Chapter V

CONCLUSIONS

5.1. GENERAL CONCLUSIONS

The most significant finding of this study is that the emergency shelter problem in developing countries is fundamentally different from that in industrialized societies, for in the third world the question of emergency shelter cannot be dissociated from the prevailing housing problem as a whole. This finding alone has influenced every other conclusion of the study.

The process of rapid and uncontrolled urbanization in developing countries has resulted in the proliferation of vast slums and squatter settlements. These account, on the average, for more than 70 per cent of urban development. In such areas, and therefore for the majority of urban populations, the concept of temporary shelter in times of emergency is somewhat equivocal when, under “normal” conditions, urban dwellers are permanently lodged in housing which the authorities do not recognize, or which they consider as temporary to start with. Furthermore, in conditions of chronic housing shortages, overcrowding, unsanitary conditions and high rents, the investment of scarce capital resources in prefabricated temporary or emergency shelters, specifically designed to be stockpiled and used only in case of natural disasters, can only create additional obstacles to the provision even of minimal housing.

In rural areas, tradition dies hard, and cultural resistance to donor emergency shelters often provokes frustration and misunderstanding among all concerned. So-called “temporary” or “emergency” shelters are often inappropriate, but at the same time become permanent, only to create fresh sets of problems.

Emergency shelters, especially those donated by the international community and imported into disaster-stricken areas, can serve to upset a delicate socio-economic balance by raising expectations, which, in most cases, neither the local, nor the national, nor indeed the international, authorities have the means to satisfy. The importation of shelters can furthermore play a negative role by stifling local and even national initiative, especially when they comprise prefabricated systems invariably posing problems of appropriateness, assembly, and cost-effectiveness.

In several major natural disasters throughout the developing world over the last decade, it has been shown that imported donor shelters have never produced the impact that most relief agencies would have desired. Shelters often arrive in insufficient numbers, or too late to be of value during the emergency phase properly speaking. Their unit cost is nearly always disproportionate vis-à-vis the recipient economy, and if one adds the cost of transport they are seen to be quite uneconomical. For this reason alone, the emergency shelter policies of the donor community at large need to be re-examined, and this study, it is believed, suggests some of the alternatives.

A further important conclusion is that the problem of emergency shelters is less one of product, design or manufacture, than one of planning, management and the mobilization of local resources. The problems posed are not, as a priority, technological (as is so widely believed), but are functions of development policies themselves, and of the changing relationships between donors and the developing countries. The study stresses that relief agencies and international organizations should encourage disaster-prone developing countries to build up their own state of preparedness, notably in the emergency shelter field, by mobilizing local material and technical resources, and to encourage self-help schemes for this purpose. It is essential to link donor assistance to local initiative and effort.

The study has revealed quite clearly that the spontaneous reconstruction of housing begins extremely rapidly after a disaster, and often during the emergency phase itself. All action to discourage this process should be avoided, except in cases of extreme danger. Assisting groups who support rapid reconstruction policies are likely to obtain the most positive and far-reaching results. However, the assisting groups themselves require education and training on how to assist and manage post-disaster housing programmes within a risk reduction framework: they require education on what is the housing process as a whole in developing countries, on appropriate building technology, on financing and management, and on the socio-economic aspects of low-income housing.

The key to success ultimately lies in the participation of the local community—the survivors—in reconstruction. Assisting groups, and those they help, must be accountable to each other in order to ensure social satisfaction, economically viable housing, technically sound buildings, and a safer environment. Accountability is therefore a key criterion of assistance to survivors, especially those in the developing countries. As it is not a widely understood or accepted policy, it has been given special treatment in concluding this study.

Linked to the question of accountability is that of rising expectations among all peoples in the developing countries. Rising expectations are frequently the source of conflict and confusion in post-disaster housing policies and programmes, and a lack of awareness of the phenomenon can compromise, not only post-disaster
housing, but the entire housing policy of a country. In the final analysis social, economic, and cultural obstacles are far more difficult to overcome than purely technical, material problems.

Lastly, the study recognizes that guidelines on emergency shelter and post-disaster housing for individual communities must be drawn up at the local level itself. The design of local guidelines cannot, therefore, be incorporated in a global study of this nature. Nevertheless, in concluding the study some guidance is given on how to design a local plan.

5.2 RISING EXPECTATIONS

Despite the frequent rejection of temporary shelters, there is evidence of rising expectations for permanent housing. Whilst expatriate experts are advocating appropriate low technology solutions, poor families are inclined to reject their traditional form of housing in favour of a modern, or urban image. Such aspirations are accelerated by the distribution of goods following a disaster. The sudden (and possibly unique) presence of large amounts of relief aid may generate expectations for vastly improved housing, which are unlikely to be fulfilled. Under the circumstances, it is best to help the survivors form an accurate picture of the situation by providing them with clear information on the capacity and constraints of their own resources in the long-term, as well as those of their government and assisting groups. In addition, it is apparent that shortages of traditional materials in the aftermath of a disaster will in themselves stimulate the private sector to bring to the area specialised building materials not normally used locally. This also increases expectations for "modern" solutions.

It has been pointed out that a solution to the problem of supplying large numbers of houses for disaster survivors may be found in examining the types of housing which existed before the disaster. Housing can be rebuilt to pre-existing standards, or can be improved with better construction techniques or improved materials. This strategy based on local tradition is apt to meet the housing demand following a disaster. But there is a strong and growing demand on the part of numerous groups and individuals within developing countries—particularly in urban areas—for so-called "modern" housing. This may be due to the view that traditional houses symbolize poverty; to the desire for a maintenance-free house; or it may be simply an urban/metropolitan image of affluence and progress.

Many governments have attempted to develop low-cost housing schemes that would produce large numbers of units similar in appearance to those found in the industrial nations, or in their own middle class urban environments. In spite of the fact that these units are uneconomic for the majority of low income groups, and perhaps unsuitable for their climate and lifestyle, demands for this type of solution are increasing. Assisting groups must be aware of the trend, and must be able to provide reasonable alternatives in the post-disaster context.

Assisting groups who decide to opt for indigenous-style housing, or to improve existing housing types, may be rebuffed by the government and others. Many groups within developing countries view the movement towards "appropriate technology" as an attempt to perpetuate the poverty of nations, and rebuild slums. Until all parties to the post-disaster housing process fully understand the meaning of appropriate technology (perhaps better termed appropriate technology), assisting groups can expect to come under increased criticism for opting for these types of solutions.

The evidence further shows that many assisting groups and experts committed to "low-technology" responses, have regarded rising expectations as irrational. But although aspirations for housing which is still out of economic range, and which may possess for its potential occupants unforeseen difficulties of maintenance and payment, rising expectations must be recognised as an element in the perception of shelter needs.

Assisting groups involved with shelter or assistance, need to present their advice for appropriate housing, and the housing types they will support, with an awareness of the distinction between "expectations" and "aspirations". In general, their policies should not be socially deterministic; and if families have a desire for housing which may be beyond their resources, assisting groups (whilst explaining the inherent problems) should support these aspirations.

To summarize:

1. There is a need for any group involved with shelter or housing to recognize the importance of the house as a symbol of wealth, progress, or urban sophistication, and not to merely regard it as protection from the elements (or extreme hazards).
2. Assisting groups must recognize the positive value of rising aspirations within poor communities.
3. Support for such aspirations, however, does not imply the need to support inappropriate "modern" housing with unconditional aid.
4. If there is a strong movement for "modern" housing, assisting groups must use their resources to educate (not coerce) people as to the relative strengths and weaknesses of alternative housing systems.
5. Assisting groups should provide their help in terms of cash grants only for what they consider is a suitable housing. However, they may offer expertise in the provision of modern housing, even if they are unconvinced as to its local appropriateness.
6. Greater sensitivity is needed to the issue of "intermediate" or "appropriate" technology in view of the frequent response that this advocacy is a form of paternalism.
7. Public information and education on housing economics is a vital need from all assisting groups.

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5.3 ACCOUNTABILITY OF ASSISTING GROUPS TO RECEPIENTS OF AID

ACCOUNTABILITY: A KEY ISSUE OF SHELTER AFTER DISASTER.

Since the most effective relief and reconstruction projects result from the participation of survivors in determining their own needs, and in the decision-making process for the rebuilding of their own settlements, the successful performance of assisting groups is dependent on their accountability to the recipients of aid. Evidence from the 1976 earthquake in Guatemala reveals a number of emergency shelter and housing programmes where voluntary agencies have attempted, probably for the first time, to establish and maintain accountable relationships, and where mutual responsibilities of assisting groups and surviving communities were defined and accepted by both parties. This radically improved the acceptance of their proposals by the local community and assisted rapid recovery.

The development of accountability to survivors will foster working relationships likely to result in more appropriate shelter and housing provision, and in avoiding the waste of local resources and misallocation of funds. However, since the concept of accountability is still largely untried in the post-disaster context, to judge its usefulness on the evidence of past disasters is still difficult. But, if the findings on accountability in the low-cost housing sector of western, industrialized societies are accepted, there is considerable positive evidence of its value.32.

Table 6 offers an analysis of the functional and attitudinal relationships between various types of assisting groups and survivors.

CORRECTIVE MECHANISMS TO ESTABLISH ACCOUNTABLE RELATIONSHIPS

In most disaster situations, there tends to be a gulf between assisting groups and the survivors. The gulf may be political, social, cultural, economic, linguistic, or a combination of these and other factors. It inhibits the accountability relationship between assisting groups and survivors. In practice many relief agencies are accountable to:

- Their donors and their constituency at home;
- Their own government;
- The news media.

Ostensibly, foreign assisting groups are also accountable to the government of the disaster-affected region, but in practice few real controls exist. Ultimately, accountability must be to the survivors and must include the concept of mutual accountability. Hardly anyone questions humanitarian aid following a disaster, but few assisting groups involved in relief feel pressure to assume long-term responsibility for their actions. Unfortunately, relief agencies are only present for a relatively short period, and usually leave before the full impact of their actions on development is felt (or before they have had time to analyze the results). Finally, there is no process for the redress of grievances by survivors.

There are a number of corrective mechanisms which can help assisting groups to become accountable to survivors. Among these are:

- New models of administration and programme organization, placing planning and decision-making at the field level;
- Participatory management, i.e. meaningful participation by the survivors in the administration and control of relief and reconstruction programmes;
- The formulation and application of preparedness policies by the disaster-prone countries;
- Informing and educating the public on their rights and responsibilities following disaster;
- Adapting standard relief procedures to the local situation;
- Working through existing local organizations, rather than setting up a separate circuit of relief groups.

DIFFICULTIES IN ESTABLISHING "ACCOUNTABILITY RELATIONSHIPS"

It is recognized that there are major difficulties in establishing accountable relationships. There is the risk, for instance, of assisting groups from outside short-circuiting the local administration by attempting to achieve direct contact with survivors. A further subtle problem of accountability arises when the survivors may want one form of assistance, while the local authority advocate another.

ACCOUNTABILITY AND THE EQUITABLE DISTRIBUTION OF ASSISTANCE

The concept of accountability is closely related to the equitable distribution of assistance. Evidence from case studies of earthquakes in the Middle East, Europe and Latin America indicates that the recovery of a community can be retarded by the uneven distribution of assistance. In these studies, a very wide variety of housing types, building components and materials were distributed. Survivors saw some as of superior quality and considered others as inferior. In addition, assisting groups often adopted differing policies for the distribution of goods, some selling while others were making outright gifts. Further, survivors observed some communities receive a considerable volume of aid while others (perhaps adjacent) were receiving little or no assistance.

The evidence has shown that such disparities in distribution have caused internal dissention, and can have long-term detrimental effects. Nevertheless, in fairness, it has to be recognized that any relief or rehabilitation programme must, at some stage, be selective, possibly resulting in some unevenness of assistance. This only serves to highlight the need for the adoption of the corrective mechanisms listed above.

<table>
<thead>
<tr>
<th>Assisting groups</th>
<th>Reasons for their presence</th>
<th>Accountability in practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local voluntary agencies</td>
<td>To help earthquake survivors</td>
<td>To the director of their charity</td>
</tr>
<tr>
<td>Local administration</td>
<td>To help earthquake survivors</td>
<td>To the local affected community</td>
</tr>
<tr>
<td>National government</td>
<td>To help earthquake survivors</td>
<td>To the local affected community</td>
</tr>
<tr>
<td>Local military</td>
<td>To help restore normality</td>
<td>To their superiors; To their national government</td>
</tr>
<tr>
<td>Foreign experts</td>
<td>To use their expertise in conjunction with one of the above organisations</td>
<td>Possibly to their superiors in home university or agency; To those who have sponsored their work</td>
</tr>
<tr>
<td>External voluntary agencies</td>
<td>To aid disaster victims</td>
<td>To the director of their charity; To their charity's financial supporters including their home government</td>
</tr>
<tr>
<td>External donor governments</td>
<td>To assist less fortunate nations, often formalised in official treaties</td>
<td>To their home government; To the local government</td>
</tr>
<tr>
<td>International agencies (United Nations system)</td>
<td>Responsibility to member nations, embodied in their terms of reference/mandates</td>
<td>To Agency heads, recipient government, and to the Secretary General of the United Nations</td>
</tr>
</tbody>
</table>
ACCOUNTABILITY AND EMERGENCY SHELTER PROVISION

The delivery of an artifact, such as a shelter, from one culture to another may unintentionally represent an imposition of the donor's cultural values. The priority attached to shelter and housing by donors may in itself reflect alien cultural values (this form of property being a key indicator of wealth in industrial urban-based cultures), whereas in the third world, land ownership, crops or livestock may be of far greater significance.

The decisions which are incorporated in the design of a shelter also represent an accumulation of the cultural values and priorities of the donor and his society. Assumptions are made about the relative importance of such elements as family life, storage of belongings, the functional layout of rooms, sanitary habits, etc. These functions are expressed as a physical statement of cultural priorities, which the foreign designer often assumes are similar to his. Although the finished artifact may represent a rational ordering of priorities in terms of designer/donor values, it may represent an unacceptable ranking of priorities to the recipient. 33

Thus, one of the most important consequences of an accountable relationship between assisting groups and the surviving community will be to minimize the adverse socio-cultural impacts of shelter assistance. It is apparent that where the local community are regarded as the "client", with their evaluation of shelter needs being sought and followed, shelter programmes will enjoy wide acceptance and high rates of occupancy.

ACCOUNTABILITY AND THE MONITORING OF EMERGENCY SHELTER AND HOUSING PROGRAMMES

One of the most important constraints on the development of "accountable relationships" is the lack of information which, in the last resort, can serve as evidence of liability. After disasters, assisting groups usually prepare detailed reports listing the assistance which they have provided during their involvement in relief and/or reconstruction. However, the record of these groups in analysing their own programmes is limited. Few reports state what the initial social or other objectives of a programme were, and how the programme lived up to these objectives. Performance data about programmes is very sketchy, especially with regard to:
The effectiveness of different approaches;
The performance of agency field staff (professionals and volunteers);
The relative performance of relief and development organizations;
The cost-effectiveness of emergency shelter programmes;
The acceptance of shelter programmes by the survivors, and rates of occupancy;

The long-term effects of emergency shelter programmes on housing reconstruction, land tenure, land reforms, and risk reduction.

It appears that each time a disaster occurs, everyone has to begin from scratch and relearn all the lessons that have been learned before. There are several reasons why:

1. Many organizations set up their programmes without the provision of funds in the budget for evaluation, often for fear of criticism that the budget will show too much money being spent in administration, and not enough on relief goods or services. There is also the fear of critical evaluation and its possible effects on public opinion, donors, the staff, etc. While one can understand human nature, lack of evaluation leads to stagnation or mediocrity of performance.

2. The turnover of foreign relief staff is high. People carrying out field programmes are usually retained for short periods of time only. It is rarely part of their contract to write a detailed evaluation of their programme's performance. Furthermore, because many of these people are not full-time relief or development specialists, they may understandably not feel qualified to analyse work executed in an agency context.

3. With the emphasis on rapid response, data collection (and especially statistical data for analysis) obtains a low priority. Many field workers are action-oriented people, with little time or resources for analytical reporting and evaluation. Many temporary field staff also believe that field directors, or other persons in charge of their programme further up the hierarchy, will conduct such evaluations and, therefore, do not feel that continuing reporting or documentation is part of their duties.

4. The nature of the system discourages analysis. The object of relief is obviously to satisfy emergency needs...

There exists an urgent need to analyse programmes and strategies. Information is needed on actions at all stages of relief operations and at all levels of the relief system; but most important, it is needed at the field level. The majority of reports written about relief operations describe actions and decisions made at the two top levels of the disaster system (at the headquarters and field director levels). There is almost no information on decision-making, actions, operations, or problems encountered by those people who actually carry out the relief programme at the local level.

There is also a pressing demand for information on the impact of programmes, both in the short-term and the long-term. Data should be in process of assembly soon after a programme becomes operational, outlining its objectives, the philosophies behind it, a brief history of the personnel involved, and their backgrounds. At the midpoint of the programme, an analysis should be undertaken to determine performance as against the original objectives, so that changes can be made, if necessary. At the end of the programme, a history should be written and an analysis made of the immediate impact. Several years later, the agency should return to the same area and study the long-term impact of their actions.

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33 For instance, the reaction of Moslem communities in the Middle East to well-insulated but undivided temporary shelters, which do not allow for adequate privacy for family life, is to reject them. The rejection of such culturally unacceptable solutions is often viewed by assisting groups as irrational. Such judgements are examples of clashing cultural values.
Until this type of information is available, we will continue to know too little of the effectiveness of the funds spent on emergency shelter and reconstruction. As the amount of money and effort spent on international disaster relief can be expected to continue increasing, it is imperative that this information be collected.

**Policy Guidelines**

1. **The mutual responsibilities and costs of accountability.**

While the concept of accountability offers genuine opportunities for reform throughout the disaster relief system, it must be recognized that for *accountable relationships* to work in practice, donors and recipients alike must acknowledge their mutual responsibilities and all that this implies.

<table>
<thead>
<tr>
<th>Donors</th>
<th>Recipients</th>
</tr>
</thead>
<tbody>
<tr>
<td>To accept accountability to recipients of aid as a basic working principle, affecting not only field policy but the financial, legal and administrative policies of donor organizations.</td>
<td>To be prepared to participate through elected representatives in all aspects of disaster recovery, involving the assessment of needs, the collection, allocation and distribution of assistance and the monitoring and evaluation of assistance programmes.</td>
</tr>
</tbody>
</table>

**Implications**

- A sharing of power and authority.
- Forms of management which will be more responsive to the free flow of information.
- A longer term commitment beyond the relief phase.
- Willingness to accept the demands of the above processes, ultimately involving, liability.

2. **Accountability and the equitable distribution of assistance**

Assisting groups must ensure that the overriding principle of the equitable distribution of aid is not undermined when selecting recipients of aid. The application of this principle will be greatly assisted by formal monitoring.

3. **Accountability and participation of survivors in assistance programmes**

Once it is recognized that the surviving community is a key resource for recovery, it follows that any accountable relationship will seek to assume active public participation in all shelter and housing programmes. This is difficult to achieve unless it is foreseen in disaster preparedness plans, and through public education and information. Pressures of time and the predetermining of activities (by the existence of a Standard Operating Procedure, for instance) militate against participation.

4. **Accountability and the imposition of alien cultural values**

As has been stated elsewhere in this study, the quest for a universal shelter is not viable for many reasons, especially cultural ones, emphasizing the wide and rich diversity of forms of shelter that are required. Mutual accountability will help ensure that there is a very close fit between shelter provision and the cultural values of survivors.

It is necessary for assisting groups:

- To understand the complexities of the local housing process;
- To seek the active participation of future occupants of shelter and housing in all aspects of planning, designing and building, and in the monitoring/evaluation of programmes once undertaken.

5. **Accountability and the monitoring/evaluation of shelter and post-disaster housing programmes**

One of the "costs" to assisting groups is the longer term commitment to a community than would be the case with a programme where there is minimal local participation. This commitment to a community will involve the close monitoring of shelter and housing programmes as they are built. Ideally both monitoring and evaluation will involve surviving communities in reporting on such questions as:

- **Occupancy.** Have the assigned families sub-let the houses; what percentage are occupied, etc.?
- **Adaptation.** Have any patterns emerged which may contribute to the improvement of the design?
- **User Satisfaction.** Does the shelter or housing satisfy the lifestyle, aspirations, and practical needs of the users?
- **Use of Finance.** Has value for money been obtained; was the money used in accordance with the objectives; have any "corruption factors" been identified that may require changes in management?

Monitoring and evaluation are so important that a specific percentage of any given shelter or housing budget should be designated for this purpose. Various percentages have been considered, and it is apparent that some agencies are already allocating an average of 5 per cent for this purpose.

**Conclusion**

The principle of accountability is implicitly contained in all the recommendations of this study. If the surviving community is regarded as the principal partner in disaster relief, shelter and reconstruction, more effective programmes of assistance will emerge.

**Key References**

The unique aspect of this "Housing Education Programme" was not to build large numbers of houses, but to build a "model" house (shown here) in order to explain the techniques of applying aseismic principles to the design of low income housing. Throughout the project the staff of the assisting group attempted to make themselves accountable to the surviving families, on the principle that they were their client, and not the passive recipients of products emerging from decisions made elsewhere.

In addition to the programme objectives of materials distribution, advice was offered to local builders and craftsmen on how to build safe houses.

Comic-strip booklets were produced to offer guidance on layout of buildings and construction.
A selection of photographs illustrating a project in which the concept of accountability was applied.

These photographs all illustrate the OXFAM/World Neighbors Housing Reconstruction project which was undertaken from 1976-79 in Guatemala following the 1976 earthquake. The expressed need of the population in the rural highland areas was for corrugated iron sheeting “Lamina”. This was distributed by direct gift for very poor families, subsidies or normal sale. It served as temporary shelter in the initial instance, later to become permanent roofing.

5.4 ADVICE FOR THE LOCAL LEVEL

In concluding this study, the Office of the United Nations Disaster Relief Co-ordinator (UNDRO) wishes to emphasise, once again, that there is no universally applicable emergency shelter system, and that attempts to invent such systems are based on the many mistaken assumptions discussed throughout the study. Guidelines on post-disaster shelter for individual communities can only be formulated by qualified local personnel, in the light of the prevailing local conditions (types of hazard, climate, building traditions, economic base, social organization, etc.). Such guidelines can, however, be modelled on the structure of chapters III and IV.

Chart 3 indicates the relative roles of all those assisting in the formulation of specific community guidelines of manuals.

ACTION AT THE LOCAL LEVEL

1. The production of a local manual for emergency shelter and post-disaster housing provision. This will probably be necessary in all situations. It is suggested that its structure follow the principles discussed in this study with modifications, where necessary, in light of local conditions.
Chart 3

Roles in developing advice for use at the local level

Key:

- ** Major role;
- ** Intermediate role;
- * Minor role;
- — No role.

<table>
<thead>
<tr>
<th>Personnel involved with the development of guidelines</th>
<th>Production of local manual on emergency shelter and post-disaster housing</th>
<th>Incorporation of advice on emergency shelter in local contingency plans</th>
<th>Introduction of statutory provisions (i.e. draft legislation)</th>
<th>Introduction of training programmes</th>
<th>Introduction of public education programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local builders/craftsmen</td>
<td>***</td>
<td>***</td>
<td>*</td>
<td>***</td>
<td>*</td>
</tr>
<tr>
<td>Local community leaders</td>
<td>*</td>
<td>*</td>
<td>—</td>
<td>*</td>
<td>—</td>
</tr>
<tr>
<td>Local government officials</td>
<td>***</td>
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<td>***</td>
<td>***</td>
<td>***</td>
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<tr>
<td>Local architects/engineers</td>
<td>***</td>
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<td>***</td>
<td>***</td>
<td>***</td>
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<tr>
<td>Field directors of voluntary agencies</td>
<td>***</td>
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<td>**</td>
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<tr>
<td>Government building research officials</td>
<td>**</td>
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</table>

2. The incorporation of advice on emergency shelter and post-disaster housing provision in local contingency plans. It may be appropriate to integrate plans for shelter and housing with advice on building needs for other sectors (health, food storage, etc.).

3. The introduction of statutory provisions. If land-use controls or building regulations do not exist they should be drafted for legislative action. However, the local administration must also have, or develop, the capacity to enforce regulations.

4. The introduction of training programmes for local personnel and field staff. Training in shelter management, and improved building construction, including hazard resistant building techniques, is necessary at the field level.

5. Public education. All levels of the public (i.e. school children, public institutions, public officials etc.) will need to be better educated and informed on the characteristics of local natural hazards, the likely behaviour of structures, and elementary community preparedness.

PERSONNEL TO BE INVOLVED IN THE DRAWING UP OF LOCAL GUIDELINES *

The personnel needed will vary according to local conditions, but ideally should include the following representatives:

Local builders or craftsmen: it may be difficult to secure this involvement, but their potential contribution is considerable;

Local government officials involved with the management of relief and reconstruction programmes: ideally, these officials should chair committees and sub-committees for various components of relief programmes;

Local architects and engineers who are sensitive to low-income housing issues.

Field directors of voluntary agencies with local post-disaster housing experience.

All government research bodies concerned with disaster management and risk mitigation.

SCOPE AND CONTENT OF INFORMATION NEEDED FOR DRAWING UP LOCAL GUIDELINES

1. Hazard, vulnerability and risk. The risks must be studied and known. Case studies and damage surveys of previous disasters are necessary to estimate vulnerability. All historical records will be useful for undertaking probabilistic studies of hazard and risk.

2. Resources. Detailed inventories will need to be made of the following:

The resources of the normal housing process;

Local public buildings that can be requisitioned in the event of an emergency;

Local training bodies;

Local institutions/agencies, both governmental and non-governmental, with an interest in emergency shelter and post-disaster housing;

Local expertise available to assist with hazard-resistant design and building, and as well as all aspects of building management;

Relevant printed matter—manuals, handbooks, reports case studies, etc.

3. The dissemination of guidelines. The resulting information will need to be disseminated in a form appropriate to the target audience, which will probably include:

The elected or chosen leaders of communities at risk, whose need will be for information and advice concerning their roles and the protective measures that can be undertaken within the community at minimal cost;

Local institutions, especially those which have had no previous experience of shelter or housing, but which may be able to give important assistance in the implementation of training programmes (e.g. agricultural co-operatives);

Local non-governmental agencies concerned with relief assistance;

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* Though it is possible that local personnel may feel that they lack the necessary expertise to undertake this assignment, their experience should not be under-estimated. It, however, after detailed searches the appropriate skills are not found to be available locally, outside sources may be able to help, beginning with the central government and extending to the international community via the United Nations system or other international relief or development agencies.
Local private building enterprises, including supply firms, contractors, craftsmen and building finance organizations;
Local government agencies concerned with housing, building and the environment;
Local experts.

Broader dissemination may be achieved through such means as village or community meetings and workshops, pamphlets containing simple guidelines, and training programmes for local builders and craftsmen. Ideally, effective dissemination to a diverse audience will be the responsibility of the local government officials who chair disaster relief. The ultimate aim must be to secure an individual concern, backed up by the authority and resources of the local government.

4. The development of local guidelines. The process of information gathering and analysis must be regarded as continuous. In normal times this will largely be a question of maintaining the information base outlined above. In ideal circumstances it will be the responsibility of a single individual (with a deputy), familiar with the local guidelines and able to assume control. In the event of a disaster actually occurring, monitoring procedures must be established at once to evaluate the effectiveness of the existing guidelines, so that improvements can be made in the light of practical experience.

Key Reference

Few examples, if any, example of the kind of local manual envisaged in this section appear to have been produced up to now. Closest in terms of scope and content is the *Sri Lanka Cyclone Handbook*, edited by Everett M. Ressler and David Oakley, for the United Nations Development Programme (UNDP), published by the Ministry of Local Government, Housing and Construction, Government of Sri Lanka, 1979.