

Network Paper

In brief

- Housing is essential to the well-being and development of most societies. It is a complex asset, with links to livelihoods, health, education, security and social and family stability. Housing is also an extremely vulnerable asset, and the destruction of homes or their loss through displacement or dispossession is one of the most visible effects of conflict and natural disaster.
- This paper argues that housing reconstruction should be a more prominent part of programming after conflict and disaster. Housing interventions face significant challenges that cannot simply be wished away. But if agencies are going to continue to do housing reconstruction in the aftermath of conflict and disaster, then there is a clear need to find ways of doing it better.
- This paper reviews experiences in housing reconstruction in the aftermath of natural disaster and conflict. It offers guidance on how to plan and prepare for a housing reconstruction intervention; describes the various housing reconstruction approaches available; and sets out the various models of implementation that tend to be used.

About HPN

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Housing reconstruction after conflict and disaster

Commissioned and published by the Humanitarian Practice Network at ODI

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think-tank on international development
and humanitarian issues

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Chapter 1

Introduction

Housing is essential to the well-being and development of most societies. It is a complex asset, with links to livelihoods, health, education, security and social and family stability. Housing acts as a social centre for family and friends, a source of pride and cultural identity, and a resource of both political and economic importance. Housing is also an extremely vulnerable asset, and the destruction of homes or their loss through displacement or dispossession is one of the most visible effects of conflict and natural disaster. Almost 80,000 houses were destroyed or damaged by Hurricane Mitch in 1998, leaving some 300,000 Central Americans homeless. The Gujarat earthquake in India in January 2001 left almost a million families without homes. During the Kosovo conflict, a third of the province's housing stock was destroyed, while war in Sierra Leone saw the destruction of an estimated 300,000 houses, leaving over a million people displaced. Disasters have a greater impact on the built environment of developing countries than industrialised ones. According to the World Bank, losses due to natural disasters are 20 times greater in developing countries than in developed states.

This paper argues that housing reconstruction should be a more prominent element in post-conflict and post-disaster programming than is currently the case. There is no agency devoted to housing reconstruction, and very few of the major NGOs working in relief would claim to specialise here. Where reconstruction programmes are attempted, the particular challenges that they pose tend to be underestimated; planning is often poor and coordination between agencies difficult. Opportunities to enhance post-disaster recovery efforts or introduce mitigation measures are usually overlooked, and little or no distinction is made between the provision of physical shelters and the provision of homes. Lack of experience leads to assessments that do not provide the relevant information, and projects that are impractical and appropriate neither to what beneficiaries need, nor to what they want. As a result, reconstruction projects are often unsustainable: at best, houses are remodelled by their occupants; at worst, they are simply rejected and abandoned.

Why, if housing destruction is such a major consequence of disasters and conflict, is its reconstruction such a poor relation in the relief aid enterprise? Part of the answer lies in the way that assistance is understood, funded and organised. Housing reconstruction is often construed as a developmental responsibility rather than properly a humanitarian concern, and consequently tends to be low



War-damaged homes, Vukovar, Croatia, September 1992

©UN photo 159319/ Isaac

on the humanitarian agenda. Arguably, there is a clear humanitarian imperative to provide victims of conflict and disaster with basic shelter, in the same sense as there is a humanitarian imperative to ensure access to water, sanitation, food and healthcare. The humanitarian justification for housing *reconstruction* is more problematic. Reconstruction looks like development business: it deliberately sets out to re-establish lost assets, or even to provide better, more robust accommodation than existed prior to the disaster event. It aims, not just to alleviate an immediate threat, but to restore or improve a disaster-affected individual's situation over the long term. Unlike other relief items such as food aid or medicine, housing is a significant, long-term and non-consumable asset; in Latin America, households need 5.4 times their annual income to purchase a house. In Africa, the average cost of a house is 12.5 times an average annual income. Housing's status as property typically involves more obvious questions of ownership and legal entitlement, which are perhaps less important in other areas of relief.

This conceptual distinction is one of the reasons why the actual implementation of reconstruction programmes tends to be so peculiarly difficult. Housing reconstruction is a complex process, and success typically requires a good deal of time and preparation. In the immediate aftermath of an emergency, this may not be available. The urgent need to do something within a short space of time is not conducive to good, sustainable housing reconstruction, nor is the tendency of donors to set short timeframes for the disbursement of emergency funds. Housing interventions are often planned and implemented rapidly, and in isolation from their political, economic or social environment. Local skills, preferences and needs tend to be marginalised for the sake of speed, and little effort is

made to document the philosophies, methods and processes underpinning housing reconstruction.

Why should relief agencies contemplate doing housing reconstruction at all? Why not meet the need for shelter through temporary provision, and leave more permanent solutions to the developmental sector, private businesses or the government, once the immediate, acute disaster phase has passed?

It is likely that any defence of housing reconstruction as an activity of potential humanitarian concern will touch on notions of basic human dignity, identity and security. The loss of a home constitutes not just a physical deprivation, but also a loss of dignity, identity and privacy. It can cause psychological trauma, challenges perceptions of cultural identity, disrupts social structures and accepted social behaviour, poses a threat to security, and has a significant negative economic impact. In turn, housing interventions and related activities can enhance communities' capacities by strengthening their physical, emotional and practical abilities to resist disaster and facilitate reconciliation; improving institutional resources and informal social relations; increasing pride and self-esteem through participatory and stakeholder programming; and enabling disaster-affected people to look forward and invest in the future. By transferring technology and skills training and contributing to longer-term improvements in building techniques, homes may be made more robust and better able to resist future disasters. In the wake of conflict, housing reconstruction may be a crucial incentive to repatriation and resettlement, and the rebuilding of communities as part of wider efforts towards peace. Reconstruction initiatives may also have important governance effects. The nature and scale of reconstruction programmes imply institutional and governmental engagement on a potentially significant scale. Procedures and institutional bodies have to be developed to oversee programmes, distribute resources, allocate houses and ensure building codes are implemented.

None of these arguments implies that this type of intervention will be an appropriate or practical response for an external agency wherever there is a housing need caused by conflict or natural disaster. While the *loss* of housing can clearly constitute a humanitarian emergency, trying to make good that loss by rebuilding homes may not be the most suitable activity for an international humanitarian agency. As with other emergent or 'non-core' areas of activity, such as psychosocial work or education interventions, there is likely to be no simple answer here; whether an agency implements a housing reconstruction project in the wake of a disaster or after a conflict will depend upon a host of institutional, political, financial, logistical and capacity issues that are beyond the scope of this paper to explore. Housing interventions face significant challenges that cannot simply be wished away. But if agencies are going to continue to do housing reconstruction in the aftermath of conflict and disaster, then there is a clear need to find ways of doing it better.

Box 1

Housing as a right

Everyone has a right to adequate housing. Article 25 of the Universal Declaration of Human Rights states that:

Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.

UNHCR defines the characteristics of 'adequate' housing as: legal security of tenure; availability of services, materials, facilities and infrastructure; affordability; habitability; accessibility; location; and cultural adequacy.

Scope

This paper reviews experiences in housing reconstruction in the aftermath of natural disaster and conflict. It draws on a wide range of examples from the last two decades to highlight the main issues and to provide examples of both good and bad practice. It offers guidance on how to plan and prepare for a housing reconstruction intervention; describes the various housing reconstruction approaches available; and sets out the various models of implementation that tend to be used. The aim is not to provide an exhaustive technical manual; such guidelines and standards already exist, and many agencies have their own. Rather than detailed prescription, the paper aims to paint a broader strategic picture of the sector. It argues that housing reconstruction interventions should take into account local resources, needs, perceptions, expectations, potentials and constraints. In so doing, it broadens the discussion from responses that take into consideration the needs of individuals and families, to responses that consider the wider benefits to communities. It refocuses the discussion from a single 'house' or shelter reconstruction to a process, thereby reintegrating housing reconstruction into the wider recovery context.

Three important distinctions need to be made at the outset.

The first is between *shelter* and *housing*. This paper understands shelter to mean provision that is intended to be temporary, even if in practical terms structures and communities remain in place far longer than anticipated. Housing reconstruction is taken to mean rebuilding or repair that is meant either to provide a permanent solution, or to tide affected communities over until such time as they can rebuild their homes themselves.

The second distinction is between housing provision in response to emergency conditions, and housing provision in 'normal', non-disaster situations. This paper is concerned with the former, though it is important to remember that housing shortages and inadequate housing constitute a severe and pressing problem for many societies not formally affected by disaster or conflict. The UN estimates that around 100 million people are without a place to live, and over one billion are inadequately housed. In Kenya, more than half of the urban population lives in unplanned and uncontrolled settlements, without basic services and amenities.¹ In the Sri Lankan capital Colombo, half of the city's people live in slums, and some 60% of housing stock is impermanent.² Insufficient or inadequate housing is part of a wider pattern of poverty, poor healthcare and lack of political power. Natural disasters such as flooding or earthquakes may have catastrophic effects on housing stock precisely because poverty or discrimination have forced victims to live in marginal, high-risk areas, in weak or inadequate homes, or because poor governance has meant that building standards designed to withstand shocks such as earthquakes have not been enforced.

The third distinction concerns the post-conflict and the post-disaster experience. Housing reconstruction in both contexts is likely to face similar constraints and challenges. Yet it is also likely that the post-conflict environment will throw up specific difficulties: local authorities or legal frameworks may have collapsed; if legal records are lost, land tenure or prior ownership may be difficult to ascertain; if housing has been deliberately destroyed to remove particular sections of a population, its reconstruction has obvious political repercussions that will need to be faced.

Audience

This paper is aimed primarily at the people who implement housing reconstruction projects: programme designers and field-level managers. However, because of the cross-cutting nature of housing, it will also be relevant to others involved in various aspects of housing reconstruction and wider recovery programmes at the international level (donor organisations, NGOs, academics); at the country level (central governments, local authorities, local NGOs, national suppliers) and at the local level (direct beneficiaries, communities, community-based organisations and local leaders and representatives).

Chapter 2

Preparation, planning and assessment

Introduction

This chapter focuses on some of the key questions and decision-making points around preparing for and planning housing reconstruction after conflict and disaster. It does not offer a step-by-step guide; instead, it looks at some of the main principles and considerations involved. It examines in detail three particular areas:

- *Initial questions.* These include the decision to undertake a reconstruction programme; issues around mapping the key actors and institutions; and the choice of finance mechanism.
- *The assessment of local needs and capacities.* This includes assessments of physical damage, as well as judgements about what the affected community itself can (and is willing to) contribute.
- *Beneficiary selection and the targeting of assistance.* This includes important decisions about prioritisation and beneficiary criteria.

The chapter ends with a brief look at some of the legal issues around housing reconstruction that need to be borne in mind in planning.

Initial steps

The initial question any agency will need to answer is whether a housing reconstruction intervention should be tried at all. Part of the answer is internal to the agency itself: do we have the mandate, capacity and skills to do this work? Does the need for housing outweigh the need for other assistance, such as food? Is short-term provision adequate, or are there sound reasons for a full-blown reconstruction intervention? Who else is likely to be operating in the disaster zone, and are they likely to be better-equipped for this work? Are we likely to be able to find funding? What profile can we expect by doing this work, and is our organisation better served in this respect by proposing a different type of intervention? Are we prepared for the kind of long-term engagement that housing reconstruction is likely to entail?

Another part of the answer is external to the agency, and lies with the context itself: are conditions in the target area conducive for an intervention of this type? A key question here is whether the disaster-affected community itself believes that a degree of normality and stability has returned such that housing reconstruction can be considered. Possible signs include:

- the spontaneous return of displaced people;
- efforts by disaster-affected people to repair their houses themselves;
- early efforts to repair and reopen schools (or to

- conduct educational activities on private premises);
- investment in construction;
- commercial activity, such as buying land;
- efforts to restore infrastructure;
- increased activity in the exchange of foreign currency, however informal; and
- the restoration of institutions and facilities of local authority.³

Deciding that conditions are right will probably be more straightforward in post-disaster circumstances than in a post-conflict situation. However, even in conflict it may be possible to engage in activities designed to support reconstruction before any formal cessation of hostilities has occurred. It is widely assumed that reconstruction can only begin when conflict has stopped. In fact, people often start rehabilitating their lives, homes and livelihoods before there is a formally-acknowledged end to a conflict. Agencies should look for signs of recovery rather than indications that a definitive 'post-conflict' phase has been reached, and so identify opportunities to support reconstruction in 'pockets of peace', even though open armed conflict may still be under way in other parts of the country.⁴

If conditions are felt to be conducive, the next step is a 'reconstruction assessment'. This should take the form of an initial visit to the affected areas. It can have the following objectives:

- Explore and understand the context, opportunities and constraints that may affect the programme.
- Distil assumptions and lessons learned from other programme experiences and examine how these might inform reconstruction.
- Build consensus among the key actors on the need for reconstruction.
- Identify implementation approaches and validate them with local actors within a specific timeframe.
- Identify common aims and objectives of reconstruction.

Such an assessment should identify the extent of the need for housing reconstruction, and inform the selection of beneficiaries (covered in more detail below).

There are three principal areas of analysis to be explored when conducting a housing reconstruction assessment:

1. **Context analysis:** to establish opportunities for, and threats to, reconstruction initiatives, taking into account the disaster impact, conflict, the socio-economic situation and institutional factors.
2. **Actors analysis:** to establish the strengths and weaknesses of the various actors in undertaking reconstruction work.

3. Sector analysis: to establish the potential and limitations of the housing sector (both public and private).

Findings from this stage will dictate the shape of the rest of the intervention, both in terms of whether further assessments are required, and in terms of the potential for reconstruction, and possible courses of action therein.

The assessment should also identify the key actors, to establish what capacities exist to tackle the situation, and what additional assistance is required. From inside and outside the community, key actors represent capacities, and are a resource for information, materials, expertise and finance. To develop a sustainable, successful and acceptable housing reconstruction programme, key actors need to be actively involved. Their capacities can be enhanced through partnerships and coordination.

Key actors include:

- **The community**

The target community for any housing reconstruction programme constitutes a key actor, with a crucial role to play. Community members are diverse, and methods to include them will need to be tailored appropriately. Certain community members are more visible than others, and care must be taken to involve the more vulnerable, such as single/widowed women, the elderly, the poor and the disabled.

It will also be important to identify where community leadership lies: does the community possess elders, religious leaders or council members who exert authority? Is leadership centred around a secular organisation, such as a local NGO or CBO, or does it lie in the local church, mosque, temple or stupa? Finding ways to involve legitimate

sources of local authority in any reconstruction programme is likely to be crucial, since exclusion risks a hostile reaction. It may be necessary to organise these community leaders into some form of committee. This may happen spontaneously: in Mexico City following the 1985 earthquake, 'Renovation Councils' with elected representatives were formed for each reconstruction or rehabilitation site. Although they had no legal status, these groups provided an effective forum for community members to represent their needs to the authorities.⁵

- **Local authorities**

The local authorities are usually represented by district governments and municipalities. They are often responsible for providing social housing, managing utilities and regulating land use and planning procedures. Where it exists, they should also be the repository of statistical information about the local population and documentation proving land ownership. This may not, however, be straightforward; particularly in a conflict or post-conflict situation, legitimate authority may not be self-evident, or local authority may not exist at all.

- **Private sector**

The private sector can make an important contribution to a housing reconstruction programme. The private sector possesses skills and resources that supplement public services, reduce the need for imports and help to stimulate the local economy. It will therefore be important to identify private-sector partners. However, it may be inappropriate for housing reconstruction to become a totally commercial venture, since this could result in access to housing being based solely on buying power. Safeguards need to be put in place to ensure that adequate housing is provided for those in need, not just for those who can afford it.

- **National government**

Where possible (and again post-conflict situations create problems of their own), housing reconstruction should be undertaken in coordination with the national authority. Although governments may not be in a position to deliver housing, ideally they should still retain overall responsibility for setting up longer-term housing policies and strategies. Activities are often coordinated through an existing housing ministry, or a ministry of public works. However, governments emerging from conflict may establish a dedicated ministry for reconstruction, which overnight becomes the best-funded part of the government (mostly by donors).

It is important that agencies contemplating a housing reconstruction programme look closely at the national picture. Which institutions are responsible for what? Where are the overlaps? Who should be contacted? Make sure that there is political support for the anticipated project, both locally and nationally. In places where reconstruction could be controversial, greater effort will be needed to clarify the issues before the programme begins.

Box 2

Community participation in post-earthquake housing reconstruction in El Salvador

In January and February 2001, two earthquakes struck El Salvador, claiming nearly 1,200 lives and destroying over 108,000 homes. Catholic Relief Services (CRS) and Caritas embarked on a two-year programme to provide 1,300 houses. Local communities participated in the construction, and were given food in exchange for their labour. The programme, which included building schools, health centres and roads, aimed to tackle development issues, enhance community capacities and strengthen local participation. Communities were organised to ensure that all residents took responsibility for the construction of houses. This joint effort strengthened the community, and participants claimed that feelings of mutual solidarity had been developed.

- **External actors**

External assistance comes in two forms, financial and technical. Some agencies may provide only one of these, others both. Offers of assistance are seldom made without conditions, and these can complicate and reduce the effectiveness of reconstruction programmes. Potential donors need to be identified, although in the aftermath of a high-profile conflict funding is often available before projects are conceived. Typical donors include international and regional development banks, bilateral donors, and multilateral donors such as the UN agencies, the European Commission and NGOs.

The starting-point should be to clarify the donor's intentions, and to determine which aspects of a proposed programme can be funded, and which cannot. This is not

as straightforward as it sounds: many donors have complex rules regarding what they will support, largely based on a bureaucratic distinction between 'relief' interventions and 'development' programming. Clarifying the time-scale envisaged by the donor is also important: how long is a donor likely to remain engaged, and how quickly must its funds be spent? Again, the more long-term nature of housing reconstruction makes this a particularly important question. Permanent housing projects cannot easily be planned and implemented in the immediate emergency period, but require more time for implementation.

The question of finance raises issues of its own. Should funding come from external donors, from national government, the local municipality or the target community itself? In most cases, the majority of reconstruction costs

Table 1 Advantages and disadvantages of various housing reconstruction finance options

Finance Option	Description	Advantages	Disadvantages
Outright gift	Beneficiaries are given houses on the basis of meeting certain conditions of entitlement. The recipient has no obligation to repay the cost of the house	Removes the need to set up a system to recuperate costs Allows recipients to use their assets to meet other needs	Encourages dependency and undermines local coping mechanisms Bypasses and thus weakens local institutions Is often an imposed solution The assisting agency cannot recuperate money for new projects Number of houses provided is limited
Partial contribution through self-help	Beneficiaries may receive building material and/or technical advice, and/or a partial grant. They build their own house, usually on a communal basis or by contracting local builders	Removes the need to set up a system to recuperate costs Allows recipients to use their assets to meet other needs Increases involvement and participation by the recipients	As with the outright gift, this option can undermine both local capacity to cope and local institutions Materials provided may not meet the requirements or aspirations of the recipients Time spent on building may conflict with other priorities of the recipients, such as income generation, which may be a vital element in family recovery
Loans	There are many variations of loan programmes. The most common for reconstruction is the long-term loan. Some loans may be without interest, while others apply normal interest rates	People without resources are able to rebuild their homes and repay the loan over time Recipients have freedom to build a house according to their own choice Encourages independence and sustainability	May encourage renters to become owners Credit systems may not exist and so may need to be set up Loans may be a significant financial burden for recipients, especially if they have no previous experience of credit systems Loan systems are costly to administer Many financial institutions favour only the most credit-worthy people and may demand the creditor's house as a guarantee

are paid for by the affected people themselves, and their governments. Yet if local communities are capable of paying for their housing reconstruction, could outside assistance be better deployed elsewhere, perhaps for projects clearly beyond the community's resources? In reality, it is likely that some form of external assistance for the housing sector will be provided. This injection of capital needs to be managed carefully, and as far as possible in a way that encourages independence, resourcefulness and sustainability.

What form should this assistance take? In a landmark 1982 book *Shelter After Disaster*, the UN summarised the issues:

One of the most important components of a post-disaster shelter programme is its financing system. Outright cash grants are effective in the short term only, and can create a dependency relationship between survivor and assisting groups. It is far more advantageous for both the individual and the community to participate in the financing of their own shelter programmes, especially permanent reconstruction. On the other hand, people may have lost all their assets through direct damage or forced migration and they need to be helped.⁶

Broadly speaking, financing models fall into three categories:

- 1) Outright gift
- 2) Partial support
- 3) Loan.

None of these approaches is without problems. Whatever system is used, it must be appropriate to the local context, open to careful management and properly accounted for. The table on the preceding page presents some of the advantages and disadvantages of these three models.⁷

Assessing local needs and capacities

A thorough assessment, both of needs and of capacities and resources, is an essential part of the planning and preparation phase for housing reconstruction. Depending on the size of the programme, an Assessment Team can be assembled, with the expertise of team members balanced and tailored to reflect the multidisciplinary nature of housing reconstruction. Local counterparts with specific expertise should be represented. Quantitative and qualitative research methods can be employed. Crucially, needs

assessment should, as far as possible, take into account the community's own priorities. A number of key questions need to be addressed:

- How extensive is the damage and the degree of destruction?
- How many people are affected?
- What are the local hazards?
- What are the sources of vulnerability (physical, social, economic, political)?
- What is the timeframe, given the number of people to be assisted and the weather (is winter/summer approaching)?
- What are the appropriate reconstruction technologies?
- How does the local form of construction contribute to the risk facing the community, and what measures can be taken to make buildings safer?
- What other needs and problems are perceived as being of critical importance by the community?
- What are the special needs of particular groups or communities, such as minorities?



Local capacity can be crucial: here, local people in San Juan, Nicaragua, rebuild their homes after Hurricane Mitch

Damage assessment is key, and it is likely that specific categories will need to be developed to suit the particular context. Damage assessment requires specialist technical personnel, especially when the objective is not simply to quantify damage, but to learn about how hazards have affected buildings so that improvements in

materials and techniques can be included in the reconstruction programme. This should include consultations with residents in order to draw on local knowledge of previous hazards. It is important to obtain the views of women and marginal groups, and not to limit the consultation to community leaders.⁸

Because the local community can make a vital contribution to housing reconstruction, an assessment of local resources is essential. This must not be limited to financial assets, but should consider all the major inputs required for the successful implementation of a housing project: human resources (skilled and unskilled labour); institutional resources; community resources; building materials; and technology. Broadly speaking, the more resources that are available locally, the fewer

Box 3**Damage assessment criteria in Kosovo**

In Kosovo, damage assessments were conducted in order to group houses and buildings according to the level of damage sustained. These assessments helped to establish the extent of the damage, the materials and resources needed, the costs and the distribution of costs.

UNHCR and the International Management Group (IMG) conducted their own assessments using different methodologies. UNHCR used five categories and IMG four. Each organisation established definitions for the categories of damage. The use of two systems initially caused confusion, although later it was generally accepted that the two systems corresponded. UNHCR categories 2–5 correlated with IMG's categories 1–4.

UNHCR categories	1	2	3	4	5
	Undamaged	Broken windows, door locks and hinges Cut off from electricity water supplies Repairable	Up to 30% roof damage Light shelling impact on walls Partial fire damage Repairable	Over 30% roof damage Severe fire damage Need for replacement floors Doors and windows destroyed Repairable	Destroyed Needs reconstruction Beyond repair
IMG categories		1	2	3	4
		5–20% damage	20–40% damage	40–60% damage	Over 60% damage

Once efforts began to deal with the most damaged buildings in UNHCR category 5 and IMG category 4, the categories had to be subdivided:

5a/4a: Destroyed but foundations in good condition

5b/4b: Destroyed, needs complete reconstruction including new foundations.⁹

have to be imported. This reduces costs, contributes to the local economy and is more likely to result in a reconstruction programme that is culturally and environmentally sensitive, sustainable and acceptable to the local community.

Seven key categories of asset should be considered.¹⁰

1. Land

Housing reconstruction programmes require both the availability of a 'safe' building site and security of tenure. These two conditions must be met before any programme can begin. Security of tenure is particularly important when resettlement is part of the housing agenda. A common mistake is to start the reconstruction of permanent houses on the understanding that securing tenure will follow automatically.

2. Human resources

The allocation of roles and tasks for building programmes needs to be predicated on an assessment of available labour resources, both in terms of potential project staff and also within the community. The types of labour needed may vary, depending on the particular nature of the programme, but it could include the following: unskilled labour, skilled builders, foremen, contractors, experienced trainers, financial managers and technical staff. If a self-build programme is planned (see Chapter 4), it is particularly important that a careful assessment is made of the community's ability and willingness to provide labour for building. An affected community may wish to put its efforts into other activities, such as agriculture or income generation. Some families may include single mothers or elderly couples, who may not be able-bodied.

Box 4

Community contributions in Goma

In the aftermath of the Mount Nyiragongo eruption in January 2002, initial meetings were held with the affected community in Goma to establish the extent of local resources. It was agreed that CRS/Caritas would provide basic training and essential carpentry tools to enable families to undertake construction work. Families were also responsible for preparing the base of the housing unit and assisting in unloading materials.

The housing unit was substantial enough to provide the basis for a longer-term home, and all families, except those with special needs, provided contributions. Erecting the timber frame cost \$10 per unit, and the work involved in preparing the base, unloading the materials and fixing the plastic sheeting was equivalent to two days' labour at \$2 a day. The project generated contributions of \$70,000, or around 10% of the material cost of the units. The beneficiaries and their neighbours also provided land and access. Beneficiaries, members of their extended families, and other members of the local community contributed 11,000 land parcels.

It was understood that families would upgrade the housing units in their own time, using their own resources. Improvements included providing a more durable external enclosure in place of the plastic sheeting, erecting internal subdivisions and installing a solid floor. Beneficiary contributions towards the upgrading of individual housing units ranged from \$30 to \$50. Over 70% of families undertook some form of home improvement.¹¹

In Kosovo, forms like the one below, which were used to assess housing needs and identify beneficiaries, also asked whether members of the family possessed any construction skills.¹²

3. Institutional resources

Institutional capacity to undertake the task in hand is an essential prerequisite, necessitating administrative resources, as well as management and leadership. Institutional development may be required if these are

thought to be lacking. When local NGOs and CBOs are utilised as programme implementers, this will be an important dimension to be considered.

4. Community resources

Communities vary widely in their capacity to mobilise and organise themselves for undertaking projects. It should not be assumed, particularly in the post-conflict context, that community participation will easily be established. Even in stable environments, a society may have little experience or desire to form a participatory relationship.

5. Building materials

Building materials will need to be carefully assessed, to ensure that they are easily available, affordable and of sufficient quality, and that they are acceptable to the local community. Building materials must be in keeping with local aspirations, and it is important to consider the economic and environmental implications of different types of building materials.

6. Technology

An assessment of local building techniques needs to take into consideration the need for improving safety. Where labour is available, training can perhaps be provided in specialised construction techniques brought in from outside.

7. Financial resources

Accurately assessing public and private sources of finance is of critical importance, including mobilising people's own resources (individual and collective), through loan or credit schemes. Issues relating to the strengths and weaknesses of the programme's financial management must also be considered.

Targeting assistance and beneficiary selection

The budget, the number of people who can be helped, local employment opportunities, sustainability, vulnerability to future disasters or conflict, the availability of local resources, the level of outside assistance and accessibility – all of these factors influence how assistance is targeted and beneficiaries are selected. A thorough needs assessment will help to identify the target population for the programme by highlighting particular areas of need, and those groups that would benefit most from the proposed programme.

What can you contribute to the reconstruction process?

<p><i>How many people can you mobilise for the reconstruction:</i> Within the household: _____ Relatives: _____ Neighbours and friends: _____ Can you transport the materials: Yes _____ No _____</p>	<p><i>How many of these can you carry out:</i> Masonry: _____ Carpentry: _____ Plumbing: _____ Electrical works: _____</p>
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To assess which areas are to be reconstructed and the extent of the work required, criteria have to be developed to create uniform systems of evaluation. As the reconstruction process continues, it may be necessary to refine these criteria to ensure that they remain useful and relevant. Assessment criteria facilitate transparency and accountability, making it easier to explain difficult decisions to the local community. In an ideal world, these criteria should be developed in collaboration with the community or community representatives and other key actors, and used by all agencies involved. Using different criteria can cause confusion and can lead to real or perceived unevenness in the distribution of assistance. It is almost inevitable that the choice of areas to be reconstructed will create dissent among people from areas not chosen. The best agencies can do in situations like this is to be clear and consistent, and to make their choices carefully and based on as much information as possible. That said, it should be possible to make decisions in such a way as to minimise the consequent hostility; in post-genocide Rwanda, for example, one village received full housing assistance, while another, just 300 metres away, only received roofing kits and a few doors and windows.¹³ It should have been possible to anticipate the negative impact that such a distribution pattern was likely to have.

Beneficiary identification is crucial, but it can be an expensive process; one NGO active in the Knin area of Croatia, for example, spent 22% of its housing construction budget on identifying the target group.¹⁴ Good local knowledge helps to identify the most vulnerable, and to ensure that programmes are correctly targeted and acceptable to the

Box 5

Identifying beneficiaries according to vulnerability

In Kosovo, beneficiaries were identified using the following criteria:

- Families whose houses were destroyed and who were living in tents, community shelters or public buildings, or who were lodging with other families.
- Families with more than eight members and with children under the age of 12.
- Families with elderly, disabled or chronically-ill members.
- Families without the means to rebuild their own home.
- Female-headed families whose husbands had died or were disabled during the conflict.
- Families at risk from their present living conditions.

The criteria were developed by Municipal Housing Committees composed of representatives from local and national government, and external agencies.¹⁵

Box 6

Selecting beneficiaries: the Philippines' core shelter programme

On 25 November 1987, Typhoon Sisang hit the Philippine coastal province of Sorsogon. Almost 200,000 homes were destroyed. Between 1988 and 1991, the Department of Social Welfare and Development, supported by UN development and relief agencies and the Asian Disaster Preparedness Center (ADPC), reconstructed 22,665 typhoon-resistant core houses.

The beneficiaries of the programme had to satisfy a set of stringent requirements in order to be eligible. These included:

- having a secure land title – a guarantee of ownership or evidence of long-term occupancy of land;
- residence in an existing dwelling on the land;
- income criteria – for a family of six, monthly income could not exceed \$65 for urban dwellers, or \$55 for rural dwellers;
- the family lacked the resources to rebuild; and
- the family did not receive shelter assistance from another agency.¹⁶

community. Perceptions of who is vulnerable vary according to culture and tradition. The circumstances of some individuals make them more vulnerable in some societies than they would be in others. Criteria can be developed by agencies, host communities or potential beneficiaries themselves. The type of criteria and the actors used to identify them will depend on the context; Box 5 describes the criteria that were used to identify beneficiaries in Kosovo.

Applying selection criteria can be as difficult as agreeing them. For example, using income to determine whether a family should be among the beneficiaries is problematic: it is often hard to establish whether income is adequate to meet needs; family members may be employed in seasonal or casual labour so it is hard to estimate income; the total joint income may still be inadequate to support dependent relatives, but the presence of wage earners can make a family ineligible for assistance even if that family contains vulnerable members.¹⁷

Even *finding* the homeless can be a challenge. The so-called 'hidden homeless' are people who have made their own emergency arrangements and have not registered with any agency for assistance. They may have constructed their own emergency shelter, be living with friends or members of their extended family or using empty buildings. The presence of the 'hidden homeless' means that agencies often plan and budget for housing programmes using inaccurate figures. According to the Croatian Government Office

Box 7

Forms of ownership

Typical forms of tenure include:

Rental agreements. These are made between tenants and private citizens, private companies or public bodies. Tenants are allowed access to the property for a fixed period in return for regular agreed payments. If the agreement is made with a public body, rents are often reduced or partially covered by public funding. Rented property is usually occupied by low-income families and, in developing countries, is rarely regulated. This form of tenure is least likely to lead to capital investment in the property, either by the tenant or the property owner.

Leasehold. Here, the tenant has access and control over the property for an agreed period. The owner has ultimate control, and when the lease expires may release it to the present tenant or reallocate it to another tenant.

Freehold. This form of tenure conveys the most power to the title-holder, who has complete control of the land and property and may bequeath it or use it as collateral. It is the form of tenure most associated with investment.

Conditional freehold. This is a form of leasehold which can be converted to freehold if certain conditions are met. However, strict terms can mean that any default in rent payments can result in all previous payments being forfeited, and the tenant must restart the payment process from the beginning.

Collective tenure. Collective forms of tenure ensure secure tenure on the basis of agreed shared access. The collective can be a corporate body, private company, housing association or cooperative. For such tenure to be feasible and successful, those involved must share a high level of common interest and be capable of managing the arrangement.

Communal tenure. This is common in communities with a long history and strong cultural identity. Access to land may be governed by custom, and may include the right to occupy, but not transfer or alienate.¹⁹

for Displaced Persons and Refugees, in 1995 nearly 80% of Bosnian refugees in Croatia were accommodated privately or living independently.¹⁸

Conversely, false claims may sometimes be made. For example, homeowners may ask for more materials than they need to repair their homes and sell the surplus, or several members of the same family will apply for housing,

although one house would be adequate for the family's needs. In the confusion following a conflict or disaster, it is difficult to check details and doing so is seldom an agency priority. In Kosovo, the countryside was awash with unfinished houses from before the war. After the conflict, these were occupied by families who then claimed that they had been damaged during the fighting, so as to benefit from assistance for repair and reconstruction.²⁰ Other families

Box 8

Verifying land ownership in Kosovo

In Kosovo, municipalities were faced with the huge task of verifying ownership of the land before reconstruction/rehabilitation took place. Implementing agencies or the beneficiaries, depending on the system in the municipality, submitted a request to the cadastre (land records) department in the municipality. Ownership of the land was checked with the cadastre records. If these and any subsequent checks failed, the occupants were asked to provide proof of ownership. Disputes were usually resolved by the village council and witnesses, or in the courts at a later date.

Box 9

Land and property laws in Rwanda

Following the 1994 genocide in Rwanda, many women and girls became heads of families. However, traditional customary laws prevented women from claiming their families' or husbands' land and property. This meant that they were homeless and effectively landless. In March 2000, the Rwandan National Assembly passed a law on 'Matrimonial Regimes, Liberties and Succession'. This landmark legislation gave women and girls the right to inherit land and property, and legally recognised women as household heads.²¹

benefited from the reconstruction programme, but continued to occupy or rent illegally-procured properties.

Legal questions

Legal issues of ownership and landholding have a particular relevance in the housing reconstruction sector. Laws regarding property and land ownership and tenancy vary from one country and region to another; because they tend to be based on customary practice and precedent, they can be ambiguous, contradictory and inadequate. In many parts of the world, tenants have few rights, and formal contracts can be rare. In post-disaster situations, particularly after conflict, the legal framework may have collapsed altogether, and the legal status of land and property ownership can be particularly difficult to check. In a protracted conflict, normal procedures break down and land or property may be bought and sold without registering changes in ownership. After the conflict, new

owners may have difficulty proving their right to the land or property even if, as far as they are concerned, the purchase was made with the consent of the original owner. Conflict and disaster can cause massive displacement, and families looking for shelter will occupy whatever vacant property and land they can find regardless of any legal entitlement to do so.

In the wake of the conflict in Kosovo, temporary laws were introduced to allow for housing the homeless, and methods of settling disputes were established. The Housing and Property Directorate was mandated 'to supervise the utilization of abandoned property on a temporary basis for humanitarian purposes'. A regulatory and operational framework was developed for the temporary allocation of abandoned houses to individuals in need, without affecting the legal rights of the owner.²²

Chapter 3

Approaches and technologies

This chapter describes various approaches to housing reconstruction. These employ a diverse variety of methods, underpinned by different philosophies, each requiring a wide range of resources and expertise. As well as the actual reconstruction of houses, some programmes aim to fulfil additional social, political or economic goals, which may also influence the choice of approach. There is no definitively right or wrong approach, but there will be a choice which, depending on the situation, will be more likely than others to achieve the desired aims and to fulfil the needs of the communities in question. Indeed, it may be beneficial to combine the best aspects of different reconstruction strategies and the methods of financing them. Adopting a number of approaches enables the housing reconstruction process to yield a wider range of benefits, recognises diversity among the potential recipients of aid, helps to maintain community diversity, and distributes investment to reduce future vulnerabilities.

Broadly speaking, there are five distinct approaches to post-disaster housing (though elements of several may be combined within a single intervention):

- 1) Providing transitional and temporary housing.
- 2) Repairing damaged housing.
- 3) Building new housing.
- 4) A 'building yard' approach, whereby communities do the rebuilding, but outside agencies make materials and skills available and affordable.
- 5) A 'finance facilitation' approach, whereby communities do the rebuilding, with financial help from outside agencies.

Within this range, the various options pose their own challenges and meet their own, different sets of needs. Each has advantages and disadvantages. Different approaches are suitable for different situations, and methods which prove successful in one area may not succeed in another.

Temporary and transitional housing

Traditionally, emergency or temporary shelter has taken the form of plastic sheeting, tents or emergency centres set up in communal buildings or relief camps. The driving force behind this approach is often a perceived urgency to shelter people before winter sets in (referred to by some agencies as 'winterised shelter'). Temporary shelters are designed for use in the early months following disaster or conflict; they are usually prefabricated, imported and intended for use throughout the world regardless of culture or climate.

The need for such short-term assistance is likely to remain a central feature of emergency responses after conflict and disaster, particularly where large numbers of people need

help and the climate is inhospitable. Even so, there are important disadvantages with temporary shelter provision as generally understood. Because materials are mass-produced, usually in another country, they are unlikely to be adapted to the specific climate or culture of the beneficiary community. The provision of temporary shelter alleviates the immediate need for accommodation, which means that permanent housing projects may be regarded as less of a priority. As a result, short-term housing measures often mutate into permanent, poor-quality settlements lived in by the poor. There are also questions of cost. It is widely accepted that providing emergency shelter can be as expensive as permanent housing, and spending funds on emergency provision is likely to reduce the amount available for more permanent solutions.²³ Since temporary shelter materials are almost always imported, the local economy sees no benefit from this expenditure. Indeed, local suppliers and factories may lose trade.

Provision can also take time. The need to import materials means that transport has to be organised, customs clearance sought and the materials delivered to the target community. Land has to be found to erect the accommodation, and legal arrangements might have to be made for this. If the temporary housing is intended to provide shelter in the medium term, it cannot be erected on sites slated for permanent housing, which means that additional land has to be identified. This might have agricultural value or be previously untouched, and is unlikely to be returned to its natural state once the temporary housing is no longer being used.

External provision might not in any case be needed, at least not in the vast quantities that sometimes arrive in a disaster zone. Displacement might not be on the anti-

Box 10

Emergency shelter and semi-permanent housing: experiences from Gujarat

Following the January 2001 earthquake in Gujarat, many people received emergency and temporary shelter only after they had started to build permanent dwellings for themselves. Some families now have three houses – a temporary one, a semi-permanent one and a permanent one. Some people have combined structures in an effort to use them all, while delays in the provision of permanent housing encouraged families to convert their semi-permanent shelters into permanent dwellings by building stone walls. The resulting hybrid structures are unlikely to perform well in any subsequent earthquake.²⁴

pated scale, or affected people might make their own provision and not require outside help. Families may build their own temporary shelters with whatever materials come to hand, or they might seek refuge with relatives or friends. In the wake of the Gujarat earthquake in January 2001, affected communities received outside help with temporary accommodation only after they had taken steps to provide for their own needs (see Box 10).

The provision of ‘ready-made’ emergency and temporary housing can undermine a community’s coping mechanisms, may be culturally inappropriate and may delay the long-term recovery process. Affected communities may fear that temporary housing will become a long-term measure, and prefer permanent rather than temporary housing because they feel more secure and are able to resume normal life more quickly. Conversely, where ostensibly temporary housing becomes effectively permanent, it may be difficult to persuade people to move: a forced transition to permanent housing may have political costs, as illustrated by the Marmara earthquake case study described in Box 11. Moving families from emergency to temporary and finally permanent housing increases the trauma that they experience, disrupts the recovery process and weakens community ties. The IFRC believes that its programmes to provide medium-term shelters have had only limited success, and is looking at ways to provide better-quality emergency housing which would bridge the gap between emergency accommodation and permanent provision, and provide a more effective use of resources.²⁵

Box 11

Politics and shelter after the Marmara earthquake

The Marmara earthquake in Turkey in August 1999 killed more than 15,000 people and destroyed or damaged 75,000 buildings. As part of its response, the Turkish government provided emergency shelter for the homeless on the outskirts of towns and cities in the region. Although the accommodation was intended to be temporary, it is likely to have a lasting effect. Temporary settlements were built on land that was previously untouched or used for farming, and which is unlikely to be restored even after the temporary settlements are eventually demolished. The settlements themselves are beginning to resemble other suburbs, with utilities, shops and public transport. Inhabitants feel a sense of ownership, beginning to modify their shelters and establish businesses. This means that, politically, demolishing the temporary settlements would be unpopular. Families are settled and unlikely to move willingly unless the permanent provisions are significantly better than their current accommodation.²⁶

Box 12

Rehabilitating community facilities in Croatia

In 1992, GTZ rehabilitated and reconstructed a number of communal and commercial buildings damaged by the war in Croatia, in order to accommodate refugees from neighbouring Bosnia. Thirty-nine buildings were reconstructed and converted into collective shelters, with sanitation, basic furnishings and heating, accommodating 12,000 people. The buildings rehabilitated included hotels, schools, community buildings, hospitals, barracks and old people’s homes, as well as a factory, a museum and an orphanage. The cost per refugee amounted to €600, including incidental expenses and overheads.²⁷

One answer may be to provide materials that can be reused. Temporary housing following the Mexico City earthquake in 1985, for example, was recycled and used by several families in rotation as reconstruction took place in different parts of the city.²⁸ Another temporary solution, adopted by GTZ in Croatia in 1992, may be to reconstruct or rehabilitate existing community-owned facilities that can accommodate a number of families (see Box 12). This may be problematic if the structure in question is important in a community’s overall recovery, such as a school, and so will need to return to its original use rapidly after the emergency; it might be better to select facilities that are no longer in use, or that were out of use for a long time prior to the disaster or conflict.

When agencies are faced with large numbers of homeless people that need to be provided with housing quickly, it should be possible to develop a more durable transitional housing unit which beneficiaries can themselves improve incrementally once the immediate post-disaster phase has passed and they are back on their feet. This is essentially a compromise: a quick and hopefully cheaper option than going straight for permanent housing, but offering possibilities of permanence further down the line. If nothing else, this kind of approach might get around the ‘emergency/development’ funding restrictions that bedevil interventions like housing; USAID, for instance, provided what was termed relief assistance following the Nyiragongo eruption in Goma. Under its funding rules, this meant that only plastic sheeting could be provided for roofing, which would be temporary, rather than tiles to make a permanent roof. However, the framework for the roof was constructed so that it could bear the weight of tiles. At a later date, homeowners could replace the plastic sheeting with tiles, using the original roof framework.



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Transitional units erected following the Goma eruption in 2002

Housing repair

In some instances, the cheapest and quickest method of providing adequate housing is to repair the damaged stock. This is particularly effective in situations where there has been no significant or far-flung displacement of the population. The scale of damage will vary, and assessments are necessary to determine the materials and level of skills needed to repair the houses. Repair, rather than moving to emergency shelters or collective centres and undertaking complete reconstruction, is less traumatic for survivors, who are often able to continue occupying their own homes. Depending on the scale of damage and available skills, people can undertake their own repairs and return to normality relatively quickly, or houses can be rehabilitated by contractors using assistance funds.

Box 13

Transitional housing in Goma

The Nyiragongo eruption in Goma in January 2002 destroyed 15,000 houses in two days. A housing solution was developed which could be rapidly deployed and erected, but which would be robust enough to be durable. The dimensions of the housing unit and its components were based on the standard sizes available in the marketplace, so that materials could be sourced locally. The minimum size of the shelter was determined by family size. Since cooking takes place outside, the shelter did not have to be large enough to accommodate a kitchen.

The housing units were designed to be more stable and robust than typical shelter solutions because there was little flat land to build them on. It was also intended that

families would be able to take down their houses and move them to the location of their original homes once the areas covered with lava had recovered. Initially, beneficiaries complained that the plastic sheeting provided for the walls offered little privacy. However, many families used the sheeting as a backing upon which to attach other materials. People salvaged metal sheets and timber cladding to make more durable walls; others arranged bush sticks vertically on top of the plastic sheeting. Floors were covered with clay bricks or lava rock shingle. Within the lifetime of the programme, 69% of families had upgraded their homes. The first of the transitional housing units were erected six weeks after the eruption; by the end of September, 11,307 had been put up.²⁹

Table 2 Temporary and transitional solutions

Strengths	Weaknesses
Provides shelter Releases communal buildings to their original use (e.g. schools) Supports 'host' families Can be used to reduce tension Some emergency material may be recycled (e.g. corrugated iron sheets)	Could prove expensive Limits participation Culturally alien Lacks individualism May become permanent Difficult to target beneficiaries Climate may be incompatible
Dangerous assumptions	
Supplies will arrive on time Routes will be open for transport Little or no damage will occur during transport This is only a temporary solution	

If damage to an area is minor, and the local community can provide materials and resources, it is preferable for agencies to support these activities through the provision of advice or by subsidising materials, rather than direct involvement. In this way, local capacities are enhanced, not undermined, and assistance can be targeted in areas where there is greatest need.

If it is possible to repair the damaged housing stock, agencies may choose to provide the necessary materials in the form of a housing repair kit, as was the case with a number of projects implemented after the war in Kosovo (see Box 14). Kits can be used for emergency and permanent repairs and to target specific areas, such as roofs and windows. Depending on community capacities, agencies may choose to assist with labour in addition to the provision of kits. Kits can appear to be a neat self-contained method of providing assistance, but off-the-shelf solutions are unlikely to meet the diversity of potential needs, so care must be taken to ensure that they are appropriate and targeted.

The unwritten rule for housing repair is that it should restate the property to its pre-disaster condition. Any improvement or ‘betterment’ of the property should be carried out at the owner’s expense. However, repair is often limited to essential works necessary to ensure that the house is habitable: structurally-indispensable works (roofing, load-bearing walls, structural frame); sanitation (bathroom, latrine); and cooking space or kitchen. Depending on the climate, windows, simple doors and internal plastering may also be considered essential works.

Housing repair may be conditional on house-owners accommodating an additional number of displaced people for a certain period of time (often two to three years) free

Box 14

Housing repair kits in Kosovo

In post-conflict Kosovo, several agencies opted to provide kits for roofing repair. Some contained materials for permanent repairs, while others supplied materials for temporary repairs. The tiles for permanent repairs were more expensive than the temporary plastic sheeting, but they proved to be time and labour efficient because they obviated the need for double reconstruction. Agencies that concentrated on providing plastic sheeting were able to help twice as many people as those supplying the more expensive tiles. In some cases, the decision to provide sheeting was donor-led, because donors had stocks of plastic sheeting but no tiles. Although an independent evaluation concluded that efforts to provide permanent and temporary housing materials were both equally valid, it criticised initial needs assessments which failed to note that many houses were too badly damaged to be repaired with roof kits, and those that were repairable required more materials than were provided in the kits.³⁰

of charge. Obviously, such conditions can be implemented more easily when allowance is made for property improvements.

Constructing new housing and settlements

The construction of new housing settlements involves a great deal of effort and requires the highest level of investment, in relation to all other comparable reconstruction

Table 3 Housing repair

Strengths	Weaknesses
Speeds the reconstruction process More houses can be repaired for less money Demand for social readjustment is minimal Allows the affected population to play a major role Effective in rural and isolated areas Could result in more culturally-appropriate, permanent solutions Can be used to reduce tension	Kits can be an off-the-shelf solution Kits may end up sold on the market Requires a certain level of skills Difficult to build in safety measures (mitigation) Could result in a loss of identity in culturally/historically significant settlements Difficult to distribute and account for
Dangerous assumptions	
Supplies will arrive on time Standard kits can be used regardless of specific architecture People know how to use the kits The size and number of kits per family can be standardised This is only a temporary solution Material is available in local and neighbouring markets Ownership is clear	

approaches, per accommodated person.³¹ Building settlements is extremely time-consuming, requires the full participation of local authorities and may even commit them to carry the partial or in some cases the full cost of such settlements. When planning the construction of new settlements, the following considerations must be addressed:

1. The choice of location, site selection and settlement planning.
2. The choice of construction method and materials (prefabricated or pre-cast, or indigenous methods).
3. The choice of design.

1. The choice of location and site selection

This is by far the most important factor in determining the success or failure of new settlement programmes. Site identification and selection is a time-consuming business due to the numerous dimensions to be considered (property rights, land use plans, exposure to hazards, infrastructure, environmental impact, relationship to host communities and income/employment opportunities). One can learn a lot about location selection by observing where displaced people themselves usually settle. Besides physical security, access to economic and employment opportunities is the primary determinant here. This is particularly the case when the displacement is internal (hence people are allowed to work) and was caused by natural disaster (hence there are less likely to be political obstacles). When the disaster hits rural areas or poor urban areas, people are likely to move closer to cities, and often settle in slum areas surrounding city centres.

One option is to build housing for displaced people on self-settled locations. This of course will be the most appealing choice to the displaced. However, it is problematic for a number of reasons. First, people will inevitably settle in a scattered pattern depending on the availability of land and the willingness of the host community to share resources with them. Second, there is a high likelihood that there will be legal implications relating to land ownership and designated use, even if the areas were already settled before the disaster. In fact, local government may be opposed to creating durable settlement facilities within certain areas. Third, it becomes extremely difficult to distinguish between disaster-displaced people and vulnerable host communities. Both may need assistance, although national and other external developmental agencies may already be working with the host community. Fourth, infrastructure (if it exists) is likely to be too poor and already over-stretched.

A second option is to provide housing as an extension of an existing settlement. If this proves to be politically acceptable to the local authorities and host communities, it has a number of advantages in facilitating integration between the displaced population and their hosts, and in facilitating the restoration of livelihoods, assuming that livelihood opportunities can be extended to accommodate the newcomers. An extension of existing settlements also means more efficient use of existing infrastructure.

A third option is to build a completely new housing settlement. Here again, the choice of location must be handled carefully in order to ensure that the housed population gains access to local employment markets. The smaller the size of the settlement, the more manageable the reconstruction and supply of basic infrastructure will be. However, in cases where the only choice is to build settlements in isolated locations, bigger settlements may be a better option, as they could provide livelihood opportunities and may become self-sustaining in job creation. Having said that, grouping communities from what used to be culturally diverse smaller settlements into one or more larger settlements has proved unsuccessful. People settle together for a wider range of reasons than just the efficient provision of services and livelihoods. Cultural, tribal, clan and religious structures must be observed when planning larger grouped settlements. In addition, large settlements increase the risk of environmental degradation and social tension, and present increased maintenance and management problems.

When it comes to choosing new locations, it is important not to act as though operating in a vacuum. Most local planning authorities will have settlement expansion and land use concepts predating the war or disaster, and would see reconstruction as providing an opportunity to revive such plans. These should be considered first, keeping in mind that they would have been predicated on more detailed, comprehensive studies, and that ultimately any new settlement will require the approval of the local authorities.

2. The choice of construction method and materials

The use of local construction knowledge, skills and material is most desirable. This allows for better maintenance and thus greater sustainability, as well as enabling incremental upgrading and expansion. The material used is more likely to be culturally and socially appropriate, as well as being familiar. Traditional material and techniques are more suitable and durable in the local climate (cold, hot-dry, hot-humid or wet environments). The use of traditional techniques allows the involvement of owners, local builders and small contractors in the construction, thus maximising the local economic value of the reconstruction programme. At the same time, procuring materials locally, often in significant quantities, can inflate prices to a level that prohibits individuals from buying materials to do their own repair or rebuilding work. Local markets cannot always cope with the increased demand and stocks may become depleted.

Radically different, new approaches to construction generally do not last beyond the end of a project, whilst building on existing skills will allow beneficiaries to continue the work themselves. Re-establishing traditional forms of building, particularly in housing, helps people in the post-disaster phase by providing some continuity. This is particularly important in settlements of special architectural or historical value. Recycled material from damaged settlements may be used as long as it is culturally acceptable to

Table 4 Factors affecting the selection of construction sites

Access	How near is the site to an established economic and service centre? How good is the road? Does accessibility vary at different times of the year?
Security	What are the security risks? How close is the new settlement to a border or other potential flashpoints?
Topography and climate	Is the site prone to hazards (flooding, high winds, seismic activity)? Is soil erosion likely? Is the site heavily contoured? What is the direction of the prevailing wind? Is the water table too high (less than 3m below ground)?
Infrastructure	What infrastructure reaches the site? What extra capacity can the infrastructure take before requiring upgrading? Who is responsible for its management and maintenance?
Ownership	Who owns the land? Is it individual or collective ownership? On what basis (tribal, government)?
Acceptance	What level of acceptance do the plans and sites have amongst the target groups, the host community and local authorities? Is there any religious or cultural taboo associated with the use of this particular site (e.g. is it considered to be a graveyard)?
Space	Is there sufficient space for the desired density of housing? Is there space to provide for livelihood and employment opportunities? Trade? Agriculture? Is there space for future extension?
Environment	How is the land currently used? What construction materials are available? Can they be used without threatening the environment? Is the surrounding environment particularly valuable or vulnerable? What are the likely impacts of increased population settlement on agriculture and livestock? Is the site affected by environmental pollution?

Table 5 Strengths and weaknesses of traditional techniques

Strengths	Weaknesses
Culturally acceptable Continuity Availability Flexibility Low transport costs	Vulnerability External agencies' knowledge of the community and its traditional building techniques is likely to be limited

do so, and people do not associate the material with the death of their relatives (some of whom may have been buried underneath), and ownership has been clarified.

In some cases, local building materials and techniques might have become associated with backwardness or a lack of modernity; they may even be linked with the

hazards that resulted in disaster in the first place. Experience has shown that, while people may know how to build safer homes, over time investment in the house declines, perhaps for economic reasons, and the structure becomes more vulnerable. Dhamar in Yemen is a good example: many older buildings survived an earthquake in December 1982, while the majority of more recent struc-

Box 15**Community solutions following the Gujarat earthquake**

The CRS housing reconstruction programme undertaken following the January 2001 earthquake in Gujarat concentrated on the community-based production of materials. The shelter programme developed:

- *Large-scale community-based construction*
Thirty teams of local labourers skilled in masonry and local building techniques were formed and trained.
- *Large-scale localised production*
Five hundred local staff worked full-time to produce enough compressed earth bricks for 200 housing units each month. Compressed earth block houses are 40–50% cheaper than load-bearing cement block or reinforced concrete frame houses.

- *High-quality, appropriate and durable housing solutions*
In consultation with the Indian Bureau of Standards, the programme helped to develop a standard for compressed earth blocks.

The housing units met the government's earthquake-resistance standards, were in keeping with the local housing style and allowed families to tailor houses to their individual needs, creating a diverse and more interesting living environment. Village committees identified beneficiaries, and administrative and financial systems to facilitate procurement of materials and logistical procedures were established.³²



©Graham Saunders/Catholic Relief Services

Compressed earth bricks being produced in Gujarat

tures collapsed. Both were made of heavy masonry, but the old ones had timber reinforcement beams built into them.

Prefabricated housing

Prefabricated housing can be constructed quickly, and can provide shelter for large numbers of people. This is important when many people have been made homeless, and there are large numbers of vulnerable people in the community. However, it is not necessarily an ideal solution. Prefabricated housing usually has to be imported, so does not benefit the local economy and imposes housing designs that may differ from the vernacular. Prefabricated housing also has a relatively short life expectancy, and

Box 16**Prefabricated solutions in Montserrat**

On the Caribbean island of Montserrat, following several volcanic eruptions in 1995, 90% of the population had to be evacuated and relocated. Many found emergency shelter in public buildings, but as it became apparent that there was no immediate solution to the housing shortage, and that public buildings could not provide adequate shelter in the medium term, prefabricated housing was brought to the island. Although the housing units could be erected quickly and addressed the primary objective of ameliorating conditions in the temporary public shelters, they were of poor quality; once occupied, ongoing repairs were necessary. Oversights had been made during the ordering process, so some components had to be ordered specially, which caused delays and raised costs.

Prefabricated components were also used to produce modular housing. The finished units matched expectations, but the venture was of limited success because the technology was inappropriate and suppliers, over which there was no control, failed to implement quality-control checks. Consequently, some components were heavily corroded when they arrived, and the entire stock of wall panels had to be replaced because of a manufacturing defect. The high-tech system proved difficult for the local contractors to master, so the aim of providing housing rapidly was not met.³³

Box 17**Prefabricated refugee settlements in Croatia**

Although often seen as an intermediate measure for displaced communities, in fact prefabricated housing almost always ends up as the ultimate solution. In October 1992, GTZ started constructing three settlements in Karlovac, near Zagreb, Rokovci and Cepin in Eastern Slavonia, to house some 9,600 people displaced from Bosnia. A German–Turkish construction consortium was contracted to build 1,600 housing units using prefabricated, lightweight material. Each accommodated six people. In addition, 14 social buildings (schools, kindergartens, health stations and administrative buildings) were constructed.

The units were provided in the form of 800 pairs of semi-detached houses. Each pair came with a shared bathroom, gas heating (centrally supplied) and basic furniture. The programme provided over 50,000 square metres of built space at a cost of €18.4m, or €349/m². The overall cost per accommodated refugee was almost €2,000 (including administrative overheads).

Ten years after completion, the three settlements were all still functioning, and in some cases had been extended and partly planted. In one of the locations, a church and an additional school were built. The unresolved question of the refugees' return to Bosnia and the general housing shortage in the area made it necessary for these settlements to be retained. What started as a 'temporary' settlement rapidly assumed a permanent appearance.³⁴

components are often heavy and difficult to assemble without skilled knowledge.

Techniques have been developed to address some of the shortcomings of prefabricated provision. To avoid problems of cultural suitability and individuality, some types of prefabricated component enable a family to construct a home quickly, but allow for later modification according to the family's needs and wishes. Another, similar approach is to provide a prefabricated or pre-cast 'core house'. The aim is to provide as many people as possible with a foundation for rebuilding their own homes, as quickly as possible. The core house is usually limited to one or two rooms, supplied with basic infrastructure such as electricity connections. The core itself could be one mass-produced concrete room, which can be made quickly by local contractors and distributed to target groups, or constructed on-site using prefabricated components (GTZ used this technique in prefabricating housing settlements in Azerbaijan in 1993–96; see Box 18). The design should allow the occupants to expand the room according to various pre-planned permutations. The assumption is that the inhabitants will be

satisfied with the new settlement, and will invest in developing it. This does not, of course, always happen, and buildings may not be extended as planned.

3. The choice of design

New housing stock can be designed with better ventilation and water and sanitation provision than the original housing stock. Reconstruction programmes and the financial assistance they help to generate can make possible large-scale infrastructure improvements. However, the starting-point in the design of houses must be to incorporate local forms of housing and to meet people's aspirations. Local construction forms reflect both the use to which the house is put, and the cultural values attached to it. A key factor is the size of the household. In many rural communities, residence in extended families is still the norm. Some consider this to be their cultural ideal, while for others it is simply a fact of economic necessity. In both cases, local housing design is likely to accommodate this pattern through forms of subdivision that allow for privacy. However, when it comes to reconstruction and for the sake of efficiency, programmes often introduce a prototype model, which is almost always based on the assumption of occupancy by a nuclear family. This is likely to be problematic; either the extended family lives in a house that is inappropriate to its needs, or it breaks up into isolated

Box 18**Prefabricated core houses in Azerbaijan**

Following the break-up of the Soviet Union, hostilities between Azerbaijan and Armenia led to the Armenian army's occupation of Nagorno-Karabakh, a region in Azerbaijan mostly inhabited by Armenians; 1.4m people, mainly Azeris, were displaced.

Between 1993 and 1996, GTZ built 16 settlements with 3,280 prefabricated core houses (of two rooms each), for a target population of 36,000. After tendering, the prefabricated buildings were imported from Finland and Turkey. The units were equipped with one lighting connection and basic furniture. Ventilated pit latrines were built on-site, and assigned to each housing unit. Centrally-located communal washing and shower houses were built to 'minimum' hygiene standards. The identification phases of site locations for settlements took place parallel to the planning and tendering activities, and each lasted about a month. The construction of the basic infrastructure as well as the supply and construction of the prefabricated core houses for each settlement took approximately four months; the majority of the housing units were built before the onset of winter. The overall cost of the project was €16.6m, giving an average construction cost per accommodated person of €600.

Table 6 Prefabricated housing: strengths and weaknesses

Strengths	Weaknesses
Possible to stockpile Can be provided as components Speed of construction Can be used as transitional housing May have alternative uses in the future	Slow delivery Inflexible Culturally alien Lacks individuality High cost per unit Transport is a problem (may require shipping, and may be damaged during shipment) Expensive to maintain Requires skilled labour to assemble Requires good foundations that may prove expensive Appropriate to the climate?
Dangerous assumptions	
Supplies will arrive on time Construction will be fast Routes will be open for transport Little or no damage will occur during transport People will adjust their ways of life to suit the design and structure of the prefabricated houses People will soon gain control of their environment and start joint maintenance	

nuclear units (making older people and single mothers particularly vulnerable). On the other hand, some families, particularly young married couples living in extended households as a result of economic pressure, may welcome the opportunity to break away.³⁵

Another major consideration is the way that space within the house is used. In some cultures, spaces within the household have various uses during the day and night, and even according to season. The issue of sanitation and the location of the lavatory or latrine are particularly sensitive. Attempts to modernise the way communities live by locating the lavatory inside the house must be resisted, particularly in areas where there is no running water, or where the local culture/religion dictates that toilets are placed far from people's homes. The risk of a mistake is particularly acute in rural areas, and when houses have been designed by architects/engineers coming from the city who have a very different perception of the way the house works. The house is also likely to have an important economic function, or to have a key role in livelihoods. In rural areas, this may require accommodation for livestock and storage space for food and equipment. In urban areas, space may be needed for a small workshop or for storing goods to be sold in markets. Another dimension that needs to be considered is the size of the plot, and whether recipients of the new housing will be able to extend and adapt it.

Attention also needs to be paid to the overall design of the settlement. Local social, cultural and residential patterns should as far as possible be reflected in the new settlement design. Such patterns are likely to result from a

combination of factors, such as kinship and political relations, socio-economic status, the distribution of ethnic groups, economic activities and access to supplies and services such as water, roads, health and education. Consideration should also be given to local patterns of land use and tenure. Settlement design must accommodate the economic, social and religious needs of the community. Communal buildings such as schools, health centres, religious buildings and a marketplace may be essential for the social wellbeing and development of the community.

'Building-yard' approach

The philosophy behind this approach to reconstruction is that affected communities are capable of rebuilding their own houses, either by themselves or by contracting local builders; outside help should seek to facilitate this process by making sure that building materials and skills are locally available at affordable prices, or free of charge.

This approach is best implemented in rural and suburban areas, where people are most likely still to build their own homes as a matter of course. The focus is on developing the production and distribution of building materials; improving the quality of the materials; and training local builders. It is particularly valuable in hazard areas where building materials and construction techniques have proved to be the main source of vulnerability, for instance in earthquake zones. The strengths and weaknesses of such an approach are well-illustrated by the Dhamar Building Education Project in Yemen (see Box 20).

Box 19

Rehabilitating housing and schools for a returning population in Jaffna, Sri Lanka

GTZ implemented a ‘building yard’ approach in Jaffna between 1996 and 2003, in collaboration with the Resettlement and Rehabilitation Authority of the North (RRAN) and the Sri Lankan government’s agent in Jaffna. The objective was to make building material available free of charge for families intending to rebuild their homes and community schools.

- A central building yard was set up in Jaffna, which acted both as a store and as a coordination point for the programme.
- Building materials were procured, mainly from Colombo.
- The construction of houses was generally carried out by the families themselves.

- The construction of schools was carried out by School Development Societies (teacher–parent interest groups).
- The department of construction within the Ministry of Education provided expert advice on rehabilitating schools.
- GTZ provided advice to families, and acted as the overall coordinator.

The programme resulted in the reconstruction of 24 schools and 1,000 houses. There were, however, difficulties around supplies due to increased levels of violence, government restrictions on imports and occasional looting.³⁶

Box 20

Training local builders: the Dhamar Building Education Project in Yemen

The Dhamar Building Education Project was initiated by Oxfam, Concern and Redd Barna (Save The Children Norway). The decision by these agencies to become involved in building education was made on the basis of their knowledge of local communities and cultures, acquired during relief assistance programmes following the 1982 earthquake. The project was distinctive in that it was conceived as a process, rather than a product-oriented programme.

The aim of the project was to promote a set of simple technical messages to local builders, who could then incorporate these techniques into their normal construction activities, with a view to assisting in the reconstruction of safer houses. The improvements taught were based on an analysis of the damage and on investigation of existing construction methods.

Overall, the training methods used were considered effective and made people more aware of bad construction and vulnerability. Many buildings incorporated improvements, and there was an impact on the quality and safety of the building stock. However,

the overall effect of the programme was limited, for a number of reasons. Training did not improve the likelihood of employment, and it was difficult for builders to find sustained work. Most people could not afford to rebuild with new improvements, and many were not rebuilding, but were waiting for government-sponsored, contractor-built housing, promised 15 months earlier (see Box 25).

Lessons learnt include:

- A parallel programme of financing building improvements would have improved the impact of the project. Even minimum improvements were too expensive for most.
- Coordination between ‘large’ governmental reconstruction programmes and the building education programme would have helped to address people’s expectations.
- Accountability should be with the communities themselves, which provided practically everything (finance, material and labour) except for training costs.³⁷

Table 7 The ‘building yard’ approach

Strengths	Weaknesses
<ul style="list-style-type: none"> Builds on a community’s existing abilities Helps with the availability of building materials Can improve building materials Can train builders Can help develop small contractors 	<ul style="list-style-type: none"> Giving building materials free of charge may cause problems for the local market Materials may be resold and not used in construction Stockpiles may be looted It takes a long time to see results Difficult to justify for funding agencies Difficult to target beneficiaries
Dangerous assumptions	
<ul style="list-style-type: none"> All the trained builders will remain in the area People will take responsibility People will be able to afford to invest in building improvements without outside financial help 	

Finance facilitation

Like the building yard approach, finance facilitation is based on the assumption that affected communities are fully capable of planning and managing the rebuilding of their own homes and recovering their livelihoods; building materials and skilled labour are available, but finance to buy them is missing. Consequently, this approach argues that the most effective intervention should provide finance and facilitating loans to those who need to rebuild. The idea is to enhance processes initiated by the community rather than to intervene with parallel programmes. Following disaster and conflict, external sources of funding for housing repair and construction are often available, though much of the cost is borne by the local authority and the survivors. Such an approach helps to build on innate coping mechanisms and supports community responses. In this way, intervention does not duplicate community efforts and can instead be concentrated on providing resources, such as technical advice, which would otherwise not be available.

The first determining factor in this approach is an examination of how housing was financed before the disaster. For example, was funding provided by the government, or was it left to the market and private resources? If it was the government, then where did the money come from? Taxes? International grants and loans? Were any institutions operating in the formal sector, offering loans and certified by the authorities? These could include banks, mutual societies and organisations established specifically to lend money for housing construction. Was there a revolving fund (or bank) specifically dedicated to housing? Was it successful? Was it affected by the war or the disaster? Is it owed large amounts of money by its borrowers? Is it capable of paying back pre-war or pre-disaster loans? Is there a role for the international community in strengthening such institutions and helping them to continue supporting housing provision by enlarging their activities to cope with the increased post-disaster demand? How did the poor manage before the disaster?

What did they provide as collateral for their loans?

Locally, another determining factor is the level of community assets. Few families have access to large amounts of money in normal circumstances, never mind following a disaster, but they may have savings or transportable assets such as jewellery, carpets or a second property, which they may be willing to sell. The majority of families build their houses incrementally, and begin by stockpiling building materials. Loans are often available through informal networks, including family and friends. If documents are not drawn up to record an agreement, repayment schedules and interest rates will be agreed orally in detail.

There are many models available to determine how much can be borrowed, and what the repayment schedule should be. There are also models to forecast the costs of a housing programme which take into account related overheads, such as planning, labour, infrastructure provision, land, transport and legal costs, as well as the expenses incurred through materials and labour. At the planning stage, sources of funding, the size of the total budget, and the overall costs need to be thoroughly examined to ensure that adequate funds exist to cover all expenses, and that the project is financially sustainable.³⁸

Possible conduits for facilitating finance include international and local NGOs, national governments, local authorities, traditional social structures such as village elders, or a body established especially to coordinate the housing reconstruction. Not all organisations will exist in every situation, and some may be unsuitable for managing and distributing funds. For example, after a civil war the government may have collapsed, or may be seen to favour one part of the population over another.

Central governments may find themselves having to intervene directly. For example, following the devastation caused by cyclones that hit Andhra Pradesh in India, the central government ordered all Indian financial institutions

Table 8 Facilitating finance approach

Strengths	Weaknesses
It builds on communities' abilities It makes finance more readily available Can offer opportunities to poorer communities Helps build financial systems Grants can be tied to a building improvement and strengthening programme	Money may not be used for construction Loans may be difficult to repay Increases indebtedness amongst the poor
Dangerous assumptions	
Money will be used to construct houses People can afford to borrow more money Building skills and materials are available in the local market	

and commercial banks to increase the number of loans they provided for affected communities by relaxing their qualifying requirements. The state subsidised a third of these loans through its Housing and Urban Development Corporation (HUDCO), which also financed the construction of infrastructure.

Donors can encourage participation and increase the sense of responsibility and ownership among target groups by distributing assistance at a community level. This can take many forms, including financial aid, materials, labour, expertise, food for work, or a wage to inhabitants while they rebuild their homes. Assistance may be distributed at a family or a community level. At the family level, it can be tailored to meet individual needs. To ensure that financial assistance is used for its intended purpose, vouchers can be issued to exchange for goods at designated shops or distribution centres. If the reconstruction takes place at community level, finance or assistance is given to the community as a whole. This is usually delivered in phases to ensure that all members of the community, including the vulnerable, benefit. Subsequent phases of assistance can be delayed or withheld if people are being neglected by their community. If one member fails to honour agreements made with the donor and implementing agencies, the whole community may be penalised.³⁹

Assistance can be provided unconditionally and without expectation of repayment. However, it is generally considered preferable to establish a clear agreement with the target group and arrange some form of repayment. Repayment can be in kind as well as financial. One possibility is for assistance to be provided on condition that members of the target group commit themselves to provide labour to reconstruct community centres such as schools and health centres.

Repayments for financial assistance can be structured so that they are manageable for poorer families and vulnerable groups. Micro-credit programmes have demonstrated that the poor are credit-worthy and can be given credit without collateral.⁴⁰ Interest rates can be low, or no interest need be charged at all. Soft loans are composed of a grant and a loan, so only a proportion of the financial assistance received needs to be repaid. In Mexico following the 1985 earthquake, beneficiaries had to make an initial down-payment of 10% of the cost of their new home. Subsequent repayments were structured according to family income, and were calculated on an individual basis.⁴¹

Sustainability and technology transfer

Whatever the housing reconstruction approach chosen, it must be sustainable: financial, material and technical resources must be available locally to maintain the housing in a good state of repair. The housing must be appropriate to the needs of the family, suitable to the local environment and located in an area where there is employ-



©Sulian Barakat

These homes, built following the Dhamar earthquake in Yemen in 1982, did not meet the target community's needs and were eventually abandoned

Box 21**Relocation or reconstruction on the same site?**

After a disaster, a decision needs to be made whether to relocate and rebuild in a new area, or to rebuild on the same site. There may be sound psychological and physical reasons for moving away: it represents a fresh start in an area not tinged with trauma and loss, for example, or it may remove an important factor in the community's physical vulnerability to disaster. This is not, however, a decision to be taken lightly; people may be attached to a particular site for an array of powerful social, cultural and economic reasons, and the cultural, symbolic and historical significance of the damaged site cannot easily be transferred to a new area. Indeed, returning to a particular area, even if it is still demonstrably unsafe, may be an act of defiance or an attempt to heal psychological hurt. Settlements do not spring up arbitrarily, and there are usually good reasons why a community settles in one place rather than another. These may be positive: access to a trading route or important natural resources, for example. Or they may be negative: poor people may have little choice but to settle in a particular location, for instance if landowners have expelled them from more viable areas. If the latter, proposals to relocate may well confront the interests of powerful local players, or safer land may be unavailable.

Findings from UN shelter projects from the mid-1970s to the early 1980s indicate a strong preference among survivors for remaining as close as possible to their homes and means of livelihood, and strong opposition to forced evacuation (of the eight alternatives described, compulsory evacuation ranked eighth, below tent accommodation in emergency campsites).⁴² This suggests that, unless there is a serious, irreducible threat to the original location, forced migration to another site is not desirable. Any new site should at the least have the benefits of the original one.⁴³

Nevertheless, relocation may be desirable or inevitable in some situations:

- the new settlement is sufficiently close to the old one that people can retain their existing livelihood patterns;
- damaging events, with high losses, continue to threaten the original area;
- the disaster event has rendered the area simply uninhabitable, or the after-effects of a conflict – the presence of unexploded ordnance, for instance – present unacceptable risks;
- measures to reduce the risk are too costly and difficult to implement;
- the continuing psychological impact of the event(s) associated with the original site might be insupportable for the community, or the surviving community might regard the area as a burial ground and therefore sacred, and so inappropriate for reconstruction or resettlement.
- considerable decline, due to environmental degradation, pollution or economic change, has occurred in the pre-disaster period; or
- relocation is part of a peace settlement, or other political factors are at work.⁴⁴ A peace agreement might redistribute land for political reasons, or reallocate certain areas to different ethnic groups. If the housing destroyed in a disaster belonged to illegal squatters, governments may use the opportunity to prevent the area from being resettled.

For some, displacement or migration following conflict or disaster may result in exposure to new experiences, which then make people reluctant to return when the opportunity to do so arises. Many of the refugees who fled from rural to urban areas during the Yugoslav wars found city life easier than their former life in the countryside, and were unwilling to return home after the war.⁴⁵ In Afghanistan, significant numbers used the disruption caused by war to leave their rural homes and move to the cities.⁴⁶

ment and where services are adequate to the needs of the occupants. If there is no work and there are no facilities, people will move, abandoning their new homes.

As it may not be possible to locate housing away from disaster-prone areas, building techniques and evacuation plans which mitigate the effects of a disaster have to be considered. Mitigation methods are wide and varied: designing disaster-resistant houses or retroactively altering existing ones so that they can withstand future disasters; introducing building codes and regulations where none previously existed; establishing an institutional body to implement building codes; reducing envi-

ronmental degradation; or developing an education programme to help communities minimise the effects of disasters. Whichever methods are chosen, they too need to be sustainable.

The five key characteristics of sustainable housing are:

- *Environmental sustainability* – does the chosen approach avoid depleting natural resources and contaminating the environment?
- *Technical sustainability* – can the requisite skills be introduced and passed on to others, and are the necessary tools accessible?

Box 22**Disaster mitigation in Vietnam**

In the wake of disastrous floods in Vietnam in November 1998, the IFRC and the Vietnamese Red Cross developed more robust housing to cope with high winds and flooding. Units were 12–18 metres square, with a robust two-storey galvanized steel frame. There was provision for households to store valuable belongings and food reserves on the second floor, above the level of flooding. Even if the walls and extensions are swept away, families retain the basic structure of their house and stored belongings.

The design is disaster-resistant because of:

- *Strong foundations* – made of concrete and prepared using a template to produce accurate measurements.
- *A wind-resistant roof* – clips designed to resist high winds were used to attach the metal sheets of the roof together. The roof is angled at 30 degrees, which is the optimum angle to withstand typhoon-force winds.

- *Strong connections* – the roof and house frame were attached together with 12mm steel bolts. The frame and foundations were attached with steel anchor balls.
- *Strong bracing and frame.*

Only one out of the 2,450 houses built using this design succumbed to floods in 1999.

Nonetheless, the project has been criticised. The target group was excluded from the design process. The technical aspects of the design were not explained during the construction, so the features that make the houses disaster-resistant are not understood and cannot be copied or incorporated into repairs, extensions or new buildings. Although the materials are available nationally, they are not available locally so communities are dependent on outside suppliers; materials are expensive, and the cost is beyond most families.

Box 23**Sustainable straw bale housing, Belarus, 1994–2000**

Straw bale housing was pioneered in Belarus and other Commonwealth of Independent States (CIS) countries to provide affordable, environmentally-sustainable public housing for groups displaced following the Chernobyl nuclear accident in 1986. Because of the poor regional economy and the target groups' lack of financial resources, it was imperative that the housing should be inexpensive. A sustainable approach was also desirable because of the environmental problems caused by Chernobyl and by military activities in the area. The programme, undertaken jointly by a Belarusian NGO and the government, is regarded as successful. It is sustainable for the following reasons:

- *Ease of construction and maintenance.* Straw bale construction methods are simple, and most people are capable of building their own home with the help of friends and family. In the US, with normal maintenance, bale houses have lasted for over 80 years. With today's improved knowledge and materials, the lifespan of bale housing should be increased. Bale housing has passed rigorous tests for fire safety and structural stability. As an insulating material, straw is safer than many synthetic alternatives, and the structures have performed better in earthquakes than conventional structures.

- *Available materials.* The raw material is a by-product of grain production, which occurs in most populated areas of the world. Therefore, the construction material is readily available and transport costs are low.
- *Economic sustainability.* Straw bale houses are three to four times cheaper than brick houses because labour costs are minimal and materials cheap. Using straw for building converts what is usually a worthless waste product into a commodity, thereby providing additional income for agricultural producers, solving housing shortages at minimum expense, and conserving scarce financial resources for other kinds of economic development.
- *Environmental sustainability.* Straw is an annually renewable agricultural waste product which is often burned because it is difficult to reintegrate with the soil. Straw burning is now banned in some countries, such as the UK. Using straw instead of wood helps to curb deforestation. Straw is a good soundproofing and insulating material. Inhabitants of straw bale housing report that they use four times less fuel than in a conventional brick house. Each bale house uses solar power for hot water and heating between April and September.
- *Social sustainability.* Bale housing can easily be modified to suit local cultural traditions.⁴⁷

- *Financial sustainability* – can money or service exchange be accessed to pay for the work that needs to be done?
- *Organisational sustainability* – is there a structure to bring together the different stakeholders without, for example, needing to call on outside expertise on each occasion?
- *Social sustainability* – does the overall process and product fit within, and satisfy, the needs of the society?⁴⁸

Housing reconstruction programmes can be used to introduce new technology (this is known as technology transfer), for instance as part of a disaster mitigation strategy, to ease the burden of cleaning and maintenance or to provide better-quality water and sanitation. Technology transfer is, however, a controversial issue. Housing developed by Western engineers to be disaster-resistant or provide what they consider a higher standard of living is likely to be more expensive to build and maintain than traditional housing. The local community may understand the benefits of the imported design, but be unable to afford it. Other materials and traditional

building techniques may be used for repairs, creating hybrid constructions more dangerous than the original locally-inspired housing.⁴⁹ Housing which is not based on local skills or materials may not greatly benefit the local economy. Traditional building techniques can be lost, especially if skills and materials are imported and the new structures are beyond the means of the local community to maintain without outside help.

All cultures have developed adequate and affordable housing solutions; if these are used as a starting-point, appropriate housing would be easier and cheaper to provide.⁵⁰ Technology transfer has to be appropriate, sustainable and acceptable to the target community. Efforts to introduce flood-resistant housing in Bangladesh after the 1988 floods failed largely because outreach was poor, the housing designs had not been tested and most people could not afford the housing. Assistance provided after floods a decade later recognised the failure of earlier attempts, and concentrated instead on micro-credit and other non-structural forms of livelihood support.⁵¹

Chapter 4

Implementation

Once the approach or range of approaches has been chosen and the planning completed, the next step is to decide on the method of implementation. There are, broadly speaking, two options: a contractor model and a self-build model. Which is chosen will depend on a number of factors:

- The scale and spread of destruction and the size of the settlement. The larger the project, the greater the likelihood of employing contractors.
- Building methods in the target region and the technical complexity of construction; the more complex the scheme, the more likely it is to employ contractors.
- Whether housing prior to the disaster was generally provided by self-help construction, and whether basic construction techniques are widely known.
- Capacities of the stakeholders (technical, economic, organisational), particularly when it comes to introducing mitigation measures.
- The amount of time and effort the target population is willing to invest in the reconstruction.
- The timeframe of the project.

The contractor model

Housing reconstruction programmes can be contracted to professional construction companies. Companies, solutions, materials and expertise are often imported from outside the target community. This method is chosen because it is considered the easiest and quickest way to provide housing, return the community to normality and protect communities composed of large numbers of vulnerable people. However, imposed solutions are difficult to adapt to emergency situations aimed at assisting communities in the aftermath of disaster. Furthermore, large-scale contracted construction tends to adopt a 'one-size-fits-all' approach, which means that the specific housing needs of individual communities are not met and diversity within the community is not taken into consideration.

In some post-conflict/post-disaster situations, elements of housing reconstruction programmes might have to use imposed solutions to avert further human suffering. If imported technology and expertise is necessary to provide more durable or disaster-resistant housing than traditional constructions, the technology must be appropriate so that communities have the funds and the skills to maintain buildings safely without outside help. Generally speaking, imposed solutions are considered undesirable because of their top-down approach; though they tend to suit donors and implementing agencies, they seldom involve the active participation of the target community.

The advantages of using construction companies are that large numbers of houses with standard specifications can

be constructed relatively quickly using staff with technical expertise, employing specialist skills. In developed countries or urban areas, where skills have become specialised, knowledge of construction is limited to professionals, and there is no longer a tradition of community self-building. In these circumstances, using firms to undertake reconstruction is usually preferable. Contract builders are also appropriate when target groups are vulnerable and lack the skills or resources to undertake the building work themselves.

In developing countries or rural areas, the use of large, perhaps international contractors on post-conflict/disaster housing reconstruction can force smaller local companies and traders out of business. Experience has shown that much of the physical damage following a disaster or conflict (with the exception of major power plants, dams and in some cases bridges) can be repaired by the local construction industry. It is, however, true that the construction industry, particularly in the wake of conflict, can emerge divided and weakened, especially in situations where there has been a political split in the country and where the industry is expected to go through a transition from public to private ownership (as in the Former Yugoslavia and Iraq). Nevertheless, the human resources and know-how are usually there, and they can be helped to reorganise and engage in the reconstruction process. Bypassing them by using international contractors means that the primary beneficiaries are the economies of donor countries, large firms and other regions outside the target area.

If local communities are accustomed to building their own homes, contracting the job to a company may be unnecessary. In some instances, small local contractors that employ and source materials locally can be engaged to undertake the work. Contracting local NGOs is a widespread practice in war- and disaster-affected areas. This may be justified in the short term, when skills are limited and the private construction industry is not functioning well. In the medium to long term, however, it may lead to competition between NGOs and small private contractors. This is particularly problematic in areas where an 'NGO culture' has not taken root, and NGO work is misinterpreted as 'private business' (i.e. a surreptitious way of making a profit and hiding it).

Using outside contractors in countries where homeowners expect to carry out their own repairs is problematic because there is a risk of introducing technology, skills and building techniques alien to the local community (see the discussion of technology transfer in the previous chapter). Once the project is completed, the inhabitants may be unable to maintain the house properly. This forces

Box 24**Tendering and contracting procedures**

1. Draft an initial tender describing the work that is required.
2. Gather information on local contractors (through, for instance, visits to companies and associations or interviews).
3. Draw up a shortlist of contractors qualified to undertake the work.
4. Despatch tender documents to all those who qualify.
5. Construction companies submit tenders (a specific date should be given).
6. Tenders are opened (in public or by a representative committee).
7. Tenders are analysed.
8. A proposal is made for awarding contracts and documentation.
9. A decision is taken on awarding the contract.
10. The contract is negotiated (it may be necessary to review some items, such as the bill of quantities, or planning and execution documents).
11. Construction begins.⁵²

them to compromise on materials and can lead to dangerous building practices, as modifications are made without understanding the implications for safety.

Contractors can fail to complete on time and meet all their contractual requirements. It is imperative that contracts have clear and enforceable penalties for missing target dates and for poor-quality work. In countries where the rule of law has been maintained, writing a binding contract should not pose problems, nor should open tendering. However, in contexts where the rule of law is less robust, after or amid a conflict for instance, it may be difficult to enforce legally-binding contracts. Yet the absence of rigorous juridical procedures does not mean that work can be carried out without contracts, or even that contracts can be awarded without transparent tendering. This is particularly important in housing reconstruction as it affects the social and economic balance of the locality.

In general, lump-sum contracts should be avoided, and more detailed contracts based on measurable achievements should be devised and employed. Such contracts would preserve the rights of both sides. Another idea is to encourage competition between a number of contractors in terms of targets, which helps to avoid one or two contractors monopolising the market or organising themselves into a cartel. Contractors are more likely to act responsibly in a competitive environment. The likely steps envisaged in any contracting procedure are set out in Box 24.

However, it is important to be realistic when drawing up terms of reference (ToRs) for reconstruction programmes. For example, agencies drawing up ToRs must keep in mind the amount of time contractors (especially international

Box 25**Contractor-build reconstruction in Yemen**

Just after midday on 13 December 1982, an earthquake measuring 5.8 on the Richter scale struck Dhamar Province and adjacent areas in Yemen. The earthquake affected 354,000 people over more than 1,000 small and medium-sized settlements, killing 2,500 and injuring 4,800. Across the province, some 25,000 houses were destroyed, and a further 18,000 developed serious cracks. Six months later, on 1 May 1983, the Yemeni government, represented by the newly-established Supreme Council for the Reconstruction of Earthquake Affected Areas (SCREAA), announced that it was to pursue an ambitious programme of tendering, employing national and international contractors to rebuild and repair all the lost houses within two years.

By November 1991, nearly a decade on, what had started as a two-year programme had still not ended. Just under 10,300 houses had been built and a further 1,652 repaired. The following were some of the reasons given for the delay:

- Tendering and contracting alone took 15 months.
- The mountainous nature of Dhamar Province and its poor road access meant that only small four-wheel-drive vehicles could be used to transport materials.
- Many roads had to be specially built to reach some isolated settlements and to allow contractors' heavy equipment to be transported.
- International contractors had failed to anticipate many of the cultural and logistical problems they were going to face in a very conservative society.
- The 447 construction sites were spread over a huge area, which made supervision difficult, slow and expensive. Planners attempted to reduce the number of sites by grouping smaller villages into larger conglomerations.
- The selection of beneficiaries proved to be a prolonged process.
- Tribal differences over new construction locations and the number of promised houses led to several armed conflicts that further delayed the work.
- The Executive Office for Reconstruction established to supervise the work on behalf of the SCREAA lacked relevant experience in large-scale housing programmes and failed to coordinate activities with other ministries.
- Finally, building suppliers were unable to cope with the competing demands of 17 large contractors.⁵³



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In Goma, technical advice enabled local people to rebuild their homes

ones) need to establish themselves locally. They should also anticipate the difficulties contractors are going to face in terms of procuring building expertise and materials. The potential pitfalls of an unrealistic and overly ambitious contracting approach are illustrated clearly by the Yemeni case study in Box 25, where construction was still in progress over a decade after the original earthquake.

The self-build model

This model – often also called self-help or owner-driven – focuses on enabling communities to undertake building work themselves. Self-build is possible when labour is available, housing design is relatively simple, communities have a tradition of self-building and there are no strict time pressures. Reconstruction work can be organised on a family self-help basis or as a joint community reconstruction programme. Outside support is mostly given through supplying building materials and expert advice (essentially similar to the building-yard and finance facilitation approaches described in the last chapter). In other situations, materials may be delivered to target groups or official warehouses, from where families can request materials (if families have access to transport, establishing a warehouse may be a more cost-effective option than delivering materials directly to the target community). Food for work may also be included as part of the programme.

In addition to labour, the target group in a self-build project may contribute financially to the cost of the project. This may have important benefits for the local economy, though it does also raise questions around the degree of assistance poorer sections of a community should receive to enable them to participate in the self-build programme; it should not be assumed that relatives will automatically help. Overall, costs may be lower: Norwegian People's Aid estimates that self-build projects in Mostar were 30% cheaper than contractor-build ones.⁵⁴

Although self-build tends to be slower than contractor-build, this may not always be the case. Contractor-build is seasonally dependent and more likely to be impeded by failures in the supply of materials, and houses usually must be completed before they can be occupied. By contrast, families can build their own homes incrementally, allowing occupation before the house is fully finished. Moreover, contractor-built housing is produced on a large scale to standard specifications, which might not meet the needs of individual families.

Contractors usually produce technically superior housing than self-build constructions, though occupancy rates are typically higher with the latter. Concerns over the safety of self-build will be greater in disaster-prone areas, where traditional

construction practices have led to a large number of buildings collapsing. In Gujarat, poor building practices made a significant contribution to the damage and loss of life caused by the 2001 earthquake. Building codes can be supplied to improve the quality of self-build, and agencies undertaking these projects can provide advice and oversee the construction process, to ensure safe building practices. This was done in Gujarat in 2001, though the evidence from this project suggests that such newly-constructed self-build housing was not necessarily safer.

Monitoring is important to ensure that distributed materials are not resold. Monitoring and evaluation of self-build can, however, be more expensive than with contractor-build.⁵⁵

A self-build approach may have less tangible, though still important, benefits. Since it encourages the active participation of the disaster-affected community, it may be a useful way of restoring a sense of pride and well-being in people who have been through a trauma. Building activities provide structure to the day and, because it is a labour-intensive approach, it can keep larger numbers of people gainfully occupied than contractor-build. There

Box 26

Owner-driven housing reconstruction in Gujarat

The authorities in Gujarat adopted an owner-driven approach to assist communities made homeless by the 2001 earthquake. The government provided financial compensation and subsidised building materials, but left homeowners to repair or construct their own houses. NGOs provided technical advice about safe building practices.⁵⁶

Box 27**Community participation: lessons from the Maharashtra earthquake rehabilitation programme**

On 30 September 1993, an earthquake struck the Indian state of Maharashtra, killing about 8,000 people and damaging some 230,000 houses in Latur, Osmanabad and 11 other districts. With the help of the World Bank, the government of Maharashtra created the Maharashtra Emergency Earthquake Rehabilitation Program (MEERP). The MEERP divided communities into two categories: those that needed to be relocated (the 52 villages that sustained the worst damage) and those that needed their homes to be reconstructed, repaired or strengthened, but on the same site. The latter category comprised around 1,500 villages and some 190,000 families.

In the relocation sites, housing construction was organised by engineering consultants and contractors, except in a few smaller villages, which were handled by donor organisations and NGOs. While the beneficiaries were not directly involved in construction, they were heavily engaged in the decision-making stages, including the selection of beneficiaries, the identification of relocation sites, the layout of the village, the design of houses and the provision of amenities. Final decisions were taken in plenary meetings of the whole village. During the construction stage, only the village-level committee and community participation consultants were involved with the project management unit. Once the construction was completed, houses were allotted to beneficiaries in an open consultation with the entire village.

In communities slated for reconstruction or repair, homeowners took on the responsibility of repairing, retrofitting and strengthening their houses, with materials

and financial and technical assistance provided by the government. The project management unit opened a bank account for each of the 190,000 eligible homeowners, who received coupons for construction materials. A junior engineer appointed at the village level provided technical assistance to ensure that the houses were earthquake-resistant. Each village formed a beneficiary committee to work with the project management unit. In most villages, these committees consisted of women's self-help groups. Training programmes were organised in villages with large numbers of beneficiaries, where residents were informed of their entitlements and the processes to be followed. After 18 months, the programme was in full swing. With such a large number of villages and beneficiaries involved, it took on the dimensions of a housing movement, renewing the housing stock in the entire area.

As the MEERP progressed and results materialised, community participation became increasingly accepted as an effective method for resolving problems during the reconstruction process. It also had a positive effect on communities insofar as involving local people helped them to overcome their trauma. In addition to housing work, some agencies also tackled social issues, such as schooling. Over time, the MEERP became a people's project. The participatory process opened many informal channels of communication between ordinary people and the government. Beneficiaries became aware of their entitlements and worked hard within the process to secure them. Individuals who felt that their grievances were not addressed appropriately at local level approached the district authorities and the government in Mumbai.

may also be opportunities to establish or strengthen new ties within the community through shared participation.

UNHCR adopted a self-build model in Bosnia in 1996 and 1997. However, the agency had reservations about this approach. It concluded that the ability of individuals to repair their own homes depended on the extent of the damage, and fewer community members than expected had the building skills needed to tackle the reconstruction. This suggests that the planning for self-help projects should include an assessment of community skills to undertake the work. According to UNHCR, the quality of some of the repair work was poor; as much as 60% of the budget allocated for repairs was spent on preventing further deterioration to houses, rather than preparing them for habitation.

Cooperative reconstruction

An alternative to self-help housing is to mobilise a community to undertake reconstruction together. This means that materials are provided for the community as a whole, rather than for individual families. Reconstruction is undertaken for the entire community.

As with self-build, cooperative reconstruction strengthens community relations, contributes to reconciliation and facilitates psychological recovery following disaster and conflict. In addition, this approach ensures a more even distribution of skills and labour throughout the community, and guarantees help for vulnerable people. This means that they will not have to rely on extra agency assistance or on privately-arranged help from family and

Box 28**Self-help housing in the Balkans, 1993–2000: SIDA's experience**

In the Balkans, adopting a self-help approach to housing reconstruction was an appropriate response: people were used to building their own homes with the help of family and friends, and accustomed to hiring skilled labour to complete technically difficult aspects of the construction. Mainly through self-help, SIDA financed repairs and major reconstruction to 6,400 houses in Bosnia, 850 in Croatia and more than 1,300 in Kosovo.

SIDA concluded that:

- Self-build projects were 40% cheaper than contractor-build ones.
- People were concerned about the quality of construction and took pride in their work. Many preferred to do the work themselves because they did not trust contractors to do as good a job.
- Agencies should have personnel capable of providing technical advice, but construction standards should be left to the homeowner.
- Some municipalities, possibly for political reasons, argued that self-build houses were constructed illegally. The authorities sought to charge inhabitants retrospectively for permits. Large contractors were in a

stronger position to negotiate legal issues with the authorities. If agencies emphasise and closely monitor building standards, this can give the authorities opportunities to obstruct housing construction and reoccupancy.

- In Bosnia, occupancy rates for new self-build projects were 10% higher than with similar contractor-built housing located in the same area, constructed over the same time-span and implemented by the same NGO.
- NGOs should make it clear from the beginning of the project that they will reclaim unused materials. This ensures that resources are used effectively and reduces the risk that they will simply be sold on. However, agencies need to be flexible about completion times because some families will work more slowly than others.

Even vulnerable members of the community, including households headed by women, managed to participate in self-build projects by securing help from relatives and friends. The *process* of self-build is more challenging for the community than contractor-build, but the social benefits are far greater. Several municipal leaders claimed to prefer self-help projects for this reason.⁵⁷

friends. This approach requires a high level of community involvement and cooperation – it may be unsuitable for post-conflict communities. To succeed, cooperative reconstruction must be carefully organised and managed; relations between the community and implementing agencies must be good; and a programme's objectives and construction targets must be clearly agreed before any construction takes place. Agencies can maintain some control over the process and ensure community members are benefiting equally by providing materials in phases.

Handover and maintenance

There are two aspects involved in handing over reconstructed housing units. The first is to do with handing over 'keys' or ownership of properties to beneficiaries. The procedure here will involve issuing ownership and tenure certificates and guarantees of title. The second aspect involves handing over projects to partners or local authorities, who then become responsible for running and maintaining programmes, and in some cases seeing projects through to completion.

It is important to remember that many newly-built settlements lack the social fabric that may have existed prior to the disaster event, and therefore require additional care in terms of maintenance and services, particularly when it

comes to communal spaces, installations and infrastructure. Local partners may also be required to set up mechanisms and systems to recover the cost of reconstruction. In other cases, they may be needed to organise the letting of buildings and managing the tenants. In some programmes, particularly large-scale ones, in projects where there has been a high degree of collective participation from the community, or where the government has been heavily engaged, the handover may be quite formal; there may even be an event to mark the occasion, with attendant media coverage.

Local management groups may be elected from among the beneficiaries themselves, they may be subcontracted or they may be from local government. Whichever model is used, there will probably need to be a period of transition before they are fully capable of taking over a housing project. This is particularly important where new management systems and technologies have been introduced. At the same time, there is always a danger that, if an agency assumes responsibility for a housing programme, its name is always going to be linked with that programme, in some cases leaving the public confused about its long-term role. In Mexico, the Red Cross has often found itself being blamed for problems arising after it had handed over a project to local authorities and inhabitants' committees.⁵⁸ This may be less of a problem if the programme is implemented using the self-help approach.

Box 29**Self-help reconstruction in Colombia**

In 1983, an earthquake caused widespread damage in the Colombian city of Popayan, destroying almost three-quarters of the housing stock. Nearly 2,500 houses were completely destroyed, 6,900 seriously damaged and 4,500 moderately affected. The earthquake affected many commercial and public buildings and the city's infrastructure. Three hundred people lost their lives, and 2,000 were injured.

Between 1985 and 1995, SENA (Servicio Nacional de Aprendizaje – The National Training Service) reconstructed and repaired 5,000 houses using a self-help model. Each community involved was organised into 'modules', which consisted of groups of 15–20 families, under the direction of a board made up of a chairman, a treasurer and a secretary, all elected by the community. In some modules, monitors were selected on the basis of special skills or interests.

There was a different funding scheme for each community, appropriate to its particular characteristics and needs. In some cases, loans were used to pay for work, while in others the community received donations as a percentage of the cost of building materials. The remainder of the cost was made up from people's own savings and credit from government building societies or from other special funds established to provide credit for the reconstruction process.

In 1986, an impact assessment of the first stage of the programme, covering 524 families, was conducted. Its findings included:

- Most participants in the reconstruction were aged between 30 and 49 years; 80% were men.
- Before the earthquake struck, over half – 57% – were in employment; 10% were unemployed and 17% (roughly equivalent to the proportion of female participants) worked on household tasks. The rest were students or did other activities. Half of the participants in employment worked in the building industry.
- At the time of the survey, just over 51% of participants who had loans were up to date with their payments, 24% were not and the rest did not answer the question.
- Around 87% of participants were occupying the houses that they had built, 3% had rented them out and 10% had sold them.
- Most of those who rented or sold their houses were in the lower-income group.
- Roughly 84% were satisfied with the size and design of their houses, and the building materials used.
- More than 60% of the houses were unaltered at the time of the survey. Of those that had been modified, most had had either extra rooms built, or had been adapted for specific purposes, such as making the living room into a shop.
- Finally, despite the low level of formal education, 70% gave correct answers to questions about basic earthquake-resistant building principles.⁵⁹

Conclusion

When housing is destroyed in a conflict or disaster, its physical loss undermines many aspects of daily life, with a profound negative effect on the community. Given the importance of housing, it might be expected that housing reconstruction would form a core activity of the response. Yet housing has a low profile on the humanitarian agenda, notwithstanding its links with humanitarian concerns to do with security, health and the maintenance of privacy and dignity.

This paper has suggested that the low profile of housing reconstruction in the immediate post-conflict and post-disaster period lies at least in part in its peculiar position between ‘relief’ and ‘development’ work; agency mandates and interests may not accommodate housing reconstruction, and funding parameters and timeframes can militate against it. At a practical level, housing reconstruction may simply be beyond many agencies’ capacities or resources: it can be a complex, expensive, multi-disciplinary and highly technical area, and there may be significant logistical, legal or political obstacles.

Housing design needs to be sensitive to people’s cultural or religious needs, their expectations about the proper function of housing and their social requirements. Potentially difficult choices need to be made around materials, approach and implementation, financing, legality and the extent of community participation and management. To be successful and sustainable, housing needs to be located in areas where there is employment and access to facilities. If it is not, then the reconstruction programme will also need to include income-generation activities, ensuring access to services, and the provision of infrastructure, in addition to the housing itself. In areas where there are few local resources, access is poor and little outside help is available, housing reconstruction on a large scale may be unrealistic, and other methods of assistance should be examined.

Guiding principles

The following set of guiding principles, whilst not exhaustive, is intended as a useful checklist to help inform decision-making around reconstruction programmes.

- Housing reconstruction is pivotal for the overall social and economic recovery of war- or disaster-affected countries and communities.
- A housing intervention in the emergency phase will affect longer-term housing provision; experience indicates that temporary solutions have a tendency to become permanent.
- Solutions need to be sensitive to cultural considerations. Agencies should try to avoid standard, one-size-fits-all approaches. Even when, for cost reasons, a decision is made to supply core housing, for example,

there should be sufficient flexibility in the design to ensure that structures can be adapted and moulded to meet a variety of cultural needs and expectations.

- Housing is multi-faceted; a house is not simply a place of residence, but may also be a workplace and a means of conferring social status and standing in a community. Involvement in reconstruction can help to encourage local skills and industry, re-establish social networks and relationships and promote psychological recovery.
- Housing reconstruction should be regarded as a process; it is about far more than a physical product. Working with communities is as important as providing them with ready-made solutions.
- Reconstruction should aim to achieve a balance between reform and improvement and the conservation or preservation of the status quo. There is a need to guard against overly optimistic reform agendas. Too much change, in settlement layout, technology or location, for instance, could have unforeseen consequences.
- Housing reconstruction is potentially a highly political process because of the extent and scale of the resources involved and the impact this work has on people’s lives. This political dimension is especially acute after disasters and (especially) conflict, particularly where communities have been forcibly displaced for ethnic or political reasons. Great care needs to be taken over issues such as beneficiary selection and the location of the project.
- Reconstruction activities need to pay particular attention to the social and economic make-up of a settlement. Ill-thought-through decisions can weaken or destroy a community; the use of houses designed for nuclear rather than extended families, for instance, may end up splitting such extended groups into smaller units.
- Reconstruction should be predicated on active, two-way participation between beneficiary communities and reconstruction agencies/authorities at all levels. If it is to be successful, community participation has to be an integral and foundational component of a project’s design, not simply a politically correct, cosmetic add-on.

All actors involved need to develop a critical awareness of the ‘enemies of reconstruction’. These include: the assumption that housing reconstruction is a straightforward activity for which no specialist knowledge or experience is needed; opportunistic politicians; agencies that act without reference to local structures and institutions; commercial firms wanting to make a quick profit from ‘mega-solutions’; and a focus on the technical/engineering aspects of safe building without due consideration for people’s abilities and capacities to maintain, develop and enhance their homes.

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Network Papers

Network Papers are contributions on specific experiences or issues prepared either by HPN members or contributing specialists.

- 1 *MSF-CIS (Celula Inter-Secções), Mozambique: A Data Collecting System Focused on Food Security and Population Movements* by T. Dusauchoit (1994)
- 2 *Responding to the 1991/92 Drought in Zambia: The Programme to Prevent Malnutrition (PPM)* by D. Mukupo (1994)
- 3 *An Account of Relief Operations in Bosnia* by M. Duffield (1994)
- 4 *Bad Borders Make Bad Neighbours - The Political Economy of Relief and Rehabilitation in the Somali Region 5, Eastern Ethiopia* by K. Van Brabant (1994)
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- 18 *Beyond Working in Conflict: Understanding Conflict and Building Peace (The CODEP Workshop Report)*, by J. Bennett and M. Kayitesi Blewitt (1996)
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