Preface

This document is the first edition of Oxfam GB’s Guidelines for Post Disaster Housing Reconstruction. It is the result of an initiative undertaken by Oxfam’s Humanitarian Department in 2003 to look at how institutional learning on shelter and housing as a humanitarian intervention can be improved.

Oxfam GB has decades of experience in offering emergency shelter and housing as dignified solutions to the displacement of poor communities by disasters and armed conflicts. The majority of these projects was effective in reaching their objectives, and had positive impacts on addressing the basic shelter needs of their target populations. Yet the management and financial resources required to support these projects are often greater than anticipated during the project proposal stage. This is especially true of projects involving the more durable solution of housing after disaster events.

In the spring and summer of 2003, an engineer from India (Sarbjit Singh) and a builder from the US and Latin America (Richard Bauer), sifted through Oxfam files to identify the critical issues in the execution and management of reconstruction housing projects. Despite the technical background of the researchers, it was identified that the technical elements of Oxfam’s housing work were the least problematic of the myriad of issues that post-disaster housing involves. In acknowledgement of this fact, these guidelines focus on social and management issues in housing work. It is hoped that this document will aid decision making about when reconstruction housing is an appropriate humanitarian response, and how such projects can be more effectively designed, monitored, and supported.

The contributions of Oxfam staff in Oxford and in the regions have been invaluable in the development of these guidelines. Enamul Hoque and Andy Bastable gave this document its shape; Ana Maria Rebaza and Chris Anderson helped in keeping it focused; and Sarbjit Singh provided valuable insights from his research on Oxfam housing projects in India.

Suggestions on ways to improve these guidelines are most welcome, and can be addressed to Andy Bastable at abastable@oxfam.org.uk or Enamul Hoque at ehoque@oxfam.org.uk

Richard Bauer
December 2003
1. Introduction

1.1 What is Oxfam?

“The name Oxfam means different things to different people. … to people who have lost their homes because of a disaster, such as an earthquake, flood, or hurricane or because of a war, Oxfam is an organisation that provides shelter and clean water to help them survive.”


“Our expertise is in: public health (including water, sanitation and hygiene promotion), and food and nutrition. We will concentrate our operations on those areas, since there are others who specialise in complementary areas. Sometimes, if those other agencies cannot work where we are, we will cover a wider range of issues, e.g. emergency shelter.”


Taken from an educational brochure, the first statement is intended to provide a simple description of Oxfam’s work in humanitarian situations for primary school children. The second statement, from an internal document written by OGB’s director, is meant to remind staff that Oxfam focus is in areas other than shelter and housing. The contradictions inherent in these two messages reflects a debate within the organisation over Oxfam’s continuing involvement in delivering shelter and housing projects as a humanitarian intervention.

On one side of the debate, there is the view that sees Oxfam’s work in shelter and housing as overly time consuming and costly. In this view, the name Oxfam means a strong organisation that provides a high quality and efficient response to humanitarian crisis through the focused provision of public health (i.e., emergency water and sanitation) services. Others believe that the need to provide shelter and housing after disasters outweighs inconveniences that such work often encounters. In this view, Oxfam means a relief and development agency that is big enough to be a lead INGO, yet flexible enough to respond to local shelter needs when they arise.

Given recent patterns of more frequent and destructive disasters, it can be expected that the need for safe shelter and permanent housing will continue to grow. The pressure from Oxfam’s country offices to respond to local needs will most likely continue to call into question Oxfam’s involvement in humanitarian-based shelter and housing projects. As brochures get revised and official policy becomes more integrated into practice and programming, it is expected that this debate will become muted – but not silenced - in the coming years.
1.2 Background & Purpose of Guidelines
As part of a Humanitarian Department initiative to improve its ability to support humanitarian responses to disaster and conflicts, a review of recent Oxfam experiences in the shelter and housing sector was commissioned in 2003. The purpose of this review was twofold:

- to identify areas of strengths and weaknesses in Oxfam’s delivery of housing after disasters; and

- to develop a set of operational guidelines to post-disaster housing that may serve as a reference tool for decision making.

1.3 Methodology and Scope
The methodology employed to conduct this review was an analysis of evaluation reports from recent post-disaster housing work, and interviews with field and Oxford based staff. Although the project had a global scope by examining projects in Latin America, South Asia, and southeast Asia, many of the examples come from housing work in Latin America. This reflects both the high level of interest in this topic by staff and partners in Latin America, and the availability of evaluation documents from this region.

1.4 Intent and Audience
The intent of these guidelines are to help Oxfam management, staff, and counterparts make better decisions about when and how housing should be part of a humanitarian response to an emergency situation. Its primary audiences are Oxfam personnel in the Humanitarian Department, and International Division program staff at a country and regional level. As many Oxfam housing projects are executed by local counterparts, it is hoped that these guidelines will also help local organisations become familiar with the major issues surrounding reconstruction housing as a humanitarian intervention as well.

1.5 Key Lessons
Three key lessons emerged from the review process, and have influenced the content of these guidelines:

1) Technical issues are generally the most easily resolved of all “problem areas” in post-disaster housing, and most typically involve local solutions. Other than offering a brief overview of structural and material considerations for disaster-resistant housing, these guidelines do not focus on engineering aspects of housing construction. Nor does it provide housing designs or models that can be transplanted from one country or disaster context to another. Local designs and technical expertise should be sought out when considering a shelter or housing intervention.

2) Difficulties in effective project management and monitoring are the most common problem areas where reconstruction housing work “gets stuck”. Oxfam’s post-disaster housing work is frequently criticised for not sticking within project time and funding constraints, and requiring high levels of management support to keep the project on track towards realising objectives. The need for effective monitoring and management is highlighted in these
guidelines, by focusing on the critical issues in the project management cycle of housing work.

3) **Housing is much a process as it is a result of the process.** One of the keys to success in housing interventions is ensuring that reconstruction supports community self-reliance in rebuilding after disasters. This involves “building up from the vernacular” by engaging as much as possible with the local ways and means in which houses are typically built. These guidelines emphasise the importance of understanding and applying solutions based on the local housing context.

### 1.6 Structure of Guidelines
The guidelines follow a linear progression from the initial assessment phases of a humanitarian intervention in shelter and housing, to the final stages of monitoring and evaluation. Each chapter focuses on a critical issue in post-disaster housing. Sections within chapters provide brief descriptions of the main points, illustrated with photos and examples from case studies. A bibliography and resource section forms the first of appendices for the guidelines, followed by checklists to serve as aides for assessments.

![Community Map in Andhra Pradesh, India 2001](image)
2. Shelter, Housing and Oxfam

2.1 The Problem with Housing

Many of the difficulties encountered in Oxfam’s shelter and housing work are typical issues that many agencies experience when working in the shelter and housing sector. A recent series of reports by ALNAP finds that the shelter and housing work is the “least successful form of aid when compared to other humanitarian intervention sectors” (ALNAP 2001; ALNAP 2002; ALNAP 2003). While some of the problems noted by ALNAP are generic to all humanitarian projects, others are more specific to the shelter and housing sector (see Table 1).

<table>
<thead>
<tr>
<th>Common NGO difficulties in shelter and housing projects</th>
<th>Common NGO difficulties in all humanitarian assistance projects</th>
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<tbody>
<tr>
<td>☐ Inadequate understanding of land title and tenure issues;</td>
<td>☐ Inadequate understanding of issues related to social processes and their relationship to humanitarian interventions</td>
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<tr>
<td>☐ Pressure to allocate funding resources in a highly visible manner to meet political demands of donors and host governments;</td>
<td>☐ Low levels of preparedness by agencies;</td>
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<tr>
<td>☐ The ‘lumpiness’ of housing: where some members of affected populations receive a substantially large improvement to their assets, while others in the same communities may not.</td>
<td>☐ Inadequate selection and training of staff;</td>
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<td></td>
<td>☐ Delays in the implementing a response.</td>
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<td></td>
<td>☐ Slow disbursement of project funds to field operations.</td>
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Table 1 Common Difficulties in Housing and other Humanitarian Interventions (source: ALNAP)

ALNAP also notes that “housing squarely straddles the relief and rehabilitation divide, leading to confusion as to objectives and responsibility.” (ALNAP 2002). As few donors are willing to fund housing work outside of an emergency context, a post disaster emergency presents one of the few opportunities available for upgrading the quality of vulnerable housing. What “should be” a government responsibility to ensure safe housing for their citizens often becomes the de facto responsibility of INGOs and local agencies as international funding floods a disaster affected area. In many cases, the role of government in rebuilding houses becomes muddled.

The national government of Sri Lanka promised 100,000 rupees to families who lost their homes in the May 2003 flooding. One of the stipulations for receiving the

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1 The Active Learning Network for Accountability and Performance in Humanitarian Action (ALNAP) is an interagency forum dedicated to improve learning among agencies working in humanitarian response.
money was that any contribution by NGOs (either in building materials or in cash grants) must be deducted from the government’s total allocation. Delays in the government distribution of these funds forced many flood affected families into the difficult decision of choosing between the government’s promise of cash, and Oxfam’s offer of immediate building materials.

2.2 Shelter and Housing Definitions

Another organisation looking at weaknesses in aid agency delivery of shelter and settlement interventions is the Shelter Project, a research group affiliated with the University of Cambridge. In a recent analysis of the proportion of aid spent on the shelter and housing sector, they note that a key obstacle is the “lack of clear definition of the sector, along with agreements on terminology” (ShelterProject.org 2002).

2.2.1 Emergency Shelter Definition

The traditional distinction between shelter and housing in the humanitarian context is primarily one of scale and timing. Shelter typically refers to:

- the provision of partial building materials (or other forms of assistance) to families whose homes has been made uninhabitable or unsafe by disasters and conflicts.
- offering temporary dwellings for affected families until they are able to move to the more “durable solution” of permanent housing. The intent here is to provide a stopgap or temporary safety net for displaced families.

In both of these scenarios, the goal of emergency shelter is to ensure that affected families have a safe living space immediately after a disaster event. Emergency shelter is meant to reduce the immediate vulnerability of disaster affected communities to disease, health problems, or future disaster events. The critical assumption is that the shelter intervention is needed for the immediate emergency period only, and that longer term needs for permanent housing fall outside the range of an emergency intervention.

Based on a peer review of the Shelter Project’s work on transitional settlements, a revised definition of shelter is: “a habitable covered living space, providing a secure, healthy living environment with privacy and dignity to those within it” (ShelterProject.org 2003). Note that this definition steers away from the traditional view of the temporary nature of shelter, and focuses instead upon the protective attributes of adequate shelters and the sheltering process.

2.2.2 Housing Definition

Housing is typically viewed as a longer range and more permanent solution to the need for a safe and healthy living environment disrupted by the disaster event. Within a disaster context, it is often referred to as reconstruction or rehabilitation housing. As a more complex intervention, a more comprehensive range of activities is often involved. These activities are designed to support the repair, reconstruction,
or new construction of full or partial homes damaged or destroyed by a disaster event.

In a recent study on post-disaster housing conducted by the Humanitarian Practice Network, **housing is defined** as **“the process of providing permanent dwellings and the related physical, social and administrative infrastructures”**. (Barakat and Roberts 2002). Houses are seen as an end result of this process, whose physical attributes (design and materials) and function vary across cultures. By differentiating between the process of housing and its results, this definition focuses on linking post-disaster housing to its local context. It also advocates the integration of the need for shelter to its related needs for public health and livelihoods access.

### 2.3 The Invisibility of the Shelter & Housing Sector

Shelter and housing as a form of humanitarian assistance can be a significant component of agency response, particularly after many large-scale natural disasters or complex emergencies. ALNAP found that over a third of 130 evaluation reports consulted for their 2001 review contained references to shelter and housing programming (ALNAP 2001).

Yet determining the exact scale and scope of shelter and housing work by NGOs is difficult. One factor is that donors and agencies use different categories to classify spending. For example, DEC reports their spending on a sector by sector basis, and categorises shelter support activities under the rubric of “returnee assistance”. ECHO, the major funding source for post disaster housing in Latin America, reports spending on a per country or region basis, and classifies housing work as a “rehabilitation sector” activity. The UN lumps all shelter and housing spending along with emergency NFI distributions. Under Oxfam’s old PASF system, blankets, school construction and road building activities have all been included as shelter expenditures.

The invisibility of the shelter and housing sector is also related to a lack of importance paid to shelter and housing work. This is especially prevalent in agencies in similar positions to Oxfam, whose areas of expertise lie outside the sector, yet continually find themselves engaged in housing work.

In the last decade, shelter and housing activities in **Bosnia** and **Kosovo** totalled 600 million US dollars, making it the largest of all humanitarian sectors. Yet when investigators surveyed 20 INGOs in the region who are or were actively involved in reconstruction housing, none of the agencies “knew with any degree of certainty the scale of their work on housing. Bar a selected few, none had separate organisational units specifically dealing with the housing or shelter sector, nor were there professional housing construction and/or management staff at headquarters” (Skotte 2003).
2.4 OGB Spending on Shelter and Housing

In a review of Oxfam and other agency spending in the shelter and housing sector conducted in May 2002, researchers associated with the Shelter Project noted the following three conclusions:

1) 23% of all Oxfam GB projects since 1995 contained a shelter or housing component;
2) average Oxfam spending in 2001 per beneficiary within the four sectors of nutrition, shelter, health and water and sanitation was:
   - nutrition: GBP 3.83
   - shelter: GBP 1.38
   - health: GBP 0.82
   - wat/san: GBP 0.62
3) total Humanitarian Department spending on shelter since 1999 was:
   - 1999: 8%
   - 2000: 6%
   - 2001: 4%

While these figures reflect shelter spending during a period when a high number of catastrophic disaster events occurred (Hurricane Mitch in Central America and the Gujarat earthquake), it is consistent with the previous patterns of spending by Oxfam in the sector. It is also consistent with the global amount of funding spent on shelter and housing. Using aggregate data based on UN appeals, UNOCHA reports show that 2.4% and 2.2% of all humanitarian funding in 2001 and 2002 respectively went for shelter. Spending on water and sanitation during this period totalled only 0.93% and 1.09% during the same years.

Since 2001, the overall pace of Oxfam spending in the shelter and housing sector has slowed, but not stopped. A keyword search in March 2003 by Oxfam’s Programme Health Desk of the words shelter and housing found 75 PASFs in 24 countries that contained either of these terms in their description.

2.5 Blazing the Trail: Early Oxfam Experiences in Shelter and Housing

Oxfam established an early reputation as one of the most effective agencies involved in post-disaster shelter and housing work in the 1970s. In the first published work on the NGO provision of shelter and housing, Jim Howard noted that Oxfam was involved in 71 post-disaster shelter/housing projects in 24 countries during 1970-1978. Oxfam expenditure on shelter and housing during this period totalled £2.7 million, or 8% of the total international budget (Howard 1977).

A number of Howard’s observations regarding shelter and housing as humanitarian interventions retain their validity today. Foremost among them is the donor driven nature of humanitarian relief work: “The money available for a specific disaster

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operation decides not only the size but often the content of the program.” (Howard 1977)

Fred Cuny’s post-disaster housing work for Oxfam America during the 1970s is considered as ground breaking for its emphasis on housing as a process. Cuny noted that the difficulties agencies involved shelter and housing typically encounter are related to:

- a lack of understanding of the complexities of housing in developing countries; and
- a failure to link post-disaster housing work to the ‘normal’ building process of the affected communities (Cuny 1978).

Another pioneer in the field of post disaster shelter and housing is Ian Davis. Looking at a variety of Oxfam projects throughout the world, Davis highlighted a number of myths of disasters and shelter. One of these is the widespread belief that some form of housing as a temporary measure is needed before “permanent” housing is built. Davis and subsequent researchers have consistently found that disaster affected persons are quick to rebuild their damaged houses, and that what is meant as temporary shelter is often inhabited for years – and even generations - afterwards. Davis also echoes concerns expressed by Howard and Cuny over aid being less a response to the actual shelter needs of the affected populations, than to satisfy the needs of the agency or donors (Davis 1978).

Oxfam also supported a number of wider initiatives to promote learning within the shelter and housing sector. The first international conference on post-disaster housing work was held in Oxford in 1978 and co-sponsored by Oxfam. Within the organisation, a shelter and housing committee reported directly to the board of directors during the late 1970s on Oxfam’s fieldwork and research in this sector. Oxfam’s strategy to attend the housing needs of earthquake-affected persons in Guatemala in 1976 has been frequently lauded as a “best practice”. Rather than building houses, Oxfam subsidised the distribution of sheet roofing materials through a local counterpart. Accompanying the distribution was a DIY house building booklet, printed in several indigenous languages (Davis 1978).

Photo 2 DIY Building Manual, Guatemala 1976

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5 Unfortunately, no documentation of the discussions that took place during these meetings is available.
3. Shelter Assessment & Emergency Distributions

3.1 What is an Emergency?
Oxfam’s response to disaster events begins with an understanding of the operational definition of an emergency: “Any situation where there is an exceptional and widespread threat to life, health or basic subsistence, which is beyond the coping capacity of individuals and the community”.

3.2 Determinants in an Emergency Response
In determining whether Oxfam should respond to the disaster, several key factors are taken into account. These include:

1) scale of damages and extent of the needs. A detailed damage and needs assessment is a key reference document for all humanitarian interventions. The goal of assessments is to provide the level of detailed information and analysis need to determine how Oxfam can most appropriately and effectively respond to the emergency. Quality assessments look at the immediate and longer-term issues that might impact on the health and survival needs of the affected population.

2) A second determinant is whether the emergency situation is beyond the coping capacity of the local community and public authorities. The question here is: how effective was the local response to the disaster event?

3) As all humanitarian responses are Oxfam International responses, the role of OI is the third factor to consider in whether to respond to the disaster. This includes the regional or country OI lead agency, other operational OI agencies in the area, and possible OI funding partners.

<table>
<thead>
<tr>
<th>Scale of Damages &amp; Needs</th>
<th>Effectiveness of Local Response</th>
<th>Role of Oxfam Int'l</th>
<th>OGB Response</th>
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<td>OGB</td>
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Table 2 Determinants in Oxfam’s Response to an Emergency
3.3 Determinants in an Emergency Shelter Response

If the decision is made that Oxfam’s response to the emergency is warranted, the next step is to determine the type of response. Prior to proposing a possible emergency shelter response, it is necessary to:

1) Undertake a more comprehensive analysis of shelter needs through a more detailed assessment. Shelter-related assessment questions include:
   - general questions regarding numbers of affected persons, including numbers or percentages of families who are living in public shelters, and those living in (or next to) their damaged homes;
   - the extent of damages to homes (structural/non-structural, complete/partial, widespread/localized), including estimates of the numbers of families who have begun to rebuild their homes;
   - the impact and initial response to the disaster differentiated by gender;
   - the need for emergency non-food items: clothing, blankets, bedding, water containers, cooking pots and fuel, personal hygiene materials, etc.
   - background information on the local housing context, focusing on traditional building processes (materials, personnel, etc.) in the area;

2) Look closer at the response by local/regional authorities and international agencies (such as the IFRC). Is the need for emergency shelter materials being adequately attended to? Who are the main actors in the response? What is the role of the local municipality in the response? Are distribution networks working effectively and rapidly?

Scaling-up to a shelter response requires two additional factors to be included:

3) Whether a proposed shelter intervention fits within Oxfam’s operational parameters, which limits OGB to engaging in emergency shelter interventions only when there are no other agencies working in the disaster affected region;

4) If there is funding available for an emergency shelter intervention? Typical sources of funding for this type of shelter include OGB’s CAT-fund, and contributions by other OI partners.
3.4 Distribution of Emergency Shelter Materials

3.4.1 Common Shelter Materials

The most common shelter interventions involve the distribution of building materials (e.g., plastic sheeting; roofing materials; cement; or prefabricated posts/columns); *tents*; *tools*; and *non-food items* (NFI).

Frequently distributed shelter materials include:

- **Reinforced plastic sheeting** is the most commonly distributed shelter material, and one of the most useful. Although it can be easily cut and fastened to a variety of surfaces, it resists tearing and provides excellent protection against rain.

- **Corrugated galvanized iron (CGI) or zinc roofing sheets** are widely available throughout the world, and is easy to install without specialized tools or techniques. Poor thermal properties and the need for special fasteners in high wind areas limits its usage, however. Alternatives include micro-concrete roofing tiles and corrugated plastic sheets. Asbestos roofing materials should be avoided due to health concerns for asbestos factory workers.

- **Distributing bags of cement** is useful for making emergency repairs to foundations, floors and masonry walls. In rural areas, access difficulties may require additional assistance for transportation and delivery.

- **Pre-cast concrete or timber columns** can accompany the provision of cement and roofing materials for emergency repairs to semi-damaged buildings.

- **Tents** can be an effective shelter intervention, although climate, cost, and social acceptance limit their usage. As tents must be distributed as soon as possible after a disaster, a stockpile or local suppliers must be identified in advance.

*In collaboration with ShelterProject.org, Oxfam has developed a hoop tent that uses readily available materials and can be easily field assembled. Detailed fabrication and assembly instructions are available from the HD logistics department.*
• **Tool distribution** most often involves providing hammers, nails, tape measures and hand saws to small groups of beneficiaries or families. Other tools related to cleanup after a disaster includes shovels, digging bars, and wheelbarrows.

• **Non-food items** that may provide families with a measure of protection from the environment includes blankets, bedding, clothing, and cooking pots/stoves/fuels.

3.4.2 **Key Issues in Distributions**

1) As the effectiveness of any material distribution is often proportionate to how quickly the materials can be delivered, the **need for expediency** can not be understated. Events change rapidly in the emergency and recovery period after a disaster. Undue delays in material distribution can result in unnecessary materials given to families who might not need the items.

2) Without distributing identical packages to all affected families, achieving equity in material distribution is difficult. **Maintaining transparency throughout the distribution process** can alleviate conflicts with beneficiaries or local authorities. Adequate documentation of the distribution process helps ensure transparency, and assists in the evaluation to measure the effectiveness of the distribution.

3) **Achieving equity in distributions** requires anticipating and monitoring biases that may exclude deserving persons from access to distributed goods. For example, tents given as emergency shelters require a certain level of skills for assembly, which may be beyond the ability of the elderly or non-technically proficient persons.

4) **Critical logistics** considerations include:

   • Oxfam **tendering procedures must be followed** in purchasing materials, and substantiated with proper documentation.
   • By **purchasing materials from local or regional markets**, the economic effects of humanitarian aid can help create local jobs.
   • **Specifying good quality goods and manufacturing** can ensure that donors, Oxfam, and beneficiaries all receive maximum value.
   • **Adequate logistical support for purchasing, delivery, storage, transportation and final distribution** of materials is a crucial need that requires advance planning and adequate resources (personnel, vehicles, etc.)
4. Housing Assessment: Counterparts & Contexts

4.1 Determinants in a Housing Response

In scaling-up to a housing response, issues looked at for a proposed shelter intervention need to be examined in greater detail. These include:

1) OGB’s operational parameters regarding the scale of damages and inadequacy of the emergency response by others is especially relevant in a proposed housing intervention, as housing work falls outside of Oxfam’s area of expertise.

2) OI must be committed to a proposed housing intervention, in both a supportive role by offering funding or technical assistance, and a co-ordinating role in working with other INGOs and local agencies.

3) As funding for housing interventions is restrictive, funding mechanisms must be in place. Frequently this requires close collaboration with Oxfam’s IFU, as institutional donors such as ECHO or DEC may be involved.

4) In addition, housing proposals must also assess the capacity of OGB, counterparts and community to support, manage and execute a housing reconstruction project.

Gathering data through volunteer census taking can prove helpful to understand the full extent of disaster-related damages and needs in targeted community. The evaluation of response to the 1999 earthquake in Armenia, Colombia, noted that “Oxfam could identify which were the most important needs of the earthquake victims through the census”. Although the same methodology was used in southern Sri Lanka after the 2003 flooding, the reliability of the data collected from volunteers was questionable.
Two key lessons learned from the Sri Lanka response were:
- the need for adequate training of volunteers to obtain objective data;
- the importance of not raising community expectations through door-to-door census taking.

4.2 Housing: Priorities and Pressure

The need for permanent housing is often identified as a high priority by affected communities, local authorities, and counterparts. While this most often reflects the destruction caused by the large disaster events, it is also the case that the desire for housing is influenced by other factors. These include:

- a clear preference by disaster affected families to live in permanent dwellings vs. temporary shelters;
- the high costs involved in replacing damaged or destroyed houses to poor families or local authorities;
- a desire by local counterparts to become actively involved in longer-term reconstruction activities;
- the perception that the availability of relief funds is an infrequent windfall to poor communities, and should be used to establish long-lasting assets.

For poor communities in southern countries, a disaster can represent a tragedy and an opportunity. Obtaining funds for reconstruction housing serves both the disaster-affected families, and the implementing agencies. A subtext for many humanitarian interventions is a management decision by INGOs to use the availability of funding to expand operations to different areas of a country. Local agencies whose existence may be dependent upon foreign funding are understandably anxious to use relief and rehabilitation funding to expand operations and raise their local profile.

Recognising the opportunistic nature of humanitarian interventions for both agencies and their clients need not be considered cynical, but denying its influence can lead to ineffective housing interventions.

In response to a 1976 earthquake in Turkey, Oxfam built polyurethane “igloos” using expatriate technicians and imported materials. Although these structures were widely rejected as inappropriate to the culture and climate by the host government and beneficiaries, Oxfam built over 400 of them. One year later, an evaluation team failed to find any of the structures still being used as housing. The pressure to find a suitable field trial for this technology led Oxfam to push this shelter solution without attention to the local definition of the problem.
The devastation wrought by Hurricane Mitch in 1998 to Central America produced a strong international response. Near the southern Honduras city of Choluteca, an ad-hoc consortium of international and local NGOs built a new town of 2200 houses 10 miles to the south. As the focus of their work was on housing, Nuevo Choluteca lacked a functioning marketplace, health centre and adequate public transportation services. Two years after the hurricane, when the funding dried up, all of the NGOs had left. Less than 40% of the houses were permanently occupied by their original beneficiaries, and the only social organisations functioning were an evangelical church, and violent drug gangs. (Bauer 2000).

4.3 The Capacity to Build

The pressure to offer housing as a humanitarian intervention must be tempered with an accurate assessment of damages, needs, capacity, and funding availability. While using similar information gathering tools as in a rapid appraisal of shelter need, other issues that must be examined include:

- the capacity of the local counterpart to administer, deliver and monitor the demands of a reconstruction housing project;
- the capacity of the affected community to actively participate in a time restricted and labour intensive project, especially in relation to livelihood, health, and child care concerns;
- the capacity of the Oxfam national office to provide managerial and logistic support;
- the suitability of resettlement sites is critical to ensure that relocated families have access to markets, schools, health facilities and means of making their livelihoods;
- the level of support from local authorities to provide assistance to legal concerns over land purchase, tenure, and land conflicts; and support for construction activities such as material delivery, road building, etc.
- the availability of financing from donors or other sources for reconstruction housing; and
- the absence of other NGOs or government programs to attend housing needs in the target area.

4.4 Capacity and Counterparts

Among the high number of variables that impact on humanitarian interventions, there is widespread agreement that a crucial factor in project success is the ability of counterparts to manage and execute projects. Within a development context, effective partnerships with local counterparts are best forged through long-term relationships based on common goals, shared experiences, and negotiation. In an emergency response, establishing a rapid partnership arrangement without prior experience in collaboration with the lead agency “can be a lottery” (Roome and Rocha 2002).
Gauging the capacity of local agencies to deliver project objectives successfully is a critical component of the overall assessment process. The criteria most commonly used for selecting partners includes:

- **historical relationship with OGB or OI**: Working with a historical OGB or OI counterpart in delivering a humanitarian response can be mutually advantageous to both organisations. OGB gains from having a counterpart who is likely to have knowledge of Oxfam’s principles and operating procedure, as well as sharing a similar philosophical commitment to humanitarian goals. Local agencies benefit by an increase in their income and organisational profile through successfully responding to a disaster.

As reconstruction housing projects use distinctive funding from development programs, familiarity with the way Oxfam usually works may be challenged during project execution. After receiving general operational funding from NOVIB for 20 years, a local NGO in southern Peru found its first time working with OGB on an ECHO-funded rehabilitation housing project in 2002 a challenge. The higher level of reporting demands and restrictions placed on the use of ECHO funding was a major issue for a local organisation accustomed to submitting semi-annual reports (Bauer 2002).

Nor is familiarity an adequate substitute for ability. One of the key lessons from Oxfam’s Hurricane Mitch response in Central America in 1999 is the need to distinguish between local capacity and local counterparts. “Some of the most effective local collaborators in Mitch had no current relationship with the regional office at the onset of the disaster. Conversely, some local OGB counterparts had neither the capability or will to mount an effective emergency response.” (Coventry, McKenzie et al. 1999).

- **prior experience in emergency operations**: A local agency involved in the first phase of an emergency response may have been exposed to issues that are important to successful rehabilitation projects (such as the need for a speedy response; time and funding restrictions; and the practicalities of municipal collaboration). However, distributing relief materials is primarily a logistics operation, and may not be particularly relevant in determining whether the agency can scale-up to meet the increased demands of a housing intervention.

In response to flooding in Sri Lanka in 2003, a new OGB counterpart distributed NFI relief packages to disaster-affected families. During a second housing assessment phase, it was determined that the counterpart lacked the organisational and technical capacity to execute the proposed housing reconstruction program. The housing component of the project was refocused to distribute building materials (roofing tiles and cement), rather than attempt a more complex response.

Photo 5 Roof Tiles for Delivery, Sri Lanka 2003
• **local knowledge of the targeted communities:** A development truism suggests that the more knowledge an agency has of the disaster affected areas, the greater the possibility of a more informed response. Local knowledge can be useful in identifying local leadership and other major stakeholders, and facilitate logistical operations through widespread networks. Yet there is also the risk that a local agency may be too deeply embedded to provide an effective and impartial intervention. In a number of projects, the counterpart’s lack of familiarity with the target communities brought fresh insights into the disaster response.

A 1996 cyclone brought widespread destruction to the coastal Andhra region of India. An established Oxfam counterpart from outside of the region was invited to provide livelihood support to a community of weavers who had lost their houses and looms in the disaster. The NGO noted that the government-sponsored building plans for housing were too small for weavers, who need large spaces to work their looms and dry yarn. By offering replacement looms and the basic structural components for a core house, families were able to rebuild their homes and re activates their livelihoods within a few months.

• **experience in managing building or other technical projects:** A key facet to successful construction projects is the need to work systematically and produce incremental outputs. This necessity may be at odds with the development-oriented goals of many southern NGOs, where the process has equal weight to the results. An agency with management experience in technical-oriented projects might be better equipped to run an housing program than one that needs to rely on external engineering or technical advice.

In response to flooding in NE Brazil in 2001, Oxfam Brazil identified several NGOs as potential counterparts for housing reconstruction. After Brazil’s largest and oldest NGO declined to participate (citing a lack of management and technical capacity), two other NGOs were selected on the basis of their technical expertise in housing. It soon became apparent, however, that neither NGO had the capacity to deliver on promises, and OGB Brazil assumed full operational control. “The project was seriously set back as a consequence of failed service” (Roome and Rocha 2002)
4.5 Technical Staff and Social Housing

The management of technical aspects is frequently the responsibility of local professionals hired specifically for the project. As reconstruction housing work involves a strong social focus, project technical staff need to wear two hats: the “hard hat” of the engineer (contractor/builder) and the “soft hat” of a social promoter or community organiser. Assessing the qualifications of technical staff involves looking at experiences, skills, and attitudes:

- **NGO experience** – Previous work experience or knowledge of NGO culture can help in ensuring that technical staff may support NGO values of learning and consensus building.

- **housing experience** – Finding an engineer or contractor who has experience in residential construction projects is difficult in many poor countries, but worth seeking out.

- **knowledge of management tools** – Familiarity with construction scheduling, GANT charts, material management, and logistic requirements are important skills for technical staff.

- **sketching vs. Auto-CAD** – Younger engineers are often more proficient in using computers as design tools than pencil and paper, which can handicap their ability to visually communicate with beneficiaries and non-technical staff.

- **training vs. giving orders** – Engineers and contractors typically know how to boss people around, and may find it difficult to adopt a softer approach that involves teaching - rather than telling - people what to do.

- **participation vs. production** – Balancing the dual needs of meeting construction deadlines and encouraging participation is a frequent challenge in reconstruction housing projects, and requires flexibility and patience.

- **gender awareness** – The ability of technical staff to establish effective working relationships with female and male beneficiaries requires recognising their distinctive capabilities. The traditional “macho” environment of construction sites must be challenged by all staff, especially those who are directly involved in day to day management of the work.

Photo 7 Community design workshop, Peru 2002
4.6 Understanding the Local Housing Context

“Any contribution of emergency shelter or post-disaster housing must be based on a clear understanding of the pre-disaster normal building process. Contributions must be compatible with, and complementary to, local resources and local technical capacity.” Fred Cuny, 1976

Details about the local housing context inform programming and can improve the delivery of reconstruction housing work. The local housing context can be understood as the who, what, where, and when of house building in the target community; and the social and legal circumstances that define, encourage, and constrain the building process.

Finding out who typically builds houses can help determine:
- the level of construction experience in the community;
- potential sources of skilled/unskilled labor;
- how gender roles are involved in house-building and household management.

The vernacular architecture, or what kinds of buildings are used as dwellings, can show local preferences for:
- the types of building materials, and the ratio of use of locally obtained to manufactured materials;
- the general housing styles and typical sizes;
- the use of spaces - both interior and exterior (for cooking, working, social functions, animals, etc.), and the number of rooms;
- how access, ventilation and security are facilitated through placement of windows and doors and their materials;

Looking at where houses are located can help inform:
- settlement layout, which looks at housing density, plot sizes, common spaces, and access means;
- plot layouts, which can show how families use outdoor space for kitchen gardens, work areas, sanitation, and recreation
- proximity to water sources, croplands, schools, markets, etc; and
- vulnerability to geophysical threats (landslides, flooding, etc.).

Knowing when houses are built can show:
- weather conditions which regulate the construction season; and
- key agricultural seasons that may limit beneficiary involvement.
The **ways individuals, families and communities organise themselves** comprise the social issues of housing:

- family and kinship groups;
- ethnic and religious affiliations; local organizations and clubs;
- how leaders are selected; gender makeup of leadership;
- influential project stakeholders, such as landowners and local businesses;
- previous experiences with communal work projects.

**Legal issues** that relate to housing include:

- how land tenure and titles are regulated and exchanged;
- formal and informal tenancy agreements;
- communal land use and rights;
- inheritance restrictions (especially in respect to genders);
- building regulations and their applications;
- the role of local authorities in resolving land conflicts.

An earthquake affected a wide area of southern Peru in June 2001, including the Aymara community of Vilalaca in the foothills of the Andes mountains. Property rights in indigenous communities are co-operatively held, yet can be privately exchanged. As Vilalaca is technically an annex to the larger indigenous community of Borogueña, property cannot be exchanged or modified without permission of the “mother” community. A tempestuous conflict over property boundaries erupted when construction work began, and produced a three month delay as local authorities refused to get involved in a dispute where they held no jurisdiction. OGB’s counterpart was left to broker a solution, which took considerable management time.

*Photo 9 Disputed hilltop settlement, Peru 2002*

Similar to Peru, property rights in indigenous communities in **Nicaragua** are held collectively. After Hurricane Mitch in 1998, Oxfam began training in construction skills and excavating foundations for 30 houses in the indigenous community of Sutiaba, with the full support of what was assumed to be the co-operative leadership. Six weeks into the project, all work was stopped when lawyers for a rival leadership faction threatened court action against Oxfam for making illegal improvements to disputed lands.
5. Participation & Gender in Reconstruction Housing

5.1 The Goals of Participation

‘Disaster response assistance should never be imposed upon beneficiaries. Effective relief and lasting rehabilitation can best be achieved where the intended beneficiaries are involved in the design, management, and implementation of the assistance program. We will strive to achieve full community participation in our relief and rehabilitation programmes.’

Code of Conduct for the International Red Cross and Red Crescent Movement and NGOs in Disaster Response Programmes (1994)

‘Women and men from the disaster-affected population are included in the planning, implementation, monitoring and evaluation of shelter programmes.’


As signatories to the IFRC Code of Conduct and the SPHERE standards, Oxfam has an organisational commitment to demonstrate accountability by ensuring beneficiary participation in humanitarian responses. Participation is also a matter of good practice, as evaluations show that the quality and effectiveness of the agency response is improved when there are broad levels of participation by beneficiaries. The active engagement by beneficiaries is also a demonstrable way of showing respect for the abilities and capacities of affected populations to directly engage in recovery and reconstruction efforts within their own communities.

5.2 Constraints to Participation

Yet the goal of maximum beneficiary participation in humanitarian programmes is one of the more difficult ones to implement. Typical constraints in emergency responses, such as the focus on quick delivery of goods and services, can work contrary to the process-oriented nature of engaging affected populations. The need for flexibility to alter programme activities in response to beneficiary inputs is also difficult to achieve in projects predefined by agency expertise and donor guidelines.

In reconstruction housing work, the typical constraints to participation in humanitarian interventions are further compounded by:

- **funding limits** on the total cost per housing unit, which restricts beneficiary participation to consent over donor or agency design and choice of materials; and
- **contradictions between technical and social goals**, where following construction schedules takes priority over promoting participatory decision making.
5.3 Types of Participation

Changing the role of housing beneficiaries from being passive recipients of aid - or a cheap source of labour - to partners in the recovery process requires:

- an understanding of the approaches to participation;
- providing opportunities for participation;
- documenting the results of the opportunities.

5.3.1 Approaches to Participation

The Active Learning Network for Accountability and Performance (ALNAP) defines participation in humanitarian action as “the engagement of affected populations in one or more phases of the project cycle” wherein the engagement can take a variety of forms. In recent global study of participation and consultation, ALNAP suggests that there are three main approaches to participation: instrumental; collaborative; and supportive (Dufour, Grünewald et al. 2003).

- An **instrumental approach** to participation sees beneficiary involvement as a means to achieve programme goals, and is the most common approach taken in the design and execution of housing reconstruction projects. Beneficiaries are expected - or may be required - to physically participate in housing construction, contributing their time and physical labour as “sweat equity” to overall project costs.

While this sort of beneficiary involvement is often mutually beneficial, problems often arise when projects fail to respect the capacity and interest of the affected communities to assist in the construction process. Typical strategies to address this may include providing monetary or other forms of motivation to maintain high levels of interest and participation.

Many reconstruction housing projects establish linkages with the UN’s World Food Programme, through their post disaster food-for-work programmes. After the 1999 earthquake in Afghanistan, affected communities were given an incentive of 250kg of wheat as “payment” for their participation in rebuilding their homes. The evaluation notes that this was most effective in areas where WFP could ensure delivery. In areas where agencies could not deliver food as promised, work was slowed down. The evaluation also suggested that such incentives were perhaps unnecessary, as the low wages for unskilled labour ($1/day) meant that this work could have been completed without unnecessary delays (Luff 1999).

- A **collaborative approach** to participation is based on an exchange where resources of each stakeholder are pooled to achieve a common goal. Informal collaborations are the most common in post-disaster housing work, where specific tasks are discussed and delegated to each project partner. Formal collaborations are more difficult to achieve in the relatively short life span of a reconstruction project, as it involves partnerships between organizational structures of aid agencies and community groups. Collaborative approaches to participation also require a
minimal level of community organization, which may not be present in disaster-affected communities.

- A **supportive** approach to participation involves aid agencies supporting local initiatives of the affected population. Supportive approaches are the most difficult to adopt in reconstruction housing, as the impetus for such projects arise from a cataclysmic event, rather than from a community seeking funding or technical advice on rebuilding their damaged houses.

### 5.3.2 Providing Opportunities for Participation

Encouraging beneficiary participation and programming opportunities for participation to occur are difficult tasks in the best of circumstances. Evaluation reports repeatedly show that the attitude and experience of project staff is critical to ensure that opportunities for participation take place.

One of Oxfam’s counterparts in the 2001 response to the Kutch, India earthquake identified that ensuring beneficiary participation was a constant challenge as “some of the staff were new to social work and a lot of hand holding was needed” (Singh 2003). The lack of experience in promoting participation was also identified as a contributing factor to the observation of Oxfam’s Gujarat response. The mid-term evaluation notes that “participation was less than might otherwise have been achieved had experienced staff been deployed from other parts of India, or effectively recruited locally early on in the programme” (Mishra, Porter et al. 2001).

### 5.3.3 Documenting the Results

Project evaluations of Oxfam’s housing work often present a limited view on participation, focusing on how beneficiary suggestions were incorporated into design or scheduling. Learning on participation in housing can be promoted by documenting the processes and techniques of partnerships with communities throughout the project.

An evaluation workshop looking at Oxfam’s response to the 1999 earthquake in Armenia, Colombia included project beneficiaries as workshop participants. One workshop topic was the role of beneficiary selection and their participation in the housing component of the programme. Although the selection process was viewed as successful in identifying the neediest families, the workshop concluded that speeding up the selection process “would have avoided problems for the beneficiaries and facilitated the construction process”. Beneficiary representatives themselves admitted that “the community could have helped more”, suggesting that opportunities for greater participation should be identified and taken advantage of during the project (Nieto 1999).
5.4 Building in Gender to House Building

Oxfam’s commitment to gender mainstreaming in all phases of a humanitarian response requires that all programming:

- is based on an awareness of the distinct knowledge, capabilities, needs and limitations of women and men; and how disaster events affect girls, boys, women, and men differentially;
- incorporate strategies designed to promote the participation of all groups in the design, implementation, and management of projects.

Housing reconstruction projects often generate high levels of enthusiasm, especially in the initial design and planning phases. As construction work typically has peaks and valleys in terms of measurable activities, local priorities can shift from building work back to traditional livelihood activities. Pre-emptive strategies to address this wane in enthusiasm includes:

- matching technology to capacity requires a good understanding of both men and women’s knowledge and abilities, as well as how much of a time commitment can be reasonably expected from beneficiaries.
- project schedules should be realistically based on beneficiary capacity, revised regularly to reflect changes and setbacks, and publicly displayed.
- building model houses can be helpful in making the goal of safe housing tangible, as well as identifying any technical problems in advance.

Women in poor communities typically have invisible roles in income generating and reproductive activities. For many women, the home and immediate environments (patios, gardens, etc.) are the centre of these activities. The importance of the physical layout of a house to facilitate these activities requires that women’s opinions be heard during the project’s design phase. Lessons from previous projects have shown that women’s participation in decision-making is increased when they are actively sought out for involvement, and provided the opportunities to do so.

- Gathering information on the role of women in income generation during the damage assessment can help identify critical areas to link economic activities such as gardening or small animal husbandry to housing plot layouts.
- House design sessions where women and girls can express their ideas and concerns about the physical layout may best be achieved by scheduling these separate from men.

Men and women are differentially affected by disasters, and are involved in different levels in family and community recovery activities. An emergency situation can require women to dedicate many more hours than usual to satisfy family necessities (cooking, water & fuel collecting, child-care) as well as extend their reproductive roles to the community at large. Men may become involved in clearing rubble, rehabilitation of housing, and other recovery activities which takes time away from
their usual livelihood pursuits. Or men may leave the community in search of work, thus placing an added burden on women’s responsibilities.

The requirement for beneficiaries to actively participate in housing construction may pose an unwelcome burden on families. It may also exclude particularly vulnerable families such as households with small children or the elderly. Actions to consider which may encourage participation include:

- Adopting a flexible approach to work schedules where families have XX number of work hours per week, rather than per day.
- Hiring supplemental (waged) labor to support community progress towards construction goals.
- Giving equal weight to construction and support work (e.g., providing meals or refreshments, childcare, management activities) as part of the family contribution.
- Offering lunch in communal kitchens for workers and their children;
- Linking the project with food-for-work or cash-for-work programmes; and
- Providing childcare facilities during work periods.

To encourage higher levels of participation, Oxfam’s housing program in NE Brazil implemented several suggestions by women beneficiaries. One was to provide an on-site crèche to enable women with small children to work on house construction. A second involved a design change where the kitchen was relocated to the front and Dutch-style doors were substituted for those in the original plans. Mothers could now cook and watch over their children through the open top half of the door, while retaining a sense of privacy with the closed bottom half.

In Bangladesh, the donor required that Oxfam and local partners establish crèches at all housing construction sites. In one community, the local partner decided not to establish a crèche due to the low number of small children. Although local women agreed to this, it meant that they were unable to take advantage of visiting work crews from other communities. Women in a nearby village reported that they were unable to assist their neighbours, as the lack of child-care facilities meant that their young children could not accompany their mothers to work sites.
6. Intervention Strategies

6.1 Striking a Balance: Local Aspirations and Project Goals
For many poor families whose homes have been damaged or destroyed by disasters, NGO led housing projects can offer them a rare opportunity to obtain a “better” house than before. Yet what NGOs define as a better house often differs from what disaster affected families want. At the root of these differences are different assumptions regarding what constitutes a safe and dignified house:

<table>
<thead>
<tr>
<th>BENEFICIARY ASPIRATIONS</th>
<th>Underlying Assumptions</th>
<th>PROJECT GOALS</th>
<th>Underlying Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>houses built with “urban” materials (steel, concrete blocks)</td>
<td>building safety is guaranteed by using these materials</td>
<td>houses built using local materials (bamboo, earth,</td>
<td>local materials are more sustainable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>lower project costs</td>
</tr>
<tr>
<td>100% finished houses</td>
<td>security concerns</td>
<td>partial houses or core shelters</td>
<td>shelter vs. housing paradigm</td>
</tr>
<tr>
<td></td>
<td>beneficiaries frequently lack resources to finish house</td>
<td></td>
<td>higher numbers of beneficiaries</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>lower project costs</td>
</tr>
<tr>
<td>large houses with 4 or 5 rooms</td>
<td>more privacy and space</td>
<td>smaller houses with 2 or 3 rooms</td>
<td>donor restrictions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>lower project costs</td>
</tr>
<tr>
<td>houses built by professionals</td>
<td>lack of skills</td>
<td>houses built by beneficiaries</td>
<td>promotes participation and ownership</td>
</tr>
<tr>
<td></td>
<td>lack of time</td>
<td></td>
<td>offers skills training</td>
</tr>
<tr>
<td></td>
<td>lack of interest</td>
<td></td>
<td>lower project costs</td>
</tr>
</tbody>
</table>

Negotiating these differences is best achieved through:
- creating opportunities for dialogues with potential beneficiaries and local stakeholders in the early phases of project design and planning, and encouraging wide scale community consultation and participation throughout the project;
- exercising care in not raising community expectations through premature distribution of house designs and project plans prior to formal community discussions;
- maintaining transparency in all community interactions, especially in regards to budget and donor restrictions.
6.2 Reconstruction vs. Resettlement

One of the most crucial decisions to be made in post-disaster housing is whether to rebuild damaged houses in their existing locations, or resettle disaster-affected families to new sites. Key factors involved in the decision to resettle families are:

- **concerns over safety and vulnerability** of disaster affected communities to future hazards;
- **efficient use of scant municipal resources** in delivering land, building materials, utility connections, and other services to multiple affected families;
- a high profile way for local authorities to demonstrate their response to the disaster event, and
- **willingness of donors** to finance new settlements in support of addressing local poverty and vulnerability.

Case studies of Oxfam’s and others reconstruction projects show that resettlement is often the most problematic of all housing options. Concerns frequently noted include:

- remote locations of new settlements with poor access to markets, schools, health facilities, croplands and other sources of livelihoods;
- failure to successfully integrate water, sanitation, electricity, and other urban services within the project time frame;
- difficulties in co-ordination with other agencies and local authorities that produces delays or failures to follow-up on commitments;
- delays in meeting project time schedules as a result of insufficient management resources and failure of other project partners to follow through with their commitments;
- low rates of permanent residency in new settlements as many affected families prefer to stay near their previous homes.

While rebuilding houses in their original sites can avoid some of the bigger issues that can plague resettlement projects, this may not be an option. The presence of one or more of these factors could make resettlement the only option:

- high risk of landslides, floods, or other hazards in original communities;
- low quality construction methods and materials that limit the possibility for cost efficient structural repairs to existing houses;
- lack of legal title, or other evidence of land ownership;
- limited plot space on many plots for building or rebuilding.
6.3 Core Shelters vs. Complete Houses

6.3.1 Definition of Core Shelters

Helping meet the need for safe housing after disasters by building a partial house or core shelter is increasingly proposed as an effective humanitarian intervention. Also known as progressive housing, core shelters are typically a basic roofed structure without walls. Structural integrity in the building is guaranteed through ensuring that corner and intermediary posts are securely attached to adequate foundations. Core shelters are increasingly popular with donors as they are relatively low cost and can be readily completed within a rehabilitation project time phase.

6.3.2 Advantages and Disadvantages

<table>
<thead>
<tr>
<th>ADVANTAGES</th>
<th>DISADVANTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>lower cost per unit</td>
<td>resources (money, materials, skills) available to poor and most vulnerable</td>
</tr>
<tr>
<td>materials needed to finish house are</td>
<td>follow-up to ensure that beneficiaries turn shelters into houses requires additional funding</td>
</tr>
<tr>
<td>usually inexpensive and easily available</td>
<td></td>
</tr>
<tr>
<td>easy to construct and faster construction timetables</td>
<td>safe construction techniques may not be followed when finished, and thus contribute to increased vulnerability for residents</td>
</tr>
<tr>
<td>highly favoured by donors</td>
<td>potential security concerns as houses lack walls and doors</td>
</tr>
<tr>
<td>easier fit into the humanitarian relief paradigm</td>
<td></td>
</tr>
</tbody>
</table>

6.3.3 Case Studies

In Cambodia, flood-affected families built timber-framed core houses under the supervision of skilled carpenters. To offer protection against annual flooding, the living space of the house is raised 1.8 meters above the ground. The evaluation report noted “high levels of personalization and investment in houses... This was a positive finding and proved that beneficiaries were still willing to contribute hard earned money in the long term” (Hockaday 2002).

Photo 11 Core House construction in Cambodia, 2002

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6 The building design facilitates the use of a variety of low cost materials to permit rapid beneficiary completion of the walls. In some cases, a half-wall is added around the building perimeter, or a small room for sleeping is built inside the structure.
A DFID funded project to help families in Bangladesh as a result of flooding in 2001 specified core shelters over full houses. In the project evaluation, it was noted that an estimated 20 – 30% of the 900 shelters built were not being used as dwellings, but were either abandoned or used for storage. Beneficiary complaints over the core shelters included:
- they preferred CGI sheeting and not tiles as a roof covering;
- the tiles were blown off by the high winds in spring 2001;
- they could not afford to purchase the matting walls required to make the house habitable; and
- they were waiting for agencies to return and complete their houses. (Corsellis 2001).

Lessons learned from these examples include:
- shelter or housing interventions must be based on a clear understanding of the local context;
- creating effective partnerships with beneficiaries involves providing opportunities for involvement, and negotiating between local aspirations and donor limitations;
- the scale of housing interventions must be weighed against Oxfam’s capacity to monitor and manage the project.

6.4 Alternative Interventions to Support Housing Reconstruction
When compared with other forms of humanitarian assistance, housing reconstruction involve a more complex set of operations that requires a high degree of management and financial resources. By supporting complementary aspects of housing after disasters, it is possible to offer alternative interventions that can be effective in assisting local recovery. Examples of successful “housing without houses” have been:
- distributing building materials: Purchasing and arranging deliveries of building materials can pose a financial and logistical barrier to families rebuilding their homes after disasters.

A successful housing intervention without house building took place in Guatemala in 1976 when Oxfam purchased large quantities of CGI roofing sheets and subsidised their distribution to earthquake affected families through local counterparts.

- tools for construction and material manufacturing: Offering organised communities tools such as cement mixers or brick making machinery can be effective in assisting local reconstruction efforts.

- training in construction techniques: Community training on improved methods of construction can help raise awareness on safe building techniques.
In conjunction with a 1999 core shelter project in Nicaragua, a workshop on making roof trusses using as an alternative to heavy timbers was introduced. Representatives from nearby housing construction projects in the area were invited to the Oxfam workshop, and adopted also the technology to their house building projects.

Photo 13 Roof Truss Workshop, Nicaragua 1999

- **cash for housing materials or labor:** Providing disaster affected families with cash grants for rebuilding their homes gives beneficiaries greater control and choice over how reconstruction priorities.

Families whose homes were partly or not so severely damaged by a 1991 tornado in Bangladesh received cash for rebuilding their homes. The majority of the recipients used the money to employ masons for repair work (Kiely 1993).

- **water and sanitation projects** – In the urgency to build houses, water and sanitation are often relegated to a secondary response by local governments and agencies. Collaborative ventures between Oxfam assist these agencies and ensure that disaster affected families have access to vital services.

Oxfam provided the engineering studies, well digging, water supply tower, and distribution lines for a 250-house resettlement site built by local authorities and NGOs in San Francisco Libre, Nicaragua after Hurricane Mitch.

- **small-scale manufacturing projects** that involves production of building materials such as roof tiles, doors or windows.

Oxfam’s shelter response to an earthquake in western Mexico in 1998 was to donate brick making machinery to a local counterpart. Although delays in purchasing and delivering meant that the counterpart did not receive the machine until three months after the earthquake, it was not too late to make a positive contribution to local recovery. Bricks manufactured with the machine were sold to earthquake affected families at below market rates.
7. Principles of Safe Buildings

7.1 Designing for Safety: Why Buildings Fail

A building’s strength is found in a balanced distribution of building elements, where all junctions and connections are equally well constructed. The shaking of earthquakes, the high winds of cyclones and hurricanes, or the forces of floodwaters can exploit specific weaknesses in a building, causing them to fail. As structural integrity depends upon the individual strength of all elements, these localised failures can lead to greater damages or building collapse. Vulnerable buildings are also the result of the lack of:

- awareness & knowledge of safe construction techniques, and adequate building skills;
- appropriate materials for safe building;
- adequate financial resources for solid initial construction, repairs or routine maintenance; and
- safe land to build on.

7.2 Foundations

Foundations serve to anchor the building to the ground, and must therefore be solidly constructed as possible. General principles for foundations require that they:

- be sufficiently excavated to a depth adequate for building type, geology, and climate;
- are built with a uniform construction throughout building (e.g., the same foundation for the entire structure);
- are set over a similar geological formation;
- follow a linked grid shape for stiffness.

7.2.1 Concrete as Foundation Material

Many foundations use concrete as its base material due to its low cost, high strength, and ease of workmanship. Concrete is composed of water, cement, sand and gravel (or other coarse aggregates). As the key to achieving strong and durable concrete rests in the careful proportioning and mixing of the ingredients, attention must be paid to the following:

- cement acts the binding agent in concrete, and its adhesive properties is activated by the addition of water. While increasing the quantity of water makes concrete more workable, too much water acts to reduce concrete strength.
- using river sand for concrete may require additional cement as the sand particles are softer than sand deposits found elsewhere;
- concrete strength increases over time as it cures; care must be taken to avoid excessive evaporation in hot climates.
- reinforced concrete foundations contain horizontal and vertical steel bars, which provides additional strength and structural integrity.
7.2.2 Foundation Checklist
Choosing the best type of foundation for a building requires answers to the following questions:

- Are soil studies needed to determine the capacity of the soil to resist tremors, or absorb run-off waters?
- Can an adequate foundation depth be achieved by using unskilled labour and hand tools, or will machinery be needed?
- Do the building materials and house design require full perimeter foundations, or sufficient excavations at load bearing positions (e.g., corners and intermediary points)?
- What material will be used for the foundation? Reinforced concrete? Compacted mud and stones? Sunken corner posts resting on flagstones?
- Does the building require vertical reinforcements in the foundation?
- Will foundation rendering be required to protect the walls from rainwater? Termites?
- Where will the excavated dirt from foundations be disposed?

7.3 Walls
Walls help transfer the building load and stresses caused by earth tremors or high winds to the foundation. Integrating walls to the foundation through the use of vertical ties is a critical element for safe engineering. Depending upon the house style and construction techniques, bamboo, wood, reinforcing rod, metal or reinforced iron bars (rebar) can be used as vertical ties.

Horizontal ties may be necessary to make a structural link between walls and corners, or intermediary columns. In masonry walls, horizontal ties can be accomplished through interlocking wall joints (for bricks and blocks), reinforcing rods, bamboo, or stranded wire. Diagonal tie-rods or braces for timber frame construction are also used to increase the torsion strength of walls and corner columns.

A continuous horizontal tie beam (made of reinforced concrete or timber) is needed for earth or masonry walls. It sits on top of the walls below the roof structure, and is connected to the foundation via vertical ties.

Lintels or door and window headers are needed in all types of construction to distribute the weight of walls and roofs equally over openings. These are secured to vertical columns supporting the lintels, which should be dynamically connected to the foundation. Doors and windows must be spaced away from corners to maintain the structural integrity of the wall.

Oxfam’s response to the 1998 earthquake in Afghanistan was to provide plastic sheeting, bamboo matting, and skilled labour to help disaster affected families rebuild their houses. Old timber joists from severely damaged houses were cut up and used as new door and window lintels in less damaged homes (Luff 1999).
7.4 Roof Structures

**Roof structures must be strong** enough to support the weight of the roof covering and resist the forces of weather and winds, **yet light** enough to avoid placing excessive loads and stress on walls. Roofs are generally either flat, pitched, or arch/vaulted shapes while pitched roofs generally use triangle shapes (trusses).

**Flat roofs** use horizontal beams as structural support and are the easiest to construct. Flat roofs with earth coverings are extremely heavy, which produce bending stresses on roof beams, and requires narrow spaces between spans to support the weight. Flat roofs perform poorly wet conditions and in high wind areas, which renders them unsuitable for tropical cyclone regions.

**Pitched roofs** generally have two slopes (**gable** roofs) or four (**hip** roofs).
- Hipped roofs offer better protection against strong winds and rains than gable roofs, yet are more costly to build in labor and materials.
- Secure anchoring of pitched roofs is essential in high wind areas to reduce the chance of roof coverings blowing away or twisting.
- Roof loads must be distributed evenly along rafters and anchored solidly to the horizontal tie beam or wall top plate.
- As pitched roofs exert an outward pressure (thrust) on the walls, these effects can be minimised through lightweight roof coverings, equal distribution of rafters, and secure attachments to horizontal plates and intermediary/corner posts.

![Photo 15 Secure roof and post connections Coastal Andhra, India 2002](image)

**Arched roofs** transfer the weight of roof loads more evenly than pitched roofs, offer better resistance to the effects of rain and winds then flat roofs, and can use low cost materials such as bricks. While resistant to earth tremors, arched roofs are limited in their spans and lengths to avoid cracking. Arched roof construction requires careful attention to design and skilled labor for construction.

7.5 Material Selection

Selecting construction materials for reconstruction housing projects should be based on an analysis of:
- **local availability** – What are the predominant materials used? Are they readily available in sufficient quantities? What are transportation issues related to the materials? Will it be easy for homeowners to get similar materials for future building expansions?
- **climate and geography** – What materials are most suited for local climates? Is the area susceptible to earthquakes or hurricanes, which would require more robust construction techniques? High winds?
- **craftsmanship and workability** – What level of construction techniques are required for the materials? Can the materials be easily worked with hand tools, or are more specialised tools required?
- **building codes** or zoning regulations – Adherence to local regulations is a responsibility of NGOs in humanitarian responses, and can help promote safer
housing construction throughout the region. What are the local building requirements and environmental codes for building materials?

- **maintenance** - Do the materials have high maintenance requirements? Will walls need rendering to protect them from the weather? Painting? Are minor repairs easy to undertake without special skills, tools, or materials?

- **aesthetics** - Investments in maintenance are more apt to occur when there is pride in ownership. Does the material – especially roof coverings – fit in with local aesthetics?

Using **locally available building materials** is highly recommended as a means of encouraging local economic recovery after disasters. The development and improvement of local building traditions may also be more easily achieved through the use of indigenous materials. In areas where traditional building materials are locally manufactured or harvested (e.g., earth-based masonry, local timber, bamboo), the expected advantages must be weighed against potential drawbacks.

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<tr>
<th>ADVANTAGES</th>
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<tbody>
<tr>
<td>obtaining materials locally can help create local jobs</td>
<td>sufficient material quantities or quality may not be readily available</td>
</tr>
<tr>
<td>wider familiarity with construction techniques and material workability;</td>
<td>local materials may be viewed as unsafe or unacceptable after disasters</td>
</tr>
<tr>
<td>learning and applying improved construction techniques may be easier</td>
<td>may have seasonal or lengthy production times that can conflict with project schedules.</td>
</tr>
<tr>
<td>potential project savings in lower material and transportation costs.</td>
<td>wide scale usage can contribute to local or regional deforestation</td>
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</table>

### 7.6 Identifying Site Hazards and Managing Risks

Both rebuilding and resettlement work requires a systematic identification of potential hazards of the site, along with the development of a risk management plan. Community-based risk management involves the local knowledge of residents and municipal officials, and fosters the development of local skills of networking, consultation, and problem solving in the process. There are **five stages in community risk management:**

1) **Identifying the hazards** posed by geotectonic events (e.g. earthquakes); seasonal climatic occurrences (flooding, hurricanes, monsoons); public health issues (poor water quality; soil contamination; disease vectors); and safety & security concerns (conflicts, crime).

2) **Analyzing the risks** according to their frequency and severity; assessing possible responses to address these risks; and prioritising actions needed to address their potential harm.

- commissioning engineering and geological studies for new settlement sites can provide the level of detail required for risk analysis.
1) **Mitigation of risks** involves developing singular actions or series of activities that attempt to minimise their effects:
   - *avoidance measures*, such as building diversion dikes or leaving buffer zones between houses and hazardous areas; and
   - *adaptive measures*, such as strengthening foundations or building houses on stilts.

4) Residual **risks that can not be adequately treated must be managed** through activities such as:
   - **reducing the impact** through raising awareness of how local vulnerabilities contribute to disaster affects through risk mapping, exploratory walks, and focus groups;

   ![Photo 16 Insurance Paper, India 2002](image)

   **In India**, Oxfam has assisted housing project beneficiaries to obtain insurance coverage against future disasters. In Coastal Andhra, Oxfam and beneficiaries contributed equally to pay the first annual premium.

5) **Preparedness planning** involves actions that can be taken to reduce the risks, including:
   - promoting the identification of safe zones; evacuation drills; and knowledge of first aid techniques;
   - collaborations with local authorities in civil defence activities and public health campaigns.
8. Community-Built Reconstruction Housing

8.1 Gauging the Self-Build Capacity of Communities
Assessing the suitability of communities to become actively involved in the reconstruction of their homes requires a look at:

- **Local Need and Motivation:**
  - **Present Situation** – Has the severity of the disaster event created large numbers of displaced families living in public shelters, or in crowded conditions with relations or neighbors? For families living in or near their damaged houses, are the living conditions disagreeable, or have they become acceptable?
  - **Sense of Vulnerability** - Has the immediate anxiety over the disaster event dissipated, or does it still “feel” vivid to affected families? How can this anxiety be channeled into action?
  - **Season and Climate** – Is there an upcoming cold, rainy, or “disaster season” that makes a durable shelter solution a higher priority?
  - **Availability** – Does the projected construction schedule conflict with local agricultural agenda (planting or harvesting schedules)? Are other public works or community projects happening at the same time?

- **Leadership and Organisation:**
  - **Leadership** - Are there recognised leaders who represent the community at public meetings or in dealings with local authorities? Do these persons have wide levels of respect and authority, or do they only represent smaller community groups?
  - **Community Groups** – What are the local organisations in the community? How are women involved in these groups? How did these groups respond to the disaster event?
  - **Communal Experiences** – Has the community had positive experiences in community work projects? How were these projects initiated and managed - communally, by local authorities, or external agencies?

- **Local Authorities** – Is the work of local authorities viewed positively? How can the community help ensure municipal support and participation for the project?
8.2 Training in New Construction Techniques
Reconstruction housing work offers an opportunity to introduce improved building techniques to traditional or modern materials. Keys to the effective training programs include:

- **using experienced instructors** who can offer a variety of training techniques for each stage in learning;
- **establishing interest in learning** through activities designed to raise awareness on the needs and benefits of new techniques;
- **looking at attitudes as well as skills** of training participants when designing training programmes;
- **maintaining a gender focus** by ensuring that the distinctive capacities and needs of women are recognised and incorporated into the training process;
- **ensuring an adequate supply of materials** are available to avoid delays and downtime;
- **encouraging peer-to-peer learning** by demonstrations, grouping of persons of different skills, and discussions.

Research on beneficiary participation in post-Hurricane Mitch housing in Central America noted that women consistently reported that physically participating in the building process was positive experience. Quotes such as: “I never thought I could lay bricks before” and “I learned how to build my own house” were frequently heard. (Bauer 2000)

8.3 Local Production of Building Materials
Supporting beneficiary or local production of building materials has the potential to make a positive and lasting contribution to community recovery, but has a variety of hidden costs as well. These can be summarised as:

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<tr>
<th>ADVANTAGES</th>
<th>DISADVANTAGES</th>
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<tbody>
<tr>
<td>provides skills training and job opportunities;</td>
<td>equipment and trainer costs must be subsidised;</td>
</tr>
<tr>
<td>potential to create new local markets and business opportunities;</td>
<td>may create unfair competition with local producers/suppliers;</td>
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<tr>
<td>possible project savings through reduced material and transportation costs;</td>
<td>production can require electricity or use scarce natural resources (e.g., firewood or charcoal);</td>
</tr>
<tr>
<td>encourages linkages between livelihood development and reconstruction</td>
<td>often more time consuming than a direct purchase of materials.</td>
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Common building materials produced by reconstruction housing projects include **bricks**, either kiln dried (common clay bricks) or sun dried (adobe). Kiln dried bricks can be manufactured in many climates, but require a steady source of charcoal or wood as fuel. Adobe brick be fabricated on a large scale in environments where there is sufficient sun light, a nearby water supply, and clay.
Sun-dried clay and straw bricks (adobe) have been used for construction in Peru for over 2500 years. As a building material, it offers a number of advantages suitable to the Andean context. Adobe is easily manufactured on site using readily available materials, and has excellent thermal properties necessary for the extremes of Peruvian climate. Oxfam’s post earthquake housing project in southern Peru used qualified instructors from SENCICO, a national research and training institution on construction methods. Instructors lived within the communities, often with host families, and offered hands on supervision in building seismic resistant adobe houses throughout the construction stages. Beneficiaries received certified vocational qualifications from SENCICO after successful completion of the courses, as well as a safer house built with their own hands.

Beneficiary manufacturing of clay or micro-cement roof tiles has also proved successful as a supplemental housing activity in many countries, particularly in Latin America. A close look at local market conditions is required to determine the viability of such ventures, including possible sustainability issues after the project closes.

An evaluation of a post-earthquake housing project in Peru in 2003 notes that an “opportunity was missed” when micro-cement roof tiles were purchased from a local manufacturer, rather than fabricated on-site by project beneficiaries. Although the project did initially consider local production, concerns over high start-up costs, the need for production facilities and on-going management support suggested that any gains would be short-lived. (Forster 2003)

8.4 Using Contractors and Waged Labour

Using local contractors or waged labour to supplement, train, or supervise beneficiary labour is often a part of community-built housing. Considerations when hiring contractors include:

- **contractual agreements** – Legal advice on setting up a binding contract is necessary when hiring local contractors or construction firms. Issues such as tax liability, insurance, bonds, cost overruns, and penalties may need to be included.

- **commitment to NGO principles** – Contractors should be made aware of and fully support NGO codes of conduct (SPHERE, People in Aid, IFRC). This commitment should be included as a contractual obligation.

- **hiring practices and labour laws** - Contractors should be encouraged to hire local persons for employment vs. bringing in “foreign” workers. As men typically receive the lion’s share of remunerated employment in reconstruction work, contractors should also be encouraged to provide women with opportunities to earn money as well. All applicable labour laws should be followed, including those that regulate occupational safety.
• housing and meals – While this responsibility is typically the responsibility of the workers themselves or the contractor, in remote locations the project may need to offer support for housing and meals. When possible, beneficiary families should be invited to “bid” to provide these services directly to the workers themselves.

• accident insurance – All waged workers should be protected by some form of accident insurance, or funds set aside to cover medical and recovery costs to workers injured on the job.

In identifying possible risks and threats to Oxfam’s proposed shelter and housing programmes during the Balkans crisis, it was noted that the lack of a functioning legal system or other forms of legal redress render any contractual agreements with contractors unenforceable. It was suggested that strict controls be issued over payments to contractors, “even if this means lots of small payments to reduce the risk” (Cox 1999).

8.5 Tools and Safety Equipment

Tool distribution and their management are frequently the responsibility of the community in reconstruction housing projects. Stages in tool acquisition and management include:

1) specifying building materials – different materials require different tools;
2) identifying efficient construction methods – water pumps can save hours of back breaking work by beneficiaries;
3) classifying tools needed according to:
   • common hand tools: e.g., shovels, pickaxes, digging bars, hammers, saws, and tape measures;
   • power tools: portable pumps and hoses may be needed for water intensive projects involving masonry work; or electrical tools and generators for fabricating timber roof structures;
   • material handling and storage: wheelbarrows, carts, water and fuel barrels, hand pumps;
   • form work: for foundations or brick manufacturing;
   • ladders and scaffolds;
   • personal safety equipment: hardhats, gloves, protective footwear;
   • information management tools: notebooks, pens, computers, software, etc.
4) matching tool needs to budget: Priority should be given to tools that can be handled by all the community, especially women (e.g., hand tools, wheelbarrows); and multiple use tools such as water barrels.
5) tendering, purchasing and distribution of tools, which follow Oxfam logistical and accounting requirements;
6) monitoring tool usage: Keeping track of tools to ensure proper maintenance and avoid loss or theft is the co-responsibility of beneficiaries and project logistician.
7) donating tools after project completion: Tools used for construction work are often at large after the project is completed. While ensuring that these donations will be properly maintained and freely available for use is a community responsibility, potential conflicts may be avoided if tools are donated to organised community groups.
8) **filing reports**: ECHO and other institutional donors require that the final disposition of all capital equipment expenditures including tools be adequately documented and submitted with the final report.

The **safe use and maintenance of tools** is often an “assumed” responsibility of the beneficiary community, with little emphasis on adequate training in occupational safety for tool users. Few reconstruction housing projects have sufficient funds to provide accident insurance for all workers at a housing construction site, and accidents of both a minor and major nature frequently do occur. Minimising the risks of accidents involves:

- **identifying work site hazards** - e.g., accidents involving heights are typically more severe than those that occur at ground level; tools placed on ladders frequently fall down and cause injury; power operated tools are inherently more dangerous than hand tools;
- **categorising risks** - e.g., tools that cut or have sharp edges are more dangerous than other tools; hands and feet typically receive the greatest number of injuries; most accidents occur at the end of the day when workers are tired;
- **mitigating risks** - e.g., keeping workplaces clean of debris reduces accidents; monitoring children at a construction site is everybody’s responsibility; storing tools safely at the end of the day;
- **managing risks** that can not be controlled - ensuring that each work site has a first aid kit and someone with a basic knowledge of first aid can reduce infections and limit the effects of accidents;
- **preparedness planning** - working from the principle that accidents are avoidable and that everyone has a responsibility for safety is key to safe construction sites.

**8.6 Logistics and Material Management**

Beneficiary management of logistics and materials involves:

- **purchasing** - Oxfam and donors alike require that any major purchases using humanitarian funding follow standard procurement procedures. While the specifics of these procedures may vary from country to country (e.g., number of bids or “trigger” value of purchases), proper documentation of steps taken and receipts for materials is a common requirement of all projects.
- **transport** - Material transport considerations are frequently underestimated in reconstruction housing projects, especially in community built projects where aggregate materials or water are local responsibilities.
- **warehousing and security** - Organised and secure storage facilities are generally needed for materials and tools. Community management of warehouses and tools is recommended, although the additional responsibilities may make it more appropriate to offer a salary to warehouse and security personnel.
- **record keeping** - Using simple card systems to keep track of materials or tools as they enter and leave the warehouse is an effective way of monitoring use. In projects with multiple sites, the need to train, monitor, and conduct spot checks can take a great deal of time.
9 Monitoring, Evaluation, and Learning

9.1 Goals of Monitoring
The effective management of reconstruction housing work requires ongoing monitoring to ensure adequate progress towards achieving project objectives. Monitoring serves to:

- observe and report on project progress, and aids project management;
- identify problem areas, adjust plans, and seek solutions;
- provide detailed information for decision making on project management concerns;
- aid program learning, both horizontally within Oxfam and vertically between Oxfam, OI, and counterparts;
- demonstrate accountability to beneficiaries, local authorities, donors, and NGO management.

9.2 The Monitoring Process
The monitoring process begins by referring back to original project documents and previous management reports as references. Tools & techniques for monitoring range from observations and reports made from visitor reports, to structured reviews of construction schedules and financial reports. From these inputs and applied monitoring techniques are recommendations and new management reports.

### REFERENCES

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<td>Logical Frame Matrix</td>
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<td>Contracts:</td>
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<td>- OGB &amp; donors</td>
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<td>- Project &amp; local authorities</td>
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<td>Staff Performance Objectives:</td>
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<td>- Project manager</td>
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### TOOLS & TECHNIQUES

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### OUTPUTS

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<td>Recommended corrective actions</td>
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<td>Revised Budget forecasts</td>
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<td>New Management Reports:</td>
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9.2.1 Reference Documents

An accurate logical frame matrix (LFA) is a key reference document of effective monitoring. Each component of an LFA – with the exception of the overall goal – may be modified as a result of the monitoring process. The effective of LFAs as a tool for project monitoring is enhanced when:

- partner organizations, key stakeholders, and beneficiaries are involved in filling out an LFA matrix;
- agreement is sought over making sure that the activities relate to specific project objectives, rather than addressing other community needs;
- LFAs are posted visibly and frequently consulted during team meetings;
- the more detail in the level of activities (outputs), the easier it is to measure their performance, or change the activity;
- all categories of an LFA are evaluated simultaneously, both to ensure the continuing validity of their vertical linkages between activities and objectives, and the horizontal linkages between activities, indicators and assumptions.

An updated assessment of the needs of flood affected families in Sri Lanka indicated higher levels of rebuilding then anticipated. In a monitoring workshop with local staff and counterpart, the project LFA was redesigned to reflect the changing situation. While the main objective stayed the same – to aid vulnerable families in community recovery after flooding – the activities, indicators, and assumptions changed. Subsequent team meetings continued to refer to the LFA as part of the monitoring processes.

Other important inputs for the monitoring process include contractual agreements between OGB, donors, partners, local authorities, and construction suppliers and contractors; previous management reports; and staff performance objectives.

9.2.2 Tools & Techniques

Regular reporting on project activities is the first tool of effective monitoring. As the numbers of variables involved in a typical housing project are vast, verbal reporting should be discouraged. **All staff involved in the project should provide bi-weekly written summaries** of:

- key points;
- progress towards objectives;
- recent activities and their relation to individual work plans;
- difficulties encountered and proposed solutions.

Contractors or work crew supervisors should also submit written reports, which must reference project schedules. Information gathered in staff reports can then be consolidated into situation reports (SITREPS) by Oxfam staff, and monthly reporting from counterparts to Oxfam’s national office.

**Site visit reports** from visiting Oxfam and OI staff can be extremely useful as a tool in monitoring housing reconstruction projects. The wealth of knowledge and experience available within the organization(s) is often communicated most effectively in informal meetings and discussions arising from visits to work sites.
A **construction schedule** is an essential tool for all construction projects. Given the donor restrictions on project timeframes, a construction schedule is of critical importance in reconstruction housing work to ensure that the work can be realized in the allotted time frame. The greater the level of detail in the construction schedule, the easier it is to identify project bottlenecks.

**Gantt charts** are the most common forms of project scheduling used in construction work. All activities related to the building process are listed, and plotted along a time graph. The Gantt chart is a matrix constructed with a vertical axis that lists all the tasks that make up the project. The total time span of the project, broken into increment (days, weeks, or months) are listed along the horizontal axis. The start and end times for each task are plotted via horizontal bars. Gantt charts typically have variants such as:

- **milestones**: important checkpoints or interim goals for a project;
- **resources**: identification of who on the team is responsible for the task, or what is needed to complete the activity;
- **status**: by filling in the task's bar to a length proportional to the amount of work that has been finished, the chart can be easily updated.

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<thead>
<tr>
<th>Tasks</th>
<th>Start Date</th>
<th>End Date</th>
<th>March</th>
<th>April</th>
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<th>July</th>
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<td>Need water &amp; clay</td>
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While useful in providing at a glance the big picture, Gantt charts are limited in not showing clearly the relationship between activities. If one activity is accelerated or delayed it will be difficult to see the effect that this may have on associated activities. Nor can Gantt charts show the results of either an early or a late start in the activities, which may not necessarily reflect the project is behind or ahead of schedule. Revising the Gantt chart as a result of monitoring can help overcome these difficulties.

The local engineer of a post earthquake housing project in **Peru** used a Gantt chart to keep track of building activities, and made MS Excel copies of the chart available to other staff for their use as well. As a great deal of time was spent on site, a laptop computer was borrowed to help staff keep their schedules up-to-date.
Additional tools and techniques useful for monitoring are **community work plans**, which form part of the contractual agreements between beneficiaries and the project. **Up-to-date financial reports** are also essential tools for monitoring, as they encourage measuring project performance against budget expenditures.

### 9.2.3 Outputs
The outputs of the monitoring process are geared to ensure that the project is proceeding according to schedule, and budget and time restrictions. Possible outputs include:

- recommendations for **corrective actions**, which can involve new activities or the shifting of resources;
- recommendations for **preventive actions**, to avoid potential project delays or additional expenses;
- revised **budgeting forecasts**;
- revised **time forecasts**, to alert management of revised project schedules;
- new **management reports**: information on project performance gathered during monitoring can be “downloaded” into periodic reporting requirements to donors, OGB Humanitarian Department, and OI.

In a review of evaluations of the NGO response to Hurricane Mitch in **Central America**, researchers for the Humanitarian Practice Network noted a lack of satisfactory baseline data in the majority of agency and donor reports. This resulted in judgements about the impact of interventions being largely subjective, and difficulties in establishing chronologies of response decisions and activities. One lesson learned from this review was the need to “see much more emphasis on improved monitoring during the implementation of programmes, rather than on higher-profile evaluations afterwards” (Grunewald, de Geoffrey et al. 2000).

### 9.3 Evaluations and Learning
Evaluations differ from monitoring in their timing and focus. Monitoring occurs frequently during the project cycle and is forward looking in its approach, asking the question: **Are we on track?** Evaluations take place periodically, or at the end of the project cycle, and look backwards while asking the question: **How well did we do?**

Monitoring is frequently a descriptive activity: recording inputs, outcomes, and activities. Evaluations are more analytical, focusing on the processes involved in the outcomes of project activities.

#### 9.3.1 Characteristics of Effective Evaluations
Evaluations serve as basic tools for management and learning. The effectiveness of evaluations as learning tools is enhanced when evaluations:

- **enlist the participation of beneficiaries and other relevant stakeholders**;
- include information related to the **social processes** involved and the effects of the interventions on beneficiaries;
- provide the level of information and analysis necessary to **increase the capacity of management and field staff to implement** recommendations;
- [evaluation reports] are **written in clear and concise manner**, with a brief summary of key findings and recommendations;
are summarized by the Oxfam manager who commissioned the evaluation to help ensure that the evaluation results stays alive, and doesn’t end up as an expensive bookend.

A recent study on the quality of humanitarian interventions by Group URD\(^7\) suggest that:

- the timeliness of the evaluation can influence how the impact of the intervention is judged. In the immediate aftermath of a project, results often appear positive as basic needs disrupted by the disaster are met. Over time, the positive effects may wane as issues of dependency and project non-practicability can surface.

- In shelter and housing interventions, this change is often noted as few projects have the time or financial resources available to address longer-term or structural elements of poverty and vulnerability that contributed to the disaster effects.

- “the efficiency of the learning mechanism is perhaps as important as the lessons learned from the evaluation mission: it is therefore important for the latter to be discussed as a group as quickly and as closely in the field as possible” (Grunewald 2001).

9.3.2 Checklist of Questions for Evaluations

Using the same evaluation criteria as other Oxfam humanitarian projects\(^8\), reconstruction housing evaluations should seek answers to the following specific questions:

- **Appropriateness** – Was the housing intervention appropriate to the expressed needs/demands of the target population (perception)? To Oxfam’s operational parameters re: shelter and housing? Was the housing intervention similar in scale to those of other NGO’s response to shelter and housing needs in the region?

- **Coverage & Access** – To what extent did the housing intervention reach the most vulnerable members of the target population? What specific efforts were made to address their differential needs and capacities, and include them into programme activities? How were gender differences and capacities recognised and incorporated into project activities?

- **Connectedness** – How were local building processes supported throughout the project? How can any components of the housing intervention (training, new technologies, etc.) be demonstrated to have had a positive effect on strengthening local capacities? Was an exit strategy identified prior to initiating project activities, and followed?

- **Coherence** – How did Oxfam’s counterparts add value to the programme? What were the challenges in working with counterparts, and how were they

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\(^7\) Group Urgence Rehabilitation Developpement. See http://www.projetqualite.org/ for details.

\(^8\) See chapter 5.8 of the Humanitarian Department’s ERM for more information on suggested guidelines for evaluations.
addressed? What were the role of municipal authorities in the housing intervention, and what methods were used in collaboration with them? What other agencies (government or non-government) were involved?

- **Efficiency** – How productive were inputs from the Humanitarian Department and the RMCs (technical advice; visitors; materials; etc.)? Was recruitment of staff done in a timely manner? Was local staff (human resources) managed successfully? How did logistics operations function?

- **Effectiveness** – What made the most significant contribution to the project achieving its objectives? How did the project respond to unanticipated events and minimize/maximize their effects? How did the achieved results compare against quality standards (IFRC, SPHERE) and Oxfam’s gender policy?

- **Impact** – How did the reconstruction or new construction of housing impact on the health and livelihoods of the target group? What proportion of houses were occupied by the original beneficiaries during the evaluation?

- **Cost-Effectiveness** – Where could the project have saved money? How did the cost-per-beneficiary ratio relate to other housing interventions in the region? How did costs per housing unit compare to government programmes for low-income housing?

### 9.4 The Next Step: Mobilising Beneficiaries for Future Actions

A post-disaster housing project doesn’t necessarily end when house keys are distributed to beneficiaries, or when the clean-up from the house warming celebrations is over. A positive effect of many housing interventions is an increased sense of community cohesiveness, and wider awareness of how vulnerability to disaster events can be addressed through collaborative actions. **Thinking ahead to how housing construction can be used as a catalyst** to further local development goals should be in the background of everyone’s mind, and during all stages of the project cycle.

Photo 19  The Community of Vilalaca, Peru 2002
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- Chowdury, M. (2001). Women’s Technological Innovations and Adaptations for Disaster Mitigation: A Case Study of Charlands in Bangladesh. UN Division for the Advancement of Women (DAW)
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- Radical Interpretations of Disasters and Radical Solutions [http://online.northumbria.ac.uk/geography_research/radix/](http://online.northumbria.ac.uk/geography_research/radix/)

Oxfam Resources
- *Emergency Response Manual*, Humanitarian Department
- *Purchasing plus+: Field Asset Control Tracking System*, Humanitarian Department

Participation

Post-Disaster Shelter and Housing
- Aysan, Y. and Oliver, P. (1987), *Housing and Culture After Earthquakes*
- London, ODA
- Shelter Project (research on emergency shelters and transitional settlements) [www.shelterproject.org](http://www.shelterproject.org)
Shelter Assessment Checklist

General
- How many people are affected? How many people displaced? Where are the affected families living now?
- What are the current or likely shelter-related diseases? What is the distribution and expected evolution of the health problems related to shelter?
- What is the relevant social/cultural-economic makeup of the affected families? Is protection and security an issue for affected families?

Extent of Damages
- Have many people had to flee from their normal homes? If so, how many have returned, or plan to return in the immediate future?
- What percentage of houses has been completely destroyed? What percentage of houses has been partly damaged? What kind of damage is evident? How does the damage render the houses unsafe?
- How did the materials, construction methods, and location of houses contribute to or mitigate the effects of the disaster event?

Immediate Response
- What percentage of the affected families is safely sheltered? What types of shelters are currently in use?
- What are the regional/national plans to provide emergency shelter? To facilitate recovery? Who is involved?
- What percentage of families has begun to rebuild their homes? Are they rebuilding in the same sites?

Vulnerable Groups
- Are there particularly vulnerable groups among the population? How are they vulnerable? How has the disaster event increased their vulnerability?
- How did households with small children suffer disproportionately in the effects of the disaster? Households with elderly family members? Households with HIV, ill, or disabled family members?
- How will households with limited adult/adolescent labour participate in recovery efforts?

Local Housing Context
- What types of building materials are most common in the area? Are these materials locally produced? Does cost and/or transportation pose significant concerns to obtaining materials? What construction methods are usually employed in the area? Do most people build their own homes (informal), use local labour (artisan), or are built by skilled labour (formal)?
- What is tenure situation in the affected communities? Do most families have informal ownership rights?
- How do local beliefs or social practices influence the design and layout of houses?
- How does the type of construction contribute or mitigate to the damages?

Transitional Settlements
- Are there potential settlement sites available nearby? Are there particular problems or risks associated with available sites? Will there be access to croplands, markets, schools and other essential public facilities?
- How will local/national authorities be involved in new settlements?

Non-food Shelter Items
- Do affected families have access to blankets, clothing, and bedding? Are there local belief or social practices that could negatively impact distribution of these items?
- Do affected families have access to water storage containers and cooking pots? What type of fuel is available for heating/cooking? Who collects fuel? Does cost and/or transportation pose significant concerns to obtaining fuel?
Counterpart Assessment Checklist

- **governing structure** - What is the organisation’s mission statement? How clear are the organisation’s strategic objectives? How does a shelter or housing project fit into the organisational mandate?

- **management processes** - Does the organisation operate under an annual plan? Do different departments and/or staff have work plans? How is progress towards objectives monitored? How are staff meetings managed? How is information reported and exchanged?

- **human resources** - Is selection criteria for employees based on their qualifications? Are there adequate numbers of staff for the successful completion of projects? Is training of new staff adequate for them to execute their responsibilities? Are employees familiar with humanitarian codes of conduct and gender awareness?

- **financial resources and administration** - Is the organisation legally registered? Are there multiple funding sources? Is the organisation heavily reliant upon one or two donors? Are standard accounting procedures employed for recording and reporting of financial information? Who authorises and controls expenditures? Is regular internal and external financial reporting carried out? Are financial reports used to review budgets?

- **infrastructure and capital expenditures** - Is there sufficient office space for all staff? Are offices adequately equipped with furniture, lighting, sanitary installations and other equipment? Are offices adequately equipped with information technology (telephones, fax, computers, software, etc.)? Is there a sufficient number of vehicles available for program use?

- **networks and relationships** - Are the main stakeholders identified (e.g., beneficiaries, clients, employees, donors, etc.). Do projects and programs reflect the needs of the main stakeholders? Are their working partnerships with other local NGOs, networks, government authorities, and the private sector?

- **results** - Does the delivery of services and results correspond to annual or project objectives? Are services, project and program outputs are cost efficient? Are financial targets and budgets met?