the accountability of donors to recipients of aid.

### Key references

- DAVIS, Ian, "Disasters and Settlements: Towards an Understanding of the Key Issues", *Disasters and the Small Dwelling*, Pergamon, Oxford, 1981, pp. 11-23.
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- Note particularly*. Sections 30-39—Social Development, sections 40-41—Humanitarian Programmes; section 50—Disaster Policies and Procedures, section 51—Emergency Nutrition, section 52—Disaster Technology. Sanitation, Water and Shelter.

TABLE 2

## Ideal roles for assisting groups relative to shelter provision

Activities	Roles of assisting groups									Survivors
	International agencies	External donor governments	External voluntary agencies	Experts (multi-disciplinary group)	Private Sector	Local professionals (architects, engineers, etc.)	Local Military	National government	Local administration	Local voluntary groups
Phase 1 — Immediate relief period (impact to day 5)										
Search and rescue operations							•		•	•
Clearance of rubble (recycle materials)									•	•
Re-establish communications							•		•	
Co-ordinate external assistance	•							•	•	
Provide emergency shelter					•				•	•
Re-establish damaged infrastructure (water sewers, etc.)							•		•	
Assess unmet needs of survivors	•	•	•			•	•		•	•
Phase 2 — Rehabilitation period (day 5 to 3 months)										
Providing essential building materials		•	•		•		•		•	•
Provide expertise for safe housing construction	•	•		•		•		•		
Release safe land for new housing								•	•	
Re-establish damaged infrastructure							•		•	
Rebuild damaged and destroyed homes					•				•	•
Assess damage to housing	•					•	•		•	•
Co-ordinate external assistance	•							•	•	
Re-establish local economy								•	•	•
Provide cash inputs to survivors		•	•					•	•	•
Clearance of rubble (recycle materials)									•	•
Phase 3 — Reconstruction period (3 months onward)										
Re-establish damaged infrastructure		•			•			•	•	
Formulate building codes for safe construction	•					•		•	•	
Provide expertise for safe housing construction	•	•	•			•				
Devise contingency plans for future earthquakes	•			•		•		•	•	
Develop stockpiles of essential building materials					•			•	•	
Rebuild damaged or destroyed homes					•				•	•
Devise any new plans for destroyed towns	•			•		•		•	•	