Building Back Better

Praise for this book...

'Experience has shown that participatory, people-centred housing reconstruction is far more effective than top-down, institutional delivery. However, these processes are slower and more complex, with the result that they are widely believed to be impractical for large-scale projects or programmes. This important book demonstrates definitively that this assumption does not hold. Conceptual arguments and diverse case studies, including post-tsunami and post-earthquake reconstruction in Sri Lanka and El Salvador respectively, examine how larger scale interventions have deployed participatory methods for both temporary and permanent shelter, in state-led as well as non-state contexts and in both rural and urban areas.'

David Simon, Professor of Development Geography,
Royal Holloway, University of London

'Disasters and related humanitarian responses are widely reported in the news and development literature. But what really happens to families following a disaster, and how do they secure shelter? This volume addresses this question, and will be of interest to both disaster and housing specialists. The breadth of contributions provides considerable material for readers seeking to understand and support participatory and integrated approaches for reconstruction.
No simple answers are provided but a diverse group of experts elaborate on wide-ranging grounded experiences to inform a significant area of shelter programming.'

Diana Mitlin, Senior Lecturer University of Manchester
and a Senior Research Associate at IIED

'The timely message of this book is that participation in housing reconstruction after disaster gives a more sustainable result. The research and insights in its case studies demonstrate decisively that listening to devastated communities results in both improved living conditions and greater resilience to future disaster.'

Judith Eversley, International Affairs Officer,
Royal Town Planning Institute, London

Building Back Better
Delivering people-centred housing reconstruction at scale

Edited by Michal Lyons and Theo Schilderman
with Camillo Boano

PRACTICAL ACTION
Publishing

Contents

Part III: Lessons from the Project Level

Boxes, figures and tables

Boxes

Figures

Tables

Foreword

Housing, participation, and vulnerability – some of the themes this volume debates and informs in relation to large-scale post-disaster reconstruction. One can imagine, given the abundance of research and literature already on each of these important themes, that there would be little more to debate; that all the lessons on housing design, delivery and management, on participatory processes and tools, on disaster preparedness, mitigating risk and building resilience, have already been learnt. Yet my own first hand observation of projects and programmes in India, Sri Lanka and elsewhere, as well as the examples in this volume, suggest otherwise.

Donor-driven, instant housing 'solutions' are notoriously inappropriate in layout and technologies, particularly in relationship to habits and lifestyles. Site plans are often overly provided with public and unspecified use. Undifferentiated house types and lot sizes fail to take account of individual family needs or cultural differences, nor of differences of commercial potential related to site location. Three to five storey walk-up housing blocks do not easily meet the needs of fishermen. Many houses suffer construction defects in the rush to build. The location of sites for resettlement have displaced communities in many instances, and are often at some distance from schools, shops and other facilities, placing further burdens on family budgets. Sites are poorly integrated with other settlements. Ownership options in relation to titles or other forms of social organization are poorly explored. Attention to livelihoods is sporadic.

It was John Turner who, many years ago, acknowledged the continuum in housing, arguing at the time that what a house *does* is equally if not more important than what a house *is*. Turner was referring to the vital links between the practical business of building houses and the strategic aim of improving livelihoods and building all kinds of assets – social, political, physical, human resource, and more. Turner also reminded us that most successful housing emerges and consolidates incrementally, in pace with the needs and budgets of people and the aspiration of community.

We have now learnt that when a progressive and incremental process of housing and reconstruction is denied to the poor, the burden of investment all at once often pushes people back into the insecurity from which they emerged. An instant plan with one-off capital investment or subsidy of the kind I witnessed in Sri Lanka for example, to standards and designs that are inappropriate in place, time or money, is unlikely to work over the longer term.

These and other observations, confirm in many ways some of the conclusions of this volume and those of others: that lessons learned have yet to find their way into practice at a scale that counts; that many still refute the value of participation and argue instead that it slows down reconstruction, is costly and undermines professional responsibilities and good quality. Others have more broadly said that participation is a neo-liberal form of patronage – a measure imposed by poverty; that it raises expectation amongst partners, which are difficult to meet, and that its benefits in any case are not easily measurable. The 'tyranny' argument goes further: participation often co-opts powerful and elite organizations and in so doing normalizes radical engagement; it appropriates local knowledge in ways that empowers outsiders.

It is right and timely that this volume should revisit some of these topics whilst exploring 'the potential for large-scale reconstruction to be participatory and developmental'. It is right that it should acknowledge the still difficult continuum from relief to development when it comes to reconstruction.

We have learnt, however, that participatory processes both get things done in the immediate phase of reconstruction and build capital over the longer term.

In his review of Rebecca Solnit's book *A Paradise Built in Hell*, Tom Vanderbilt counters the official response to community engagement in the immediate aftermath of disasters. Government response, he says, is often driven by the notion 'that cities racked by disaster need to be protected from rampaging mobs, that government needs to suppress the panicked masses and save the day.' These notions are of course seldom true. First, says Vanderbilt, 'official emergency responders are rarely the first people to respond to an emergency. Second, the central command-and-control model often misinterprets the reality on the ground. Third, the hero motif neglects the role of social capital … Lastly there is the panic myth'. Information on the scale of a disaster is often withheld to avoid panic putting people in even greater danger.

Over the longer term we now know that participatory processes deliver more sustainable solutions. They are a means of tapping the ingenuity of ordinary people and help to discover ways of solving problems which may not be part of the expert's repertoire. They are tolerant, in other words, to the improvisation of the every day, which we know is the 'user's art'. Participation reduces dependency on state and other organizations over the longer term, and can create the opportunity for new kinds of organization and partnerships to emerge, providing continuity once outsiders pull out. In short, participation is essential when defining needs, converging vested interests, getting accurate information on the ground, mobilizing resources and positioning problems accurately – all key to effective design and planning.

All of which involves a review of the roles and responsibilities of experts and expert organizations in the continuum from relief to development and in the ongoing process of reconstruction. In this sense, I once argued that we need to shift our roles as experts and providers of everything to enablers. More recently I have decided this 'either or' distinction is neither helpful nor

accurate. I have come to believe that in order to be an effective enabler you have to be a prudent provider. I have come to believe that there are four integrally related sets of responsibility vital to good practice: providing, enabling, adapting, and sustaining (PEAS). Together these define the ideals, responsibilities and activities of development practice. How much of each and how they relate together depends on context and circumstances.

There will always be things and resources that we provide. What we provide to save lives (food, tents, first aid, information) will be different to what we provide for the longer term to build livelihoods (skills, knowledge, land, money, materials).

The question is what and how much should be provided to meet the needs of now; and how much and when so that we can sustain development over the longer term? What kind of catalyst interventions will start a process of long-term reconstruction, rather than pre-empt it? We also know that change and the capacity to adapt to changing circumstances over time is a resource to sustain well-being, and build a sense of belonging and the resilience of community. It is a resource for building all sorts of assets, tangible and intangible. How should we think about change and resilience as integral to our planning and design in post-disaster reconstruction?

Providing catalysts, promoting enablement – community as well as market and political enablement – building the capacity for change, the ability to be adaptive socially and spatially, are all integral to sustaining reconstruction as a developmental and not just relief process. Together they define a culture of practice, practical in its objectives and strategic in its purpose and endeavours. Being strategic, after all, is synonymous with being sustainable.

This volume confirms that there is still much to learn in terms of agency response and professional responsibilities in post-disaster reconstruction, and about participation and development. It is a timely and welcomed contribution to ongoing debate.

Nabeel Hamdi

Introduction

Michal Lyons, Theo Schilderman and
Graham Saunders

The Indian Ocean tsunami was a disaster on an unprecedented scale and elicited local and international responses which went well beyond the experience of previous disasters. The widespread efforts which ensued provided a test-bed for some of the prevalent ideas, beliefs and practices of the early years of this century concerning the management of natural disasters and their relation to development.

Through implementation and debate, these experiences both triggered and coincided with deep reflections on the part of multilateral and bilateral agencies, governments, international NGOs, civil society and scholars over their priorities and approaches to vulnerability reduction, short-term relief and temporary shelter phases, and post-disaster reconstruction. In consequence, new actors have entered the sector; it has come to include more, larger actors, who were either new to housing or new to disasters; and who practice housing reconstruction on a larger scale than previously. Many actors from all sectors have adopted the practice and language of participatory and integrated development to describe their new strategies and activities.

The book has been developed through ongoing collaboration between Practical Action, London South Bank University, and the International Federation of the Red Cross and Red Crescent Societies. These organizations sought to bring together practitioners, academics and donors to reflect on this turning point in approaches to post-disaster reconstruction, and to draw lessons for future practice, policy and advocacy. The process has included a major international conference held in London in March 2009 and a number of international workshops and its outputs include a tool-kit for practitioners, a position paper for activists and academic articles.

This book contributes to the rich debate on the potential for developmental post-disaster reconstruction. Its key concern is the potential for post-disaster housing reconstruction to break the cycle of poverty and dependence, reducing people's vulnerability to disasters and to other adverse events and conditions. It aims to inform policy, programme design and practice.

Since Wijkman and Timberlake first identified the links between development and vulnerability in 1984, subsequent writers have explored the issue in a number of ways. Maskrey's early publications on the issue explored the

potential for participatory reconstruction to make a contribution to development. In a forthcoming volume, Lizarralde and others explore the issues of participation in post-disaster reconstruction, arguing that, if practiced properly, it may provide sustainable gains. Another strand of writing, taken up for example by Wisner and Pelling or Moser and Satterthwaite, is more concerned with day-to-day management of hazard-prone environments rather than with reconstruction following disasters, yet current thinking in this field is also that participatory, people-centred development is necessary if disaster-prone environments are to be managed effectively.

The key contribution of this volume is to analyse the potential for large-scale reconstruction to be participatory and developmental, for and of ordinary people – 'people-centred' reconstruction. Focusing mainly, though not exclusively, on major natural disasters, the various chapters address the study from a number of perspectives drawn, in part, from the sphere of development.

These include the nature of participatory processes practiced in housing reconstruction today; the increasing scale on which work is undertaken and the barriers and opportunities to the large-scale adoption of participatory approaches; the changing role of actors in the planning and implementation of housing reconstruction; and the implications of these matters for ordinary people affected by a disaster, often poor and marginalized, in the process of reconstructing their lives and attempting to break the cycle of poverty and vulnerability.

Because it is during this period that large-scale, people-centred, participatory reconstruction has become a realistic – and in some cases a real – policy option, the chapters in this volume reflect critically on practice in the field mainly during the period 2005–8. However, four earlier case studies, set in Colombia, Peru, India and Turkey, are included because of the particular insights they provide. Because it is an attempt to reflect critically on practice, the authors of Part One are a practitioner, a professional and an academic; and of the ten case studies presented in Parts Two and Three of this book, seven have been written by practitioners, and three have been co-authored by practitioners and academics. Several of the chapters discuss a particular approach to people-centred reconstruction current at the time of writing – 'owner-driven reconstruction', or ODR. It should be stated from the outset that the focus of this volume is broader than a specific policy approach, and several of the case studies come from other policy contexts.

Part One of the book sets the scene. In chapter one Theo Schilderman reflects on key developments in housing practice and theory and their links with post-disaster reconstruction, showing how thinking in the former field has gradually infiltrated thinking in the latter. This is followed in chapter two with an exploration by Michal Lyons of the issues involved in the large-scale practice of participatory reconstruction. Her argument is illustrated through an examination of the Community Rehabilitation and Reconstruction Partnership (CRRP), a partnership between the Red Cross movement and UN-Habitat for post-tsunami reconstruction in Sri Lanka. Finally, chapter three presents a

brief explanation by Lalith Lankatilleke of UN-Habitat's model for large-scale participatory housing reconstruction, the 'people's process'.

Part Two brings together case studies of four reconstruction programmes, which examine the implementation of participatory reconstruction policy on a large, national or provincial scale. All explain the politics and evolution of the programmes concerned, and provide critique from a range of perspectives. In chapter four, the well known Owner Driven Programme for post-tsunami housing reconstruction in Sri Lanka is examined by Hidellage and Usoof, who comparatively analyse the different approaches of a number of large agencies active in the programme, and their outcomes for vulnerability and the vulnerable. The ODR programme launched in Kashmir and Northwest Frontier Province by Earthquake Reconstruction and Rehabilitation Authority (ERRA) for housing reconstruction following Pakistan's 2005 earthquake is critiqued by Qazi (chapter five), who explores the dichotomy between the programme's rural and urban performance. In chapter six, Da Silva and Batchelor draw on the experience of post-tsunami reconstruction in Aceh, Indonesia, to explore the barriers faced by agencies and NGOs seeking to expand the scope of their participatory reconstruction programmes; and in chapter seven, Barenstein and Iyengar analyse the barriers to wider, national adoption of participatory, people-centred reconstruction policies by the Government of India – as well as the failure of the approach to be replicated in subsequent disasters at state level – despite the unassailable success of the Gujarat experience in 2001.

Part Three presents six project case studies with critiques which raise important issues for the planning of larger programmes or policies. In chapter eight, Lizarralde's critique of post-earthquake reconstruction in Colombia examines the performance of a local CBO as the main agency leading reconstruction. Aubrey's analysis of reconstruction following ethnic violence in Kenya in 2008 (chapter nine) reflects on the potential for temporary shelter to provide a foundation for reconstruction; and examines the institutional barriers at international level to the adoption of an integrated approach to reconstruction. Alam, examining post-flood reconstruction projects in Bangladesh (chapter ten) and Arslan and Johnson, analysing post–earthquake reconstruction projects with tenants in Turkey (chapter eleven), discuss the potential for agencies to undertake participatory reconstruction even in a relatively hostile or neutral policy environment, including some of the outcomes of this state of affairs. Ferrer Calvo (chapter twelve) presents a case study from El Salvador, implemented by Salvador RC together with the Spanish RC after the earthquake of 2001, which demonstrates the potential for participation to be both formalized and incremental. Finally, in chapter thirteen, Guzmán Negrón revisits six Peruvian reconstruction sites, and examines the potential for long-term collective benefits from the relatively short-term interventions of participatory reconstruction. A collaborative conclusion draws together some of the main threads from these case studies.

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About the authors

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PART I
Setting the Scene

CHAPTER 1

Putting people at the centre of reconstruction

Theo Schilderman

This introductory chapter makes a case for people-centred reconstruction. It rejects previous dominant approaches to reconstruction, such as donor-driven reconstruction, as being inappropriate, and owner-driven reconstruction as being too exclusive. It argues that, in order to create greater resilience and sustainability, reconstruction must be more participatory and learn from development theory and practice, particularly in the housing sector. Above all, reconstruction needs to adopt a more holistic approach, combining the rebuilding of houses with that of livelihoods and local markets. Practical experience and guidance on this is still scarce, but being developed.

People-centred reconstruction in context

Approximately forty years ago, major earthquakes struck Peru and Turkey, causing much damage and many casualties. In both cases, the government initiated large reconstruction programmes, often involving relocation, and received assistance from external humanitarian agencies on an unprecedented scale. In 1970, there was little previous reconstruction experience of similar magnitude to learn from. The approaches followed by governments and agencies alike were to build houses for people rather than with them. Evaluations of those programmes by, for example, Blaikie et al., (1994) and Aysan and Oliver (1987) have since highlighted that they often got it wrong, and many of the houses built remained unoccupied, whilst the affected people reverted to their old ways of building and remained vulnerable to future risks.

Tragically, forty years on, governments and agencies sometimes still get their reconstruction approaches wrong. It perhaps happens less frequently and not to the same extent, but it still does happen and houses sometimes remain unoccupied even now. Disasters do put a lot of pressure on decision makers; they lead to thousands of households living in makeshift accommodation or with host families, and nobody likes this to last for too long. Besides, if nothing happens quickly, the media will put on additional pressure. So now, as in 1970, decisions are frequently made in a hurry, without much investigation or analysis, and without involving all those that matter. It appears to

remain difficult for some decision makers to shift from a supply-driven 'relief mode' to a 'reconstruction mode' that ought to be more support-driven and people centred.

A recent step in the right direction has been the emergence of transitional housing which allows affected households to move out of their tents and other emergency shelters relatively quickly, whilst buying some time to get the permanent housing right – however, it comes at a cost. It was applied quite widely after the tsunami that affected many Asian countries in late 2004. A recent evaluation of a transitional housing programme in Aceh by van Dijk (2009) shows that transitional housing did also have a positive socio-economic impact on the people affected, provided they did not stay in the housing for too long.

For most households, a house is the biggest asset they will possess in their lifetime. They often struggle to construct it according to their individual needs and capacities, and the process may involve years of incremental development. Once a disaster has destroyed that asset, they may need outside assistance to reconstruct it non-incrementally, but the house still will have to meet their needs, which is one of the key reasons for putting people at the centre of reconstruction.

Reconstruction does not take place in a vacuum, but in a context of pre-disaster developments which have influenced the policies, strategies, rules and customs that are in place. These may differ from country to country or even within countries, but they are what have shaped society, livelihoods, housing, services and much more, as well as given rise to poverty, vulnerability and exclusion. It is important to analyse and understand these to achieve the most appropriate reconstruction, but in post-disaster pressure, there is often a tendency to only do so superficially, if at all. If people-centred reconstruction is to succeed, it needs to consider at least four sets of questions wherever it is applied:

1. What can we learn from the housing sector? How is housing provided in non-disaster circumstances, and who are the key actors? How in particular do low-income and marginalized people build or acquire housing? What are the prevailing government policies, strategies and rules applying to housing, and do these hinder or enable housing by or for the low-income? Which elements of this could be particularly useful in reconstruction? And what are the inherent weaknesses or risks?
2. Are people normally put at the centre of development? Is there a tradition of popular participation in the planning, implementation and evaluation of development? Is this supported by law or official policies or does it happen on an ad hoc basis? How inclusive is it? And how widely has it been applied to housing and its related services?
3. Is people's vulnerability considered in development thinking? What are its underlying causes? What are people's strengths (e.g. indigenous knowledge or social capital) and how can these be used to reduce their

vulnerability? And what are their weaknesses, and how can these be overcome? Is there a general awareness amongst all stakeholders that poor housing may merely be symptomatic of problems such as poverty or lack of education, which may need to be tackled more holistically to build back better and in a sustainable way? How much experience is there with integrated development planning?

4. What are the lessons from previous reconstruction projects or programmes in the country, in its region, or elsewhere? Are these being retained by the agencies involved? And have they been captured in policies, strategies, rules or guidelines?

The investigation and analysis of the above four sets of questions do not have to happen after a disaster has struck. In fact, they could happen at any time, as part of a disaster preparedness strategy. Their study could involve staff and students of local universities, NGOs and authorities supporting disaster risk reduction, and others, and it would be equally important to involve communities at risk. Doing some of this work now will reduce some of the pressure immediately after a disaster.

Learning from the housing sector

As early as 1980, Kreimer pointed out that 'disasters are not isolated factors in creating housing shortages and substandard conditions. A number of continuities and similarities exist between 'normal' and post-disaster shelter development which need to be considered in the future planning and implementation of housing programmes' (1980: 282). She mentions the vulnerability of people living in informal housing, caused by a lack of resources and opportunities. Whilst she does recognize that people affected by a disaster face critical problems that need special attention, she also is of the opinion that post-disaster housing is not sufficiently different from 'normal' housing to warrant the distinct reconstruction approaches by aid and housing agencies. In fact, she thinks that disasters generate opportunities, due to the influx of resources, to tackle some of the weaknesses of low-income housing, such as access to land. Unfortunately, even to this day many agencies consider reconstruction to be quite different from 'normal' housing, and pay insufficient attention to how the housing sector functions in non-disaster times.

An analysis of housing in any particular country will probably have to distinguish formal from informal housing processes, and urban from rural locations, since there are important differences between how housing is built or acquired, as well as constraints and opportunities that come with those. For example, in towns and cities land for housing is often hard to come by and expensive, other housing resources will also have to be paid for; and various standards and regulations apply. In informal housing, the latter tend to be ignored, and construction is more often guided by traditional knowledge, and constrained by access to finance and markets. In the countryside, land is

mostly less of a constraint, though there is a sizeable minority of landless rural people. Besides housing they can rely to an extent on resources available in the natural environment at no or low cost, such as timber, bamboo, thatch, stone and aggregates, and mutual aid is widespread too; as a result, rural housing usually requires less money. Rural housing tends to be informal, in that it does generally not adhere to standards or regulations, and is often not formally registered. The three predominant housing processes are summarized in table 1.1 below.

Table 1.1 Predominant housing processes

Formal urban housing	Informal urban housing	Informal rural housing
Land is acquired and registered	Land is invaded or acquired informally	Land is owned and shared under traditional rules
↓	↓	↓
Site and house plans are designed and approved	Occupants build a shelter	House design and construction are mostly vernacular
↓	↓	↓
Infrastructure is installed	Over time this is expanded and improved to become a house	Infrastructure is basic and sometimes shared
↓	↓	↓
Houses are constructed	↓	Home ownership is often not formally registered and can pass on within families
↓	Infrastructure is accessed piecemeal and inadequately	
Titles are allocated	↓	
↓	Eventually ownership may be regularized	
Houses are occupied		

Formal urban housing processes

These processes can apply to a number of cases. They include the design and construction of individual houses, managed by the owners, as well as larger housing schemes, managed by a group of owners, e.g. organized in a housing cooperative. It also includes housing built for profit – either through sale or letting – by individuals or companies. The design and supervision of these dwellings often involves building professionals, and they are usually built by contractors.

By 1970, when the earthquakes (mentioned at the start of this chapter) struck Peru and Turkey, governments of many developing countries had become used to supplying urban housing in this way, in an attempt to reduce a growing housing gap caused by rapid urbanization. Hardly ever, did they manage to build houses in adequate numbers, nor were they able to reach the urban poor, unless the housing was heavily subsidized. Housing construction by the private sector helped to fill the gap at the top end of the market, but they were equally unable or unwilling to provide formal housing to the urban poor. Essentially, the per capita cost of this housing process was far too high. In the 1970s, access to land was not as big a constraint as it is to-date, but important bottlenecks, even then, were the high levels of standards and regu-

lations, as well as lengthy and expensive procedures. As to the first, as early as 1978 a study by the World Bank of six cities found that 35–68 per cent of their residents were unable to afford the cheapest housing units produced by the public sector. And Saad Yahya et al. (2001:1) observed:

> Less than half of the urban population in developing countries can afford to build according to the prevailing standards. Their lack of legal tenure makes them vulnerable to eviction and violence; it also severely limits their access to housing finance; both factors combine to make the poor less inclined and less able to improve the poor housing conditions that currently affect their health and productivity.

Of course, these same conditions also increase their vulnerability to disasters, as stated by Kreimer (1980). De Soto (1989: 134–143) is one of the authors who brought the constraints posed by housing procedures to our attention. Research in the 1980s in Peru, by his *Instituto Libertad y Democracia* found that it took 43 months, 207 bureaucratic steps and the equivalent of 56 monthly minimum salaries to legally acquire a piece of public wasteland, a further 28 months to get a permit to develop it, plus 12 months for a building permit. It was only then, after nearly 7 years, that construction could start. For De Soto, this was a key reason for people to invade land and build outside the law. The World Bank (1993: 24) also recognizes that 'nothing influences the efficiency and responsiveness of housing supply more than the legal and regulatory framework within which housing suppliers operate'. For evidence, they cite the same example of Peru, and a comparative study in South East Asia, which suggests that housing supply in Thailand, where regulation is simple and efficient, is more than 30 times as responsive to shifts in demand than in Korea or Malaysia, where regulation is more complicated. Similar issues in the areas of tenure and procedures also tend to make urban reconstruction a lot more challenging than rural reconstruction in many countries.

By the early 1970s, the limitations of public sector supply of housing were becoming evident. The emerging neo-liberal thinking also preferred leaving housing development to the private sector. In a shift of policy, major donors like the World Bank (1993: 52–53), thus encouraged governments to move towards sites and services programmes, supplying affordable land, infrastructure services and sometimes core houses to owners who then had to complete the housing process themselves. This made housing more affordable, attaining a medium per capita cost, but again there was little evidence that the urban poor were reached in large enough numbers. And if that did occur, pressure on them was high to sell their properties on to higher income groups. Whilst sites and services programmes did help to make serviced urban land available to some, they probably did not do enough to tackle the above cited problems of regulations and procedures adequately. As a result, some time in the 1980s, this approach started to decline.

From the late 1980s onwards, the role of governments in the provision of formal urban housing has been increasingly seen as that of an enabler or

facilitator, as expressed in the United Nations Centre for Human Settlements' (UNCHS) *Global Strategy for Shelter for the Year 2000* (1988), or in the terms of the World Bank as 'enabling markets to work' (1993). That role includes putting in place policies and strategies that encourage formal housing provision by the private sector, e.g. access to housing finance, the replacement of prescriptive by performance standards, and the simplification of compliance processes. The advantage to governments was that this could be achieved at the lowest per capita cost. This move also seemed to finally recognize what Turner and Fichter (1972) were saying nearly 20 years earlier, namely that where dwellers are in control, their homes are better and cheaper than those built through government programmes or large corporations. Donor agencies like the World Bank changed accordingly, in the case of the Bank, for instance, in supporting housing finance institutions, albeit mostly not in least developed countries (LDCs). Enablement is also at the core of the Habitat Agenda (UNCHS, 1997), agreed by the vast majority of countries and key international institutions in Istanbul in 1996.

Over time, therefore, formal urban housing processes have changed from being essentially 'supply driven' to being much more 'support driven', which does allow much greater accommodation of people-centred housing, or reconstruction for that matter, and should allow to achieve a much larger scale. It must be noted, though, that different countries have reached different stages in this process of change, and that changes may even be reversed, as in the case of India's social housing programme described in chapter seven of this volume by Barenstein and Iyengar.

It remains important, in each case, to assess what the key mechanisms are in current housing policies and strategies, and whether they are truly enabling or constraining, particularly to the poor. Recent reconstruction experience suggests, for instance in Pakistan after the recent Kashmir earthquake, that access to formal land and registration of titles are bottlenecks that affect urban reconstruction to a much larger extent than rural reconstruction. Similarly, there is always a delicate balance between making standards and regulations simpler and cheaper, and maintaining sufficient quality to resist future disasters.

Because formal urban housing is designed and built according to standards and regulations, which often contain elements of disaster-resistant construction, it tends to be of better quality than informal urban or rural housing. Many countries, however, lack the capacity to enforce standards adequately. In addition, approval processes and controls are sometimes subject to corruption. Also, some formal housing continues to be built on vulnerable sites, at times because disaster risks are poorly understood or underestimated. Therefore, there is no guarantee that formal housing will stand up to every disaster, and awareness raising and capacity building on the risks and how to overcome them remain important. The evidence from several disasters shows that the risks are larger at the lower income end of the formal housing market, and

perhaps in housing built for rent. It is therefore important that disaster mitigation strategies also address landlords.

Informal urban housing processes

These have become the predominant housing acquisition processes for the urban poor. In many developing countries, more than half of the urban population lives in such housing. Some of the key reasons for this have been described above: urban land that can be formally acquired is becoming ever more scarce and less affordable, standards and regulations are set at levels that many people cannot afford, and procedures for obtaining titles, permits, approvals etc. are complicated, lengthy and costly. There are other factors, often related to livelihoods, e.g. for the urban poor the location of their housing is crucial to being able to make a living. They can ill afford to live on the fringes of cities, if the best income generating opportunities are in the centre, and the costs of commuting – in both time and money – are simply too great. So they make do with an illegal but more central site, even though that may be more at risk of disasters. Often they are aware of those risks, but have to assess them against their equally important need of immediate survival. Hamza and Zetter (1998) argue that a number of ongoing processes, including structural adjustment, the internationalization of city economies and changes to the tools and mechanisms of urban planning only help to accelerate urbanization and the growth of informal housing, putting ever more people at risk of disasters.

A majority of the urban poor are squatters, but many are tenants, people who either cannot or do not want to start a house of their own. In a few countries, like Kenya, the proportion of tenants reaches 90 per cent of the slum population in most towns and cities. It is a very profitable business for landlords, with investment capital often being recovered from less than two years of rent, but the resulting housing is usually bad.

In many developing countries, informal urban housing is the worst in terms of quality amongst the three predominant processes. This affects the residents in many ways, e.g. there are clear health indicators in countries like Kenya, which show that informal urban areas are doing worse than rural areas, and that formal urban areas are the healthiest to live in. One of the problems that most informal settlements face is that they are unplanned, which makes it quite hard to install services later on without destroying at least some houses. Another is that, given the illegality of land occupancy and/or housing, residents often face the risk of eviction, in turn discouraging them from investing in housing or area improvements. Informal urban settlements are often also particularly vulnerable to disasters, sometimes because they have occupied sites not wanted for formal development, for very good reasons: because they were on flood plains, steep slopes vulnerable to landslides, alluvial soils at risk of liquefaction, etc. There is ample evidence that, when disasters strike towns and cities, it is usually the urban poor, living in such areas that are worst hit (see for example, Kreimer, 1980). The world is urbanizing rapidly and its

informal settlements are growing equally fast, if not faster. That greatly increases the risk of disasters affecting large concentrations of people in years to come.

These types of informal housing processes received wide attention from the 1950s under the label of self-help housing. It did not necessarily mean that the residents would do all the building, but merely that they were in charge of the housing process, and might at times use the help of friends or hired builders. It was formally put on the map in the early 1970s by authors such as Mangin (1967) and Turner (1976). The latter in particular, stressed the empowering role of housing: what it does for people, rather than what it is.

Faced with the emergence of slums and informal settlements, the initial reaction of many Third World governments was to enforce often outdated town plans with a strategy of eviction, sometimes – though not always – accompanied by relocation. But the failure of formal housing processes to produce housing at scale, as well as pressure from donor agencies, NGOs and organized slums dwellers, gradually forced policies and strategies to change and, in effect, to accept the inevitability of urban slum housing as a necessary corollary of urbanization. Shortly after the sites and services approach was adopted in formal housing processes, it was joined by policies for regularization and upgrading of slums and informal settlements, with limited relocation, mainly for the purpose of liberating some land for infrastructure. As in the case of sites and services, the approach assumed an important role for residents taking charge of housing improvement processes, once the infrastructure was provided.

Apart from upgrading programmes initiated by authorities and donor agencies, there also have been cases where residents or their communities have driven housing improvements themselves. This happened for instance where there was less risk of eviction, or where perhaps squatters could put enough pressure on authorities not to evict them, and gradually advocate for regularization and access to services. The municipality of Villa El Salvador, which forms part of Metropolitan Lima, for instance, started as an invasion of some desert land on the outskirts of the city more than 40 years ago, with people building shelters of bamboo mats. Thanks to a supportive government, and often with the help of NGOs, the informal settlement has over time grown into a large low to middle-income neighbourhood, with houses being improved and extended all the time in truly incremental processes. The municipality now counts many houses of two to three storeys with concrete frames and brick masonry.

In line with the drive for governments to become the facilitators of housing processes, described in the previous section, there was also a lesser role for direct interventions in upgrading, though these still occur. In addition, other forms of enabling policies were initiated by the public as well as the private sector to stimulate self-help housing, including savings and credit schemes, innovative forms of tenure, land sharing and more appropriate regulations and procedures.

Whether disaster resistance is always taken into account adequately in these processes, remains to be seen. People that have traditionally been involved in self-help housing do have certain knowledge and skills and, what is more, they often do know where to obtain the skills they do not possess themselves. However, in urban areas these come at a cost, as do building materials, and this poses constraints as to how much improvement is possible. If the sites are risky and residents are not relocated, there are limits to what upgrading can do to make them safer. Similarly, if existing houses are in poor shape, they can be retrofitted, but only to a degree; it is, for instance, very hard to improve a foundation if it is not deep or sound enough. Against that, one will have to consider what moving to a safer site and starting afresh would entail. If the alternative is that people are relocated to the outskirts of towns and cities, where they will live in greater poverty because of lesser income-generating opportunities or greater travel expenses, and therefore perhaps will end up in even poorer housing which reproduces vulnerability, then upgraded informal housing may be the best alternative for them.

Informal rural housing processes

In many developing countries, land in the countryside is owned under traditional rules, within families. It may be passed on and subdivided between generations. Some of it may be held in communal property. This is informal, in that it is frequently not formally surveyed and registered, which may not pose any problems because communities tend to know who owns what, and have their traditional means of settling conflicts. It differs from the informal land situation that one often encounters in urban areas, where occupants squat on land that actually has a registered owner, in either the public or private sector. Even in rural areas, there are landless people who occasionally revert to squatting, but perhaps more often are allowed to live on somebody else's land as either a tenant or a labourer.

Rural housing the world over has a rich tradition, described and pictured in detail by authors such as Oliver (1997). Housing designs and technologies have been passed on and improved upon by generations of residents and rural builders. There are usually good reasons for the way houses are built, and some of these may derive from previous experiences with disasters; these are not to be ignored. The rural environment provides many housing resources, including stone, gravel, sand, clay, timber, bamboo and thatch, though population and environmental pressures are diminishing these resources. At the same time, rural agricultural production for urban markets has allowed farmers to start purchasing materials and components from elsewhere, particularly roofing sheets and cement. There is ample evidence of self-help and mutual aid in construction, and many rural communities have builders specialized in specific components of housing. Informal rural housing is often of much better quality than informal urban housing, but this is not always true, and would depend on a number of factors, such as the availability of natural

resources and building skills. Rural housing may also manifest deficiencies, of which a lack of durability can be quite prominent, since the materials used predominantly tend to be easily affected by humidity and insects. Well built and maintained rural housing has proven to be able to resist low to medium-intensity disasters. Most rural housing, however, remains vulnerable to disasters of major magnitude. The maintenance of housing built with less durable materials is crucial for keeping them safe. If factors such as illness or poverty reduce the inhabitants' capacity for maintenance, houses can fall into a very poor state very quickly and thus lose their capacity to stand up to disasters.

Few governments have supported rural housing improvement on a large scale. The exceptions include Sri Lanka, where the 1 million (later on 1.5 million) houses campaign of the 1980s had an important rural component. Another is the *Indira Awas Yojana* social housing programme initiated in the mid-1980s in India, which targeted the rural poor, but this was contractor driven, and abandoned any vernacular traditions. Most governments have tended to focus more on infrastructure services such as water and energy which rural people require alongside housing and are sometimes harder to access on an individual basis. They considered housing to be the individual households' responsibility, and would go no further than facilitating this through, e.g. research, demonstration, guidelines or training. The building centres established by the Government of India in many localities are a good example of such support. And at some stage in the 1970s–1980s, Tanzania had a *Nyumba Bora* ('better housing') campaign, supported by building technicians at district level. The public sector in many countries carried out research into better rural housing, but hardly ever as action research with the participation of residents and their builders. Most of this research also did not seek to incorporate vernacular building technologies, and this is perhaps partially why the results of this research were rarely taken up on a large scale. The private sector was also involved in such research, with NGOs more often adopting a participatory approach, leading to results that were more widely accepted at the levels of project locations. NGOs, however, faced other challenges of reaching impact at scale, e.g. the paucity of funds available for normal rural housing programmes.

However, these changes after disasters occur when sometimes large amounts of funding are raised through television appeals and other means. In this context, there are some examples of vernacular technologies being adopted in post-disaster reconstruction. This often followed on from an assessment of how local housing had behaved during a disaster, indicating that some methods of construction were much more resistant than others. As early as the 1970s and 1980s, the NGO Unnayan advocated the strengthening of traditional coping and building strategies in West Bengal, India. They found that houses built with local laterite stone or fired clay bricks did stand up well against cyclones and floods, and their architects worked with local builders and communities to incorporate safety improvements in traditional buildings (Intermediate Technology, 1994). Lowe (1997) and Schilderman (2004)

describe a reconstruction project by Practical Action of the early 1990s in Peru, which was based on the traditional *quincha* (mud-and-pole) technology, further developed with residents and builders to form 'improved' *quincha*, which found widespread replication. Another example occurred in Pakistan, after the 2005 earthquake where, after much advocacy by UN-Habitat and others, traditional *dhajji* (wood frame) construction was accepted as an option for rural reconstruction (see, e.g. Langenbach, 1990, and UNESCO and UNDP, 2007). Similarly, The Hunnar Shaala Foundation (2009) has applied the same principles of improving traditional earth technologies and increasing the skills of local builders, after the Gujarat earthquake in Kutch.

It is very important to assess how housing has performed during a disaster, soon after its occurrence, ideally with local residents and builders. In doing so, all those involved can learn which local ways of building have performed better, and they can investigate and discuss the reasons. As is shown in the above cases, it is frequently possible to detect vernacular technologies that have performed reasonably well, and with a bit of improvement could do even better. It pays off to select these as major options in reconstruction programmes, provided that the natural environment and the market can supply the resources required.

Putting people at the centre of development

This is hardly a new idea, but it has evolved over time. Community participation started to get ample attention in the 1960s, particularly in rural development. Initially, it was perhaps mostly seen as a means to achieve development, to gain a community's acceptance of projects, to design more appropriate and sustainable solutions, and to obtain their labour input. Towards the end of that decade, though, development agents and pedagogues like Paolo Freire in Brazil (1970a; 1970b) started to question this focus, and to put people much more at the centre, through conscientization and empowerment. From the 1970s, and more strongly in the 1980s, authors like Oakley and Marsden (1984) argued that participation was an end in itself, as it stimulated people's empowerment and self-reliance. They stated that meaningful participation was concerned with achieving the power to influence the decisions that affected one's livelihoods. Burkey (1993: 205–211) elaborates on this in establishing objectives and principles for self-reliant participatory development, which recognize that most communities are interdependent and not homogeneous; that development is a process; conscientization, participatory action research and external change agents are all important; and above all no agency should do anything for people that they can do for themselves. Participation has now become embedded in a number of tools and methods that underpin development, for example: participatory appraisals, participatory planning, participatory monitoring and evaluation, participatory action research, participatory technology development, and participatory market systems analysis. Many of such tools can also be applied to reconstruction.

Much of the housing of the poor in the Third World has been built through self-help, or sometimes mutual aid, in processes where residents themselves take all or most of the decisions. One could argue that this is the ultimate form of self-reliance, and it has certainly resulted in millions of houses. It was at the first Habitat Conference, in Vancouver in 1976, that the housing world at large first came around to thinking that the poor and the informal sector of the economy actually were a resource and not a burden, and to benefit from that resource participation would be crucial. When subsequently governments or development agencies started to undertake housing programmes at scale, however, achieving participation often proved to be challenging. There are many examples of sizeable housing schemes, such as the Dandora project in Nairobi, Kenya, where residents had little or no influence on the early planning and design decisions, and mainly got involved at the construction stage.

John Turner, in a publication of the same year (1976: 139–152), puts the dilemma they face into one basic question: '*whose participation* in *whose decisions* and *whose actions*?' He distinguishes two categories of stakeholders: the sponsors of activities, usually governments or aid agencies, and the users of the houses or services provided. In the context of our thinking on reconstruction, it is important to note that Turner talks about users, not owners. His model, then, gives rise to four types of housing processes:

Sponsors decide and sponsors provide. This covers the typical supply-driven housing processes often adopted by governments and agencies in the 1970s, as described in the section on formal urban housing processes. It would also include some rural housing schemes, such as the Indian *Indira Awas Yojana* social housing programme.

Sponsors decide and users provide. Many aided self-help projects and sites and services schemes, including the above example of Dandora, are of this type. Whilst there are variations within this type of process, sponsors would commonly select the sites, develop the plans, set standards for and design house types, make credit arrangements and decide on procedures, before selecting users. All the latter are left to do is the construction.

Users decide and users provide. This is what tends to happen in both informal rural and informal urban housing.

Users decide and sponsors provide. This is quite a common process in higher-income housing. In lower-income settlements, such as Villa El Salvador described above, it has happened once these were regularized and residents organized themselves to get services provided to them.

Hamdi (1995: 80–85) argues that people should participate in shaping their living environment in order to: foster cooperation and build coalitions and partnerships between various stakeholders; guarantee continuity through

such partnerships; better collect and share information; and build capacity. Essential to this approach is a belief in incremental growth, in the potential to integrate housing, services and livelihoods, and, in time, to overcome social and economic marginalization. Others have added that it helps to empower people, and generate more appropriate and sustainable solutions. Such has been the persuasive power of these approaches that participation became a core feature of development work (Cooke and Kothari, 2001). However, many theoreticians and practitioners have also warned of pitfalls, including male domination of decision making and the exclusion of minorities or marginalized groups, as well as the fact that participation takes time, which is a scarce resource for people and agencies alike. Others have argued that the institutionalization of participation in large-scale programmes tends to undermine its development potential (Lyons et al., 2001; 2002). Finally, an emphasis on political empowerment as a core goal of participation – in addition to livelihoods and integrated development – is central to a more recent strand of thought (for example, Hickey and Mohan, 2004).

Some of the participatory methods mentioned above have been applied to housing development, or to the provision of related services. The United Nations Centre for Human Settlements (UNCHS) produced a series of training manuals on community participation in sites and services or upgrading schemes (1983; 1984; 1985; 1986), which have proven to be useful at the project level. Of more importance to the development of human settlements at scale, though, has been participatory planning, which was adopted to and gained importance with the emergence and growth of urban upgrading schemes in the 1970s and 1980s, followed by participatory budgeting in the 1990s, and participatory governance since the turn of the century. Whilst new housing schemes are often developed by sponsors for users that are not known from the start, upgrading works with existing communities, which facilitates participation.

The Kampong Improvement Programme in Indonesia which started in the 1970s, and Sri Lanka's 1 million, and later 1.5 million houses programme of the 1980s, were at the forefront of participatory planning. In the latter case, community development councils became the established way for the grassroots to get organized and involved, and community action planning became a proven method, which also spread to other countries. The *Community Planning Handbook* (Wates, 2000) and a related web site (Wates, 2009), are amongst the tools that have helped to spread the method. One of the achievements of participatory planning is that it often produces effective partnerships between local authorities, community based organizations, and support organizations like NGOs and utilities. This helps to pool resources and for upgrading projects to tap into government funding that now is increasingly getting decentralized. How this worked in the case of Kenya has been described by Hamdi and Majale (2004).

Participatory budgeting was piloted in 1989 in the city of Porto Alegre, Brazil, under a council then led by the *Partido dos Trabalhadores*. It has since

spread to hundreds of cities in Latin America and beyond. In Bolivia, it is now embedded in law, and involves both the planning of financial expenditure on priorities decided with grassroots involvement, as well as their monitoring. UN-Habitat produced a toolkit on participatory budgeting in 2004.

Some countries have incorporated participation in their housing policies and strategies, as they were developed for the International Year of Shelter for the Homeless (in 1987) and since. In a few cases, participation has been formalized in law, as in India and Bolivia, however its application does occasionally pose problems in practice. Improved participation and governance also fit well with recent trends in institutional reform, which have tended to decentralize responsibilities, e.g. for the provision of services, from central to lower levels of government. The rapid urbanization of the Third World and the accompanying growth in urban poverty also have made both local and national authorities realize that different urban development strategies were going to be needed, because they were no longer able to resolve the resulting problems all by themselves. The combination of such trends and the upsurge of participatory approaches led in the 1990s to the emergence of partnerships between communities, local authorities, and a variety of supporting stakeholders, including aid agencies, NGOs, the private sector and utilities. As Hamdi (1995) points out, partnerships can work well, provided they are based on a convergence of interests between partners. They can enhance sustainability through learning and the institutional development of those involved. Often, NGOs play a key role in bringing authorities and the grassroots together.

These days, partnerships are promoted by large agencies and NGOs alike as a key approach for tackling shortcomings in housing and infrastructure services. The former include the Urban Management Programme (a joint effort of the World Bank, the UNDP and UN-Habitat), which uses for instance the tool of city consultations to bring various stakeholders together (Schübeler, 1996). Amongst the latter is the NGO Practical Action, which has stimulated participatory urban planning and the development of urban partnerships for housing and infrastructure in a number of African and Asian countries (see, e.g., Hamdi and Majale, 2004). The development of such partnerships has focused increasing attention on participatory governance, especially since the turn of the century. As pointed out by Riley and Wakely (2005: 28–29):

> Partnerships are the latest instrument for participatory governance. They promise to deliver extra resources, sustainability, efficiency, social inclusion, accountability and democracy, yet they are frequently criticized for being unaccountable, undemocratic, socially exclusionary and insignificant. (We have) … attempted to show that such criticisms are usually justly levelled at the growing number of partnerships that are not really partnerships at all. The political and popular appeal of incorporating the word 'partnership' into the title of any multi-sector initiative is causing the concept of partnership to receive bad press and fall into disrepute'.

They go on to say that building authentic partnerships is not easy and does take time. However, they do bring in excluded groups, and focus on, amongst others, power relations, resolving conflict and accountability. An important contribution to good urban governance has also been made by Shack/Slum Dwellers International (SDI), a loose network of associations of generally excluded people, organized in national federations, such as the National Slum Dwellers Federation of India, the Homeless People Federation of the Philippines and the South African Homeless People's Federation. The SDI, as well as the Asian Coalition for Housing Rights, take a stand against the dominance of large centralized agencies, and have done much to give a bigger voice to the urban poor and excluded in decision making.

Governance goes much beyond mere participation. It is also about accountability and transparency, information sharing and good communication, inclusion, the rule of law, and for some: democracy and human rights. It could go as far as making small investments grants available for local communities to decide and manage, as for instance piloted a few years ago with support from the Department for International Development (DFID), UK, Care International and the Local Government International Bureau in Zambia and Uganda (Beall, 2005). The International Urban Poor Fund, a partnership between SDI and the International Institute for Environment and Development (IIED), has done something similar, in providing finance to grassroots groups and slum dweller federations in 14 countries between 2002 and 2006 (IIED, 2007). It could also extend to communities getting involved in contracting for decentralized urban infrastructure, as piloted in the slums of India with the support of SPARC, and now scaled-up more widely in India, Kenya and the Philippines under the CLIFF programme (Homeless International, 2009). All of these are examples of truly people-centred approaches. Examples such as these, often piloted by NGOs, have now also convinced large agencies of the value of development driven by the grassroots. The World Bank (2009) now has a Community Driven Development Unit, which states on its web site:

> Poor and marginalized people have often been viewed as the target of poverty reduction efforts. Community Driven Development (CDD) approaches turn this perception on its head, and treat poor people and their institutions as assets and partners in the search for sustainable solutions to development challenges. CDD – broadly defined – is an approach that gives control over planning decisions and investment resources to community groups and local governments. CDD programs operate on the principle of local empowerments, participatory governance, demand responsiveness, administrative autonomy, greater downward accountability, and enhanced local capacity. Experience has shown that given clear rules of the game, access to information and appropriate capacity and financial support, poor men and women can effectively organize in order to identify community priorities and address local problems, by working in partnership with local governments and other supportive institutions.

In all of the above, though, the emphasis has often been more on infrastructure services in under-served residential neighbourhoods than on housing itself. Where the construction or improvement of low-income urban housing has been important and managed to achieve some scale, are in the programmes of some of the federations associated with SDI, especially in India, Thailand and South Africa, and in a relatively few NGOs in Latin America. An important aspect of this achievement is that the majority of those who benefited from this work were not house owners before, but squatters or tenants, a category agencies struggle to reach in urban reconstruction after disasters.

There are many challenges in all of this. Local authority staff are often accustomed to certain ways of working and may be disinclined to suddenly change these; they may need to be encouraged and their capacity built to interact with communities and apply participatory approaches. A good example is provided in Sri Lanka, where the NGO Practical Action is collaborating with the Sri Lanka Institute of Local Governance (SLILG) in running an advanced diploma course in local governance for local and provincial authority staff. Grassroots groups may struggle to understand some of the information at hand, and to engage with municipal structures; they require capacity building of a different nature. And reaching scale, whilst maintaining inclusiveness, is not easy either. Sharing knowledge of what works well, ideally between peers, is an important tool for scaling-up. Organizations like SDI, the Huairou Commission and Practical Action have shown that a number of methods, such as peer training, exchange visits, information networks, and enquiry services, can be very effective in scaling-up good practice (Schilderman and Ruskulis, 2005).

Whereas participatory development has a longer history and a stronger presence in rural than in urban areas, this is perhaps less obvious in housing. Most governments of developing countries have tended to steer away from rural housing development at scale, and of the few larger programmes that were implemented, some were not participatory. NGOs have been more active in supporting community-led housing initiatives, often with considerable success. Their involvement, though, has been more at the level of relatively small projects; scaling these up to larger programmes has always been a challenge for them. Communities in rural areas are often more homogeneous than urban communities, and in many cases mutual aid is traditional. They often possess strong and organized social capital, e.g. in the form of self-help groups in India, and some such forms of organization are even recognized in law or in government policies, which facilitates their access to resources like credit or technical assistance. There is some existing experience, so even if such groups are not initially focused on housing, their attention can be extended to this if a need arises. A good example of this is the involvement of coffee growers' organizations in Colombia in reconstruction after an earthquake, described in chapter eight in this volume. Supporting agencies can do the same, e.g. the NGO ALIANZA successfully shifted its focus of community support from public health to reconstruction, after the Guatemala earthquake of 1976 (Ruskulis,

2008: 10). Therefore, the presence of grassroots organizations and their support organizations in disaster-prone areas is a potential asset when disasters strike, and could be used to support people-centred reconstruction.

Participatory approaches have been used in reconstruction for several decades now, starting in Latin America, with the involvement of NGOs. They usually involved relatively small projects. The case of ALIANZA, cited above, is one such example. A substantially larger programme was implemented by the NGO FUNDASAL after the 2001 earthquake in El Salvador (Ruskulis, 2008: 13). It is only with the emergence of owner-driven reconstruction (ODR) as an official strategy in South Asia, now about a decade ago, that much greater scope for the scaling-up of participatory approaches in reconstruction exists (see, e.g. Duyne Barenstein, 2006). There is, however, a real risk that ODR does little more than providing a framework for aided self-help housing at scale, without actually making the owners participate in any substantial way in how programmes are designed. In other words, it remains close to Turner's second type of housing process: *sponsors decide and users provide*, rather than the other way around. An inherent problem may be that many of the agencies getting involved in housing reconstruction are by nature relief agencies, not development agencies. Whereas many of the latter have a strong tradition of participation and governance, this is less so with the former. Relief tends to follow Turner's first type of process: *sponsors decide and sponsors provide*. When moving to reconstruction, some agencies maintain that process, but others will involve users (defined as owners) more as providers, but without actually sharing much of the decision making powers.

Reducing vulnerability, enhancing livelihoods

When a moderate earthquake struck the Alto Mayo of Peru in 1990, the region was in economic decline. The main agricultural product of the Alto Mayo was rice, but the government had disbanded the agency acquiring rice from farmers and failed to properly maintain the one major road that linked the region to the markets of the main cities on the coast. Many incomes therefore declined; this reduced people's capabilities of building and maintaining their houses, and this proved to be a major factor in the damage and casualties the earthquake caused. The inhabitants had become more vulnerable because their livelihoods had been negatively affected by external events, in this case a government failing to do its duty to its citizens. What is more, when aid started to flow into the region in the aftermath of the disaster, this included a lot of imported rice, at a time where local stores were full to the brim of rice that farmers were hardly able to sell. This worsened their situation even further, since it became nearly impossible to sell rice locally. Whether natural disasters are acts of god or acts of man, was a question first raised by Wijkman and Timberlake in 1984. Their work shows how disasters of similar magnitudes have caused far less death and destruction in the developed than in the developing world. It is poverty, environmental degradation, rapid population growth and

poor governance that make Third World populations more vulnerable, and cause natural hazards there so much more often to result in major disasters.

In an earlier analysis of what makes housing vulnerable to disasters (Schilderman, 2004), I pointed out that vulnerability is now receiving increasing attention, and not just in the context of disaster reduction. Researchers also analysed it in the context of drought and food security, and it is also a core issue in adaptation to climate change. Anderson and Woodrow (1998: 9–25) argued that it was not enough to know people's vulnerabilities, we would also have to explore their coping capabilities. Vulnerabilities and assets – which include capabilities – together with the institutions and processes that affect people, are also the key components of sustainable livelihoods analysis, which goes back to the thinking of Robert Chambers in the 1980s (see, e.g. Chambers, 1989, and Ashley and Carney, 1999). The sustainable livelihoods approach puts people at the centre of development. A livelihood is considered sustainable if it allows people to recover from various types of stresses and shocks, including natural disasters. Consequently, vulnerability analysis has an important place in the sustainable livelihoods approach.

Livelihoods analysis has also helped us to understand that poverty is multidimensional and that disasters are not the only risk poor people are facing, something that tended to be overlooked in the earlier dominant thinking on disasters. For some poor people, in fact, day-to-day survival may be a greater concern than the rather distant threat of a disaster happening. Twigg (no date) is of the opinion that people do not willingly run the risk of death or financial losses, but short-term pressures such as the need to make a living or to feed a family may force them to accept the more remote risk of disasters. He cites a study of the Karakoram region of Northern Pakistan from the 1980s that found houses to be dangerously located on slopes. The owners were aware of the risks these locations posed, but opted to build there rather than to use the little arable flat land they had for housing. Cases such as this, and that of the Alto Mayo above, can lead to a vicious circle in which the wrong types of development process increase vulnerability and the scale of disasters, and these then cause serious setbacks to development, which makes it harder to recover.

It is important to understand what people's vulnerabilities are before a disaster struck. But invariably, the disaster adds to these: they may have lost crucial productive assets, or their home; they may also have been forced to re-locate, perhaps further away from livelihoods opportunities; and they will be traumatized. Even in non-disaster circumstances, it has been argued that, for housing to improve and to become more disaster-resistant, it would be important to strengthen the livelihoods of residents, so that they would be able to afford the improvements. This is why, for instance, a study of habitat processes in South Asia (Development Alternatives, 2005: 100) concludes that 'interlinkages between improved shelter, increased earnings and enhanced local economies are strategic and should be enhanced by designing integrated interventions across these issues'. These links are perhaps even more important in reconstruction,

because the disaster has left more people than ever vulnerable, yet at the same time it often offers a unique opportunity for external funding to come in. Practical Action argues that the slogan 'building back better' should not only apply to housing, as it is often understood, but equally to rebuilding the livelihoods of people affected by a disaster, and of local markets; ideally, that should happen through an integrated approach, if not in close cooperation by agencies involved.

Within this context, it is important to analyse what housing reconstruction can do for livelihoods. As van Dijk (2009: 21) notes in the case of Aceh, this involves backward linkages through the purchases of materials, labour, transport etc. It is obviously important for the restoration of local markets and livelihoods that these purchases are made locally as far as possible. At the same time, there are forward linkages, which come from what housing does for people, e.g. it may offer a place to earn a livelihood or to store produce before it is sold, and it may improve the inhabitants' health and productivity, which all tend to have positive impacts on incomes. It is important that choices made for the design and technologies to be used take these factors into consideration, and involve users in them. If housing is to be relocated, it is again crucial to consider what this means for the livelihoods of the people concerned. After the 2004 tsunami in Sri Lanka, for instance, affected households were sometimes forced to relocate quite far from the sea; many who depended on fishery for their livelihoods were extremely reluctant to do so. For others, the lack of transport to get to potential places of work, or the impossibility to grow food on the plot, were additional livelihood-based arguments against relocation (see, e.g. Boano, 2009).

There is some evidence in cash for shelter programmes – which is a subset of ODR approaches – that owners provided with cash have at times used funding allocated to them for the purpose of reconstruction for other ends, particularly to invest in items essential for restoring their livelihoods (see, e.g. Cordero, 2009: 39–41). This may result in housing being delayed somewhat or realized in stages, but as long as this leads to an overall strengthening of people's livelihoods assets and a reduction of their vulnerability, this is not necessarily a bad thing. It might be an argument for agencies to offer people a broader package of support with some flexibility for individual households to determine the sequence of spending on their priorities.

Unfortunately, most reconstruction programmes involve little holistic development thinking. This may be constrained to an extent by the cluster approach agreed between and adhered to by some of the major agencies, which allocates lead roles and responsibilities for different aspects of relief and reconstruction to different agencies. This does stimulate divisions along sector lines, and this then determines how funding is allocated. At the same time, governments are organized and allocate budgets along sector lines too. In addition, many aid agencies tend to have their specializations, and may therefore lack capabilities in other areas. Thus, even agencies that might favour a more integrated approach to building back better, might find themselves in

a position where they can only support a single sector and at best cooperate with others.

What have we learned from 40 years of reconstruction?

Disasters have affected housing as long as mankind has been around. For millennia, it was mainly left to the affected households to rebuild their livelihoods and their housing, occasionally with a little help from the state or charitable organisations. As far as developing countries are concerned, a major change happened in 1970, when severe earthquakes hit both Peru and Turkey, causing numerous casualties (76,000 in the case of Peru) and much destruction and damage to housing. For the first time, reconstruction received assistance at scale from both governments and external agencies. This gave rise to a predominant approach to reconstruction which we now call donor-driven reconstruction (DRR). In this approach, donors – including governments, multilateral or bilateral agencies or humanitarian agencies – decide how and what to build and construct this directly or through contractors. Or, in John Turner's terms: *sponsors decide and sponsors provide*. The agencies involved would tend to do so, even if the destroyed or damaged housing had been designed and built in quite different ways, e.g. with much more involvement of the residents. A host of evaluations and studies of projects and programmes implemented under this approach have clearly shown that, in most cases, it was not the appropriate way to go about reconstruction. Ruskulis (2008) lists the main problems with donor-driven reconstruction as:

1. Contractors prefer to build as many houses as possible on large sites, using uniform designs, citing economies of scale. The circumstances and needs of individual households, though, vary and not every household is served well.
2. It takes a lot of time to acquire, plan for and develop the sizeable plots required.
3. Large sites which are both affordable and unconstrained by competing developments are often far from trunk infrastructure, leading to a heavy additional cost load on development, as well as increasing the costs of materials and labour supply.
4. This way of building is costly, yet it contributes only in limited ways to rebuilding local markets and livelihoods.
5. Most of these projects involve relocation of residents from their original sites; this can threaten their livelihoods, as in the case of fishermen relocated away from the sea after the tsunami.
6. There is a general lack of user participation at all stages of projects or programmes; as a result designs can be inappropriate, and residents do not feel real ownership.
7. Information sharing is poor in general.
8. Projects or programmes can be exclusive or gender biased.

9. At times, there is insufficient quality control by agencies or inspectors, which may lead to poor construction and vulnerability to future disasters.

These drawbacks, and others, have been known for a while by the researchers and academics who undertook these studies, as well as many of the agencies involved. Yet, the agencies often persevere with the DDR approach, for reasons of their own, and it is therefore still a dominant approach after many disasters. The key reasons for this appear to be, firstly, that agencies often have rules and procedures of their own. These may make if difficult for them, for instance, to contract individual house builders, let alone hand cash to them. Secondly, and related to this, is their reluctance to deal with hundreds of individuals, or perhaps several dozen small groups, rather than a single implementer, due to the overhead costs involved. Thirdly, many agencies still assume that to build back better requires professionals to design the houses and contractors to build them, rather than leaving it to the people themselves. Several studies, e.g. of reconstruction in Gujarat (Duyne Barenstein, 2006) and in Sri Lanka (Lyons, 2007 and Boano, 2009) have since shown the contrary to be true, yet it appears hard to change a mindset. Fourthly, they also assume that the participation of end users, as well as the requirement to build their capacity, would take too much time and therefore delay implementation. Again, this is often contradicted in practice, as shown by Lyons (2007) in the case of Sri Lanka, where it took far more time to get contractor built housing going than to get owners to start rebuilding. Fifthly, many humanitarian agencies that get into reconstruction actually do not have previous housing experience, as was the case in Aceh after the tsunami (Dercon and Kusumawijaya, 2007). As a result, they lack in-house expertise in design and construction, and therefore prefer to leave that to professionals. And lastly, notwithstanding the vast amounts of project information, evaluations and research data around, some agencies are bad learners, a practice reinforced by the fact that humanitarian agencies do not retain staff permanently but recruit them on a temporary basis, as and when disasters occur. Some may suffer from what Boin and Lagadec (2000: 188) call the *amnesia syndrome*, whereby:

> As soon as the event is over, forgetting and returning to the prior situation are in order. The units ease their efforts and disperse at the first favourable signs. The fundamental questions that generated the crisis – and that were generated by it – are not dealt with. In the absence of any collective handling of the crisis, wrong lessons will be 'retained' – creating traps for the future.

Whilst there are clear problems with donor-driven reconstruction, it might be the most appropriate approach in certain specific circumstances. This could be the case, for instance, in conflict zones, or in situations where very few local building skills are left. If one were to apply DDR in such cases, it would still be necessary to address the above shortcomings as far as possible.

An alternative approach, owner-driven reconstruction (ODR) started to appear at scale about a decade ago, initially in South Asia. In this approach donors support housing undertaken by owners. ODR is based on the knowledge that, in non-disaster circumstances, the majority of people build or manage the construction of their own houses, often informally, following what Turner calls: *users decide and users provide.* Some NGOs, especially in Latin America, had been aware of this much earlier, and saw no good reasons to change those processes in the case of reconstruction; they have supported ODR for decades, but mostly on a relatively small scale. Owner-driven reconstruction is now becoming more widespread, and this has given rise to a number of internal variations. These range from projects classified as ODR by agencies, but which in fact are not that different from how Turner sees most aided self-help of the seventies: '*sponsors decide and users provide*', whereby all the major decisions are taken for users by donors and all that is left to owners is building; to projects that are closer to Turner's '*users decide and sponsors provide*', or a hybrid '*users decide and sponsors + users provide'.* Yet, ODR does not always have to involve users building or managing construction themselves. In the case of post-tsunami reconstruction in Aceh, described in chapter six, some agencies shifted from self-built housing – when they found skills for that were lacking – to contractor-built housing or direct implementation. However, they continued to involve communities in all the major decisions, and the response therefore remained by and large owner driven.

So far, the experience with owner-driven reconstruction has been more positive than with donor-driven reconstruction. Evaluations and other studies have found that, for example:

1. User satisfaction with the houses is higher in the case of ODR.
2. Contrary to expectations, construction under ODR is often quicker than in DDR, because it tends to happen on existing plots that already have some infrastructure, and is more often making use of local resources.
3. ODR is usually cheaper for the supporting agency then DDR. What is more, the owners often add their own resources, in terms of savings, labour, help from family and friends, etc.
4. The quality of houses built under ODR is sometimes better than those produced through DDR, although this is not always true, and depends, amongst others, on how much resources the owners themselves can add, their knowledge and skills, and the amount and type of assistance provided. The end product, at times, is not disaster resistant enough.
5. Because owners are involved in most key decisions, there is a greater incorporation of livelihoods needs in ODR.
6. The ODR process strengthens social capital and human skills.
7. The ODR process can also empower communities, which is an important factor in reducing their future vulnerability.

That said, the way owner-driven reconstruction is evolving also raises some important concerns. The first and foremost of these is that ODR focuses on *owners* and is thus selective. This tends to be somewhat less of a problem in rural areas, where land and housing is mostly held in traditional ownership which, though often not formally registered, is sufficiently in the public domain to be recognized, and where people are well known to each other and community mapping is practicable. It has, however, proven to constitute a major problem in the case of informal urban housing, where the vast majority of the poor have no ownership titles as they are often squatters or tenants. After the 2007 earthquake in the Ica region of Peru, it was found that upwards of 80 per cent of the affected did not possess formal titles, and could therefore not benefit from the major government housing subsidy. A study by UN-Habitat and DESCO (2007) determined no fewer than 17 varieties of land occupancy, each with its own problems, along the entire range from squatting to formal ownership. Following the earthquake, further variants emerged through relocation and informal reconstruction. It is not astonishing, then, that applying ODR in an urban context has been a downright challenge. Even in rural areas, ODR has not always been inclusive enough. This is the major reason for making reconstruction people- rather than owner-centred.

A second concern is that, where regular self-help housing often is an incremental process (both in terms of quality and size), in the majority of cases owner-driven reconstruction programmes have tended to opt for the construction of complete houses of minimum standards. Whilst there is something to be said for treating affected households in an equitable way, it should also be recognized that their circumstances can vary greatly, both in what they need and in what they can contribute to the process. Research by the author and colleagues in North-East Sri Lanka after the tsunami found that whilst for a minority the house provided through ODR was below the level of their previous property, for the majority it was well beyond both the quality and the size of the house they owned before. This then raises the issue of sustainability: how far can owners who, after a disaster and thanks to generous donors are provided with a house well beyond their original means, maintain this standard in the future, when they need to repair or extend it, or their children move out to set up a house of their own? If this means that they have to revert to their previous ways of building it can simply reproduce the cycle of vulnerability.

Third, in many cases, owner-driven reconstruction programmes aim to 'build back better' to reduce the risk of future disasters. That, to some extent, explains the adoption of higher standards. To achieve the right quality in most cases, though, requires substantial capacity building of both the owners and the local builders. Thus, there is a need for agencies applying ODR to invest in sufficient support staff and resources to make this happen, whether through workforce training, technical support to commissioning households, or the provision of adequate site supervision. Whereas this proved to be quite feasible in the smallish ODR projects supported by NGOs for many years, it has

proven to be much more of a challenge when ODR is undertaken at scale. One very large programme, described in chapter five which included a lot of capacity building at various levels was implemented under ERRA in rural Northern Pakistan from 2006. This could set an example for other programmes.

In the fourth place, there are the projects and programmes that are labelled by agencies as ODR, but perhaps only come close to adopting an ODR approach in their later stages. There are, unfortunately, many cases where owner participation is insufficient in the early stages of a project, when important decisions are made, for example, about the designs, the choice of technologies, or the procedures. This often leads to less than satisfactory results. Finally, if owners and builders are not brought on board at an early stage, their vernacular knowledge of construction may also be left out. There are often good reasons for dwellings to have been built as they are, and some observation, ideally with the owners and builders, can often point out what the strengths and weaknesses are of vernacular construction. There are several examples where projects have built on these strengths to produce very appropriate and sustainable reconstruction options; some of these are described at the end of the section on rural housing.

What policies and principles guide reconstruction at the moment?

The SPHERE project (2004) has developed a Humanitarian Charter and minimum standards for water supply and sanitation, nutrition, food aid, shelter and site planning and health services. These are currently being revised, amongst others to better deal with environment and climate change issues. These standards tend to focus more on relief and temporary shelter than on final reconstruction. Many agencies subscribe to the SPHERE standards, though that may be by default, since nothing similar is available yet to guide reconstruction. That said, some of the principles underlying SPHERE are important to reconstruction, for example: to avoid relocation, whenever possible; to share information and knowledge; to base solutions on people's needs; to have users participate in the design of programmes and projects; to provide for a reasonable minimum of habitable space; to make use of local skills and capacity; and to provide sufficient qualified support staff.

To 'build back better' is high on the agenda of many agencies. In its narrowest sense, it is defined as reconstructing in a way that is more resistant to disasters than previous housing. For some agencies, this then becomes equivalent to undertaking donor-driven reconstruction, as they assume that only professional inputs and building skills can guarantee the quality required. Other agencies, though understanding 'building back better' in a broader sense, and focusing on reducing people's vulnerability, safer housing is only part of this, and what is also important is to rebuild their livelihoods and to empower them. And owner-driven reconstruction is much better able to achieve this. The importance of disaster-risk reduction (DRR) has been recognized by many, not only in the context of reconstruction, but also of disaster prevention and

mitigation. Many governments and key agencies now subscribe to the Hyogo Framework for Action that was agreed not long after the tsunami struck South East Asia (UNISDR, 2005). This Framework focuses on key challenges such as governance; the identification and reduction of risks; sharing knowledge; and preparedness for response and recovery. It clearly recognizes local communities as playing key roles and being an integral part of DRR. Before Hyogo, a conference in Shanghai in 2002 had defined the Shanghai Principles for the creation of safer cities and societies. These focus primarily on the roles that local authorities have to play, but again highlight community roles and the advantages of joining up community-centred processes with local authorities actions to reduce disaster risks.

None of these principles focus specifically on reconstruction, that is they tackle disaster risk reduction in a more holistic way. But they do offer important guidance, e.g. on the participation and roles of communities. This perhaps also explains why no links are created with what happens in the housing sector in general. Besides, these guidelines pay too little attention to people's livelihoods. An explanation for these gaps may lie in the fact that the key actors in developing these guidelines and principles were agencies more concerned with mitigating disasters or dealing with emergencies and relief, rather than recovery.

Two initiatives are under way that will help to deal with this lack of guidance on rebuilding. The first is the development of a guide on transitional settlement and reconstruction, of which a preliminary edition is currently being tested in the field (Shelter Centre and UNOCHA, 2008: 17–25). It defines ten core principles and a set of indicators:

1. *Support the affected community.* This includes assessing the impact of a disaster on a community and getting a thorough understanding of roles and resources of individuals and groups within it.
2. *Coordinate and promote a strategy for response.* This should be developed in partnership between governments and external agencies, and plan for all phases of the response, including recovery.
3. *Maintain continuous assessment of risk, damage, needs and resources.* Circumstances on the ground can change fast and should be monitored regularly; the strategy for response should be revised accordingly.
4. *Avoid relocation or resettlement unless it is essential for reasons of safety.* This recognizes that displacement has an impact on livelihoods and social capital, and may worsen the impact disasters have had on households. If it has to happen, it should be voluntary.
5. *Minimize duration and distance of displacement, if displacement is essential.* This enables affected people to rebuild their livelihoods and social networks as quickly as possible.
6. *Support settlement and reconstruction for all those affected.* This clearly states that support should not just go to those who owned plots and properties. It should extend to residents of apartments and host families. And

support should not discriminate on the grounds of race, ethnicity, gender or age.

7. *Ensure rights and secure tenure for all those affected.* Again, this reaches out to everybody, even those who were squatters or tenants before.

8. *Support the affected population in making informed choices.* Basically, people need to be offered a range of settlement options with adequate information to enable them to select one.

9. *Ensure that vulnerability to disasters is not rebuilt.* This defines reducing vulnerability mainly as reducing risks in settlement planning, site selection and construction.

10. *Undertake contingency planning.* This is seen as a participatory process involving all stakeholders, but is more about dealing with future emergencies.

The above principles have adopted many of the lessons learned in previous reconstruction. Of particular importance is that they clearly state that everybody is entitled to assistance with housing, not just those people who can prove they owned property before the disaster. That does deal with some of the criticism directed at owner-driven reconstruction at the moment. On the other hand, these principles perhaps still fall short in how vulnerability is defined and tackled. A second initiative, a handbook for post-disaster housing and community reconstruction, yet to be published by the World Bank, appears to be addressing the latter in that it pays attention to livelihoods recovery. None of the guidance available at the time of writing, though, appears to draw on experience in the housing sector as a source of learning and potential solutions for reconstruction. This chapter has attempted to draw out some of the important relevant themes, and it is hoped it will make some contribution toward the evolution of more people centred and holistic approaches to reconstruction.

Conclusion

This chapter makes a case for people-centred reconstruction (PCR). It argues that, with 40 years of reconstruction experience to look back on, we can now safely conclude that donor-driven reconstruction (DDR) is not an appropriate solution for developing countries in most cases. The main problems associated with it include high costs, slow construction, inappropriate designs or technologies, and negative impacts on livelihoods. But DDR has survived for such a long time, to an extent because a lot of agencies get involved in reconstruction intermittently, thus losing institutional memory.

An alternative approach, owner-driven reconstruction (ODR), has been in existence for as long, but it was never supported on a major scale, until about ten years ago, when agencies in South Asia started to revert to this approach at scale. The main argument for it was that, under normal circumstances, most people build or manage their own house construction, and it was felt there

were insufficient reasons to change this after disasters. Some would also argue that giving people the lead is empowering in itself, and this helps to reduce their vulnerabilities. The experience with ODR at scale has been much more positive, particularly in rural areas. It has been less successful in towns and cities, where its focus on owners meant many poor people were excluded from assistance. There have also been cases where projects have been labelled ODR, but were not really driven by owners, e.g. they only really got involved at the construction stage. At times, support by agencies was inadequate to guarantee building back better. Most agencies took a very narrow view of people's vulnerability, aiming to reduce it just by building back better, rather than looking at the underlying causes of disasters and taking a more holistic approach to rebuilding people's livelihoods.

Reconstruction does not happen in a vacuum; it happens in a context which differs from country to country and even within countries. This context creates the conditions which turn natural hazards into disasters, and those that affect reconstruction. If governments and humanitarian agencies are adopting people-centred reconstruction strategies following disasters, these would need to be based on a thorough understanding of developments in housing, popular participation, livelihoods and vulnerabilities, as well as lessons from reconstruction in the past.

In non-disaster circumstances, most poor people in developing countries undertake or manage the construction of their own house, at their own speed as resources allow. They do this more cheaply and sometimes more efficiently than governments or aid agencies, and many housing policies in developing countries have now turned to enabling these popular housing processes. It took a long time for the reconstruction sector to catch up with that shift in housing policy, and many agencies involved in reconstruction still do not understand it well, perhaps because they are not focused on housing by nature. There remains a lot to be learned in the housing sector, particularly to overcome bottlenecks in urban reconstruction.

Participatory processes have been at the heart of much development activity for a long time; over the years their goal has shifted from providing a tool to achieve products such as houses, towards participation as an end in itself, as it stimulates people's empowerment and self-reliance, and this ultimately is key to reducing their vulnerabilities. The reconstruction sector tends to lag behind in taking this on board, notwithstanding the guidance and principles now in place, as demonstrated by the fact that many agencies even today struggle to achieve more than a mere consultation of affected households, and this is often too late in the process. As a result, they may lose out on local knowledge and may not generate sufficient ownership, both key factors in making reconstruction sustainable.

Informal housing built by residents may not stand up against disasters of major magnitude. Most agencies involved in reconstruction therefore aim to 'build back better'. They may do so by bringing specialist builders in, by imposing standards, or providing assistance. Better houses will help to save some

households from future disasters. But if the underlying causes of people's vulnerabilities are not tackled, it is doubtful that disaster resistance can be maintained. Reconstruction programmes therefore should take a broader view of rebuilding, one that focuses not just on houses and related services, but also on livelihoods recovery.

Whilst official guidance and principles for reconstruction remain inadequate, elements of people-centred reconstruction (PCR) are starting to emerge in handbooks currently in the pipeline. Essentially, PCR would focus on all affected by disasters, not just owners. It would put people truly at the centre of rebuilding processes. And it would focus on reducing people's vulnerabilities, not just on building safer house. It would be much more holistic, including a revival of people's livelihoods and the restoration of local markets. It is also argued that, if agencies do opt for this approach, they need to learn from 'normal' housing in the disaster location, as there is a continuum between this and reconstruction. They also need to take on board prevailing participatory methodologies, but remember that, whilst the affected people need to be in the lead, they do need adequate support to effectively address vulnerabilities. Finally, agencies need to become learning organizations; this requires greater continuities of staff and an effort to build, maintain and share institutional memories. In the end, whilst the direction in which policies and principles are moving is positive, what really matters is whether agencies will manage to put them into practice. For people-centred reconstruction to happen at scale, agencies will require tools, examples of good practice, courses and other forms of information, much of which yet remains to be produced.

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Can large-scale participation be people-centred? Evaluating reconstruction as development

Michal Lyons

A little-documented consequence of the South Asian tsunami in 2004 has been the development of participatory housing reconstruction programmes on a new, and larger scale. This chapter asks whether this approach can achieve development gains, and whether it can be people-centred. Following a discussion of the changing architecture of reconstruction aid, this chapter explores the implementation of large-scale approaches to people-centred reconstruction. Drawing on the discussion in Chapter one it then puts forward a conceptual framework for the evaluation of the development gains and vulnerability reduction achieved by such projects. The discussion is illustrated with a case study of the Community Rehabilitation and Reconstruction Partnership (CRRP) in Sri Lanka, used to consider the implications of participation in a large-scale reconstruction project for ordinary people attempting to break the cycle of poverty and disaster vulnerability.

Introduction

Chapter one explored the antecedents and implications of people-centred development. It identified actual and possible links and gaps between participation, development, vulnerability reduction and post-disaster reconstruction, and argued that, to achieve sustainable vulnerability reduction and increased resilience of a population and its built environment, post-disaster reconstruction must adopt an approach rooted in development theory and practice.

In particular, it argued that, in order to achieve personal, communal and political empowerment, improving the resilience of the population, reconstruction needs to be participatory. Participation is also more likely to result in the production of a building stock which is technically robust in the face of likely disasters, yet sufficiently integrated into local building practice that technical improvements are likely to be sustained in the long term and integrated into future adaptations and new construction.

Moreover, housing stock reconstruction must take place within an integrated view of the reconstruction of people's lives. In this regard, the

Sustainable Livelihoods Framework (SLF), heavily drawn upon in development work, which identifies five key 'assets' used by individuals to sustain their livelihoods in the face of adverse trends and shocks was identified as a useful means of conceptualizing the broad diversity of spheres of human activity which may be damaged following a disaster and need to be considered in the design and implementation of reconstruction.

It also raised a number of issues which beg further exploration. In particular, it argued that participatory development, whether in the 'peace-time' housing sector or in post-disaster reconstruction, has not translated well into the larger scale. Instead, it argued, participation has been sacrificed where work on a large scale has been attempted; and integrated planning, incorporating such issues as infrastructure, livelihood, services and amenities, social networks and local political structures, has also suffered.

The strengths of such approaches in reconstruction have been identified by earlier studies. In an important review of the field based on his own longitudinal study in Yemen and incorporating experiences from Sri Lanka and elsewhere, Barakat (2003) identifies five generic approaches to housing reconstruction. While his focus is partly on the weaknesses of providing transitional, rather than permanent shelter, the thrust of his argument is to endorse approaches which, wherever possible, involve local people in repair, reconstruction or construction of their homes. Such approaches build on people's tendency to begin almost immediately to re-house themselves and to re-establish their social and economic networks after a disaster (Oliver-Smith, 1991). In her incisive analysis of five approaches to post-earthquake housing reconstruction in Gujarat, Barenstein (2006) examines in detail the workings, financing, product and satisfaction levels with a range of owner-driven approaches, which differed in levels and nature of participation by beneficiaries, NGOs, the government and the private sector. Her findings clearly demonstrate that, despite the differences among the three participatory programmes, all scored far higher in terms of satisfaction with design and construction quality than the contractor driven programmes. Of the contractor driven programmes, in-situ reconstruction scored significantly more favourably.

These studies indicate that, at project level, participatory reconstruction is likely to provide the benefits of participatory development in general. What of the larger scale?

The growing scale of participatory reconstruction

It should be noted, as Bradshaw (2002) points out, that a wide gulf often exists between the politics and policy of reconstruction. Thus the profound emotion surrounding a disaster may well draw both good intentions and eloquent slogans evoking the common cause. For example, following Hurricane Mitch, governments produced reconstruction plans entitled e.g. 'Transforming El Salvador to Reduce its Vulnerabilities' and slogans such as, 'the government invites you to transform Nicaragua together' (ibid.: 871). More recently, the

slogan which gave this book its title 'building back better' has been widely embraced by the humanitarian aid community and the state in Sri Lanka (GoSL and UN, 2005). Yet, partly because of the large-scale problems they set out to address, reconstruction programmes have often ignored ordinary people in their design and implementation.

Because of the unprecedented scale of the disaster, and the unprecedented scale of the humanitarian response from around the world, the Indian Ocean tsunami of 2004 provided a turning point in the history of post-disaster reconstruction and an unparalleled opportunity to study this question.

On the one hand, the national-scale response required for recovery from this disaster meant that the six countries involved developed national-scale programmes for dealing with them. In part because of pressures from the World Bank – a major donor to the reconstruction process – a number of these programmes included a participatory approach to reconstruction.

On the other, the large scale of this disaster – and the international response which it elicited – have wrought fundamental changes in the architecture of aid for housing reconstruction. First, the last few years have seen the entry of large – and growing – non-governmental agencies into the field. Second, this has brought about a change in these agencies' portfolio of work. Third, in turn, this has led to a re-evaluation of their approach to their own work. The implications of these changes for people-centred reconstruction have been profound.

Although it has been widely acknowledged that hundreds of new NGOs started life in response to the tsunami, with concerned people both locally and abroad becoming involved in the reconstruction of areas to which they were linked, either as a diaspora or, perhaps, as tourists, a phenomenon which has received less attention in both professional and academic writing on disaster management, has been the entry of large international organizations into housing reconstruction following this disaster (TEC, 2006a-d).

The concentration of players in the housing reconstruction field has been part of wider trends in the humanitarian sector. Rogerson (2005) has argued that a number of forces are driving the concentration of aid monies into the hands of an increasingly small group of growing bilateral agencies and international NGOs. In the UK, this process is further heightened in the case of emergencies and, therefore, disaster response, by collective fund-raising through the Disaster and Emergencies Committee, a shared fund-raising enterprise of large aid and humanitarian agencies, activated in emergencies in parallel with independent fundraising.

The entry of such large non-governmental agencies into the post-disaster housing arena has contributed to changes in the management of housing reconstruction projects. These organizations were previously geared to large-scale projects and, particularly in the case of humanitarian relief organizations, geared to working in a relatively top-down manner. Indeed, even those aid organizations which are generally respected for undertaking their development work in a participatory manner, new to the field of housing in general and

reconstruction in particular, found it difficult to see the value of a participatory approach to housing development. Under great pressure from unprecedented media and public attention, they were initially inclined to adopt a top-down approach to procurement in order to externalize or reduce risk, reduce construction time and minimise uncertainty. While a number of these actors have subsequently withdrawn from the housing field, others have maintained and developed housing reconstruction post-disaster as part of their ongoing work portfolio. A number of the larger agencies which have remained in the field have adopted participatory approaches to housing reconstruction.

To get some idea of the scale of this change, it is interesting to look at the International Federation of Red Cross and Red Crescent Societies (IFRC). As of March 2009, US$2,290 million had been spent by the federation across the five countries worst damaged by the tsunami (IFRC, 2009: 5). Of this total, $912 million, or 40 per cent of the total, had been spend on shelter and community reconstruction, and only a fraction of this, $366 million, or 16 per cent of the total expenditure, was allocated to the relief and emergency phase. The lion's share of this expenditure took place in Indonesia (49%) and Sri Lanka (26%) (ibid.) – through programmes funded or implemented by fourteen and seventeen Red Cross organizations respectively. These countries also accounted for the lion's share of permanent dwellings constructed through IFRC projects (23,513 in Sri Lanka and 19,513 in Indonesia of a total 44,400) (ibid.: 6). By 2011, housing reconstruction programmes by IFRC members in Indonesia are expected to have completed 22,076 permanent dwellings and 33,012 in Sri Lanka, with the programme overall reaching over 55,000 dwellings.

These are not in themselves exceptionally large housing programmes. The Hundred Thousand Houses Programme (HTHP) in Sri Lanka (1972–82), followed by the Million Houses Programme (MHP) (originally 1984–93, later reduced to 1984–9) were responsible for the construction of hundreds of thousands of dwellings, their annual production far outnumbering the IFRC case load (Lacheret, 1994). However, the IFRC's housing reconstruction programmes in both Sri Lanka and Indonesia are large by the standards of post-disaster work carried out by any given agency. Moreover, they represent a very large increase in the scale of housing work undertaken by the IFRC in post-disaster housing in the past.

UN-Habitat too has become a key player in the reconstruction arena over the past five years or so. UN-Habitat had been a leading initiator and promoter of the foundations of participatory housing development, including community based settlement planning; devolved responsibility for construction to householders; cooperative responsibility for housing loans, in turn, supplemented by investments of time and money from individual householders; and community-based infrastructure contracts. Yet for thirty years, the agency had very little involvement in post-disaster reconstruction. Following the South Asian tsunami in 2004, UN-Habitat has transformed itself into an agency with a large portfolio of post-disaster housing reconstruction, partly in response to changing aid flows and similarly to many other development

agencies. At the time of writing, the bulk of UN-Habitat's housing work is in post-disaster reconstruction (UN-Habitat, 2009a), and UN-Habitat has endorsed the view that early strategic involvement in the emergency phase can have positive outcomes for recovery (UN-Habitat 2009b: 1).

The entry of such large actors into the field of participatory housing reconstruction must necessarily change the institutional and organizational approach to participatory housing reconstruction. In particular, it makes very likely the mainstreaming of large-scale participatory programmes, aiming to combine economies of scale with the benefits of participatory development.

Has the growth in scale been good for development?

However, the quality and extent of participatory methods adopted have been called into question in a number of important cases, for example in Hidellage and Usoof's account of Sri Lanka's ODR in chapter four. This, in turn, begs the question of whether, once it has become a mainstream policy approach, participatory housing reconstruction can indeed continue to be 'people centred' – whether, in other words, it is possible to engage in meaningful participation and integrated development, and achieve some of their developmental outcomes – sustainably. Or, put another way, whether it is possible, through the housing reconstruction process, to contribute to breaking the cycle of poverty and disaster vulnerability identified in chapter one.

At the aggregate, national level, indications are broadly positive. A study which evaluated the relative achievements of Sri Lanka's broadly participatory 'owner-driven' programme (ODP), against its broadly top-down, contractor-procured 'donor-assisted' programme (DAP), found the former to have broken ground earlier, completed housing more rapidly, to have achieved higher satisfaction rates, and to have been responsible for a larger number of dwellings (Lyons, 2009). Indeed, the ODP, initially expected to provide some 20 per cent of the 100,000 dwellings needed in the reconstruction process, eventually provided close to 80 per cent, and must therefore be considered large scale on any measure.

In line with the neo-liberal thinking of the time, the ODP gave significant priority to people who could establish their title over damaged or destroyed houses, but the patent inequalities which this highlighted led to the development of supplementary programmes to provide housing title to a large number of affected people who had been squatters or tenants prior to the disaster. However, as Hidellage and Usoof argue in chapter four, Sri Lanka's ODP was a variable affair. As well as being carried out by a broad range of organizational types and sizes, from private benefactors and private companies to local and international NGOs, some among the largest in the world, some small and new it was carried out with a very broad range of approaches to participation. Particularly the larger organizations involved people primarily in the construction phase, restricting their influence over spatial planning, house types and community management, and avoiding altogether any attempt at

integrated development. In formal terms, such participatory processes would be classified fairly low on any scale (Choguill, 1996), and are structurally incapable of the adaptive, incremental and above all responsive development work championed by such development practitioners as Hamdi and Goethert (1997) and more recently by Hamdi (2004).

Although some of the DAP's weaknesses have been attributed to displacement (e.g. Boano, 2009), Lyons' analysis highlights the fact that displacement was less problematic in the ODP, while a contributing cause of the DAP's weaknesses was the large scale of projects undertaken. With some sites developed for well over 2,000 dwellings, the inherent problems of resettlement for livelihood reconstruction – in a context where no opportunity has existed for people to influence, prioritize or exert any choice over their destinies – have been compounded by delayed or inadequate infrastructure trunking, services and amenities. Thus, it is particularly important to examine the potential for participatory, people-centred projects, to be carried out successfully on a large-scale.

Can concepts from development be used to evaluate large-scale housing reconstruction?

The Sustainable Livelihoods Framework (SLF), developed by Scoones (1998) for the understanding of rural development issues, applied to urban settings and examined through the lens of multiple sectors of development by Rakodi with Lloyd-Jones (2002), has attempted to conceptualize the poor's ability to maintain their livelihoods in the face of adverse trends and shocks. The fundamental principle underlying this conceptual approach is that cash income is only one of (generally) five assets invested in, manipulated and exchanged by the poor to maintain their stability. The approach has been criticized as 'blaming the poor' for their poverty, or, conversely, for making the poor responsible for development (e.g. Fine 2001). However, it has enduring application as a value-free tool to describe how the poor – and many other groups – actually strategize and operate in a constrained environment.

The five 'assets' or forms of 'capital' are financial capital, or the cash one earns or has access to; social capital, or the range of formal and informal associations, networks and ties which can be called upon for support, together with the norms which govern them; human capital, both knowledge held and its formal certification; natural capital, such as access to water, arable land etc; and physical capital, or buildings and infrastructure.

In the social sciences, social capital (SC) has been the focus of a great deal of thought and study. Originally formulated as a concept by Bourdieu (1980) to explain the French landed gentry's socializing as a form of work directed at sustaining their physical capital, the concept has since been widely applied and developed. Most relevant to the discussion here is the understanding that SC exists at different levels, as ties within peer networks, such as extended families, groups of traders or neighbours, or *horizontal social capital*; as ties

with more powerful individuals and groups, or *vertical social capital*; and as ties among peer groups, for example, through umbrella associations of various sorts, generally referred to as *bridging social capital*. Lyons and Snoxell (2005) showed that any of these forms of social capital can be held by individuals or by groups. Thus, it is important for individuals to be able to call on groups, and for groups to be able to call on individuals; but also for individuals to be able to assess and act alone. It is worth noting here that *political capital*, the power to influence political actions and decisions, is generally conceived as an outcome of the five assets named above, rather than an asset in its own right, although this varies.

Essentially, the argument is that SC, in all its forms, is a key asset in sustaining livelihoods in the face of income poverty and other deprivations. Despite a rich debate of arguments and counter arguments the general consensus is also that SC is critical to breaking out of income poverty (Fafchamps and Minten, 2001).

Housing reconstruction is, at base, an investment in physical capital. Because housing reconstruction constitutes such a large proportion of available reconstruction funds; because it is an injection of funds into a system where destruction has taken place in multiple sectors; and because the interrelationship between these assets is what makes the livelihoods of the poor stable and sustainable; this book strongly argues that the compound system of values conceptualized in the SLF provides a sound basis for both the design and the evaluation of housing reconstruction work.

This argument is increasingly heard among practitioners and scholars who focus on disaster management through a vulnerability reduction lens. In a *tour de force* discussion of the concept of 'vulnerability' Wisner (2001) argued that it had parallel origins in multiple disciplines, and that its application was coloured by different – often competing – approaches to development. In particular he argued that vulnerability has a physical dimension, in terms of the power of man-made structures, infrastructure and communications to resist hazards; a more strictly economic dimension, such as financial vulnerability; and also a social dimension, expressing the vulnerability of particular people or groups within a society; and of particular sets of social networks and social capital. Thus, although in more limited form, Wisner applies a sustainable livelihoods framework lens to the assessment of vulnerability. Similarly to the argument made by Lyons and Snoxell, he concludes that, in order to assess vulnerability, it is important to examine the access to power and assets of both individuals and communities.

The measurement of the five assets, or forms of capital, associated with the SLF raises several complex issues which cannot be dealt with within the scope of this chapter. First, there is debate on how to quantify each different form of capital. This is made more complicated by the fact that different forms of each capital may exist in different situations (for example, even in measuring such an apparently obvious thing as natural capital, water might be key to one situation, and air, or terrain to another); that there may be disagreement

about how to quantify a given good, for example the strength of a social tie or the depth of an obligation; and, finally, that it is at best difficult to agree on a mode of quantification for all five forms of capital which would enable measurement of the exchange of one for another; or to allow for changing values over time.

Clearly, for the development of real projects in the real world, the issue is not precise measurement of these complex concepts and their dynamic relationships, but how to draw on them in planning and evaluation. We would argue that this complexity and dynamism are the very reasons why detailed project planning must take place in a participatory way, with individuals and communities who know their context well, pooling knowledge and resources with external development agents who may be familiar with crucial external environments such as markets and centres of power, to develop agreed objectives and plans.

Indeed, we would argue that only through such sharing of knowledge and influence over decisions, can satisfactory projects and programmes be designed which reduce vulnerability and improve sustainability of livelihoods over time. Such ideas have been expressed by a number of scholars and practitioners over the past two decades (for example, Anderson and Woodrow, 1998; Blaikie, 1994), while Morrow expresses this view rather well (1999: 11 in Wisner, 2001: 6):

> The proposed identification and targeting of at-risk groups does not imply helplessness or lack of agency on their part. ... Just because neighbourhoods have been disenfranchised in the past does not mean they are unwilling or unable to be an important part of the process...Planners and managers who make full use of citizen expertise and energy will more effectively improve safety and survival chances of their communities.

To summarize, this section has brought together four arguments. That people-centred housing reconstruction must recognize that, to address the cycle of poverty and vulnerability, a broad understanding of poverty must be adopted; that projects and programmes should therefore consider their impact and their potential for improvement in the multiple assets or forms of capital on which sustainable livelihoods depend; that the only way to formulate effective targets – and criteria for evaluation – is through participatory planning and implementation; and that both the community and the individual are important subjects of development.

The next sections draw on a recent, large housing reconstruction project by large-scale actors in Sri Lanka to illustrate the potential for application of this analytical framework; to explore the means by which it succeeded in carrying out housing reconstruction; and to identify threats and limitations to its approach.

The Community Rehabilitation and Reconstruction Partnership (CRRP)

At the start of the tsunami recovery process, beginning in March 2005, most of the larger NGOs signed a memoranda of understanding (MoU) with the Government of Sri Lanka (GoSL) to plan and build a specified number of dwellings to GoSL planning and building standards, on sites provided by GoSL, which would also provide infrastructure trunking to the site. In total, MoUs were signed for over 80,000 dwellings. This was the starting point of their involvement with the DAP described briefly above. The 168 organizations which subscribed to this programme included national governments, development agencies, relief organizations and others. The twenty Red Cross movement members who signed MoUs constituted 12 per cent of this total, and collectively accounted for some $380 million, or 12 per cent of the $3,141 million committed in total (RADA, 2009 – figures are rounded to the nearest $1 million). Like the Red Cross movement members, the vast bulk of the organizations involved had been either relief organizations or development organizations who specialized in other fields. Very few had substantial experience of housing programmes as part of a broader development process. In addition, as I have explained elsewhere, the structure of the programme militated against active involvement of residents (Lyons, 2009).

Within a small number of months it became apparent that it would be virtually impossible for agencies to meet the deadlines agreed in the MoUs. Among other difficulties, the continuing shortage of buildable land, particularly of large plots, and the sheer pressure on supply of labour, materials and expertise, forced not only rapid price inflation in the sector, but also mounting delays. By the end of 2006, some eighteen months on, only a fraction of the committed funds had been disbursed in the programme, and only a fraction of the houses had been built (ibid., 2009). The Red Cross movement members, like most other very large organizations, had been severely hampered by the obstacles inherent in the DAP, and, by the end of 2006, had not yet been able to realize a large proportion of their commitments.

In late 2005, a change of GoSL policy on the scope of the buffer zone coincided with growing recognition among beneficiaries, local governments, donors and agencies of the limitations of the DAP. Against this context, funded by 12 national Red Cross societies, the IFRC and UN-Habitat developed an innovative initiative, which attempted to harness the powers of their large-scale organizations to participatory post-disaster housing reconstruction within the ODP. The project was named the Community Recovery and Reconstruction Partnership (CRRP). In line with the fundamental ethos of participatory programmes, the CRRP aimed to link reconstruction to long-term development and vulnerability reduction. It aimed to establish a process going beyond the provision of houses and infrastructure to achieve long term impact in terms of community capacity building, community livelihoods support and ongoing SLRCS involvement with communities.

Following some readjustment at the outset, the foundation of the programme's institutional structure was a partnership. IFRC took responsibility for raising and providing funds, for monitoring progress, and for feed-back to donor Red Cross societies. UN-Habitat took responsibility for development and implementation of an appropriate variant of its people's process, undertaking to ensure support to the families and communities. The key elements of people's process are explained in chapter three. However, the local variation was designed to take advantage of the presence of the Sri Lanka Red Cross (SLRC), which would, on the one hand, provide community mobilization services for the planning work and, on the other, establish links with communities which would, in principle, go beyond the housing reconstruction work and outlive its completion. It is interesting to note that at this point, the SLRC had had very little experience in this field. In effect, each of the agencies was moving into partly, or sometimes wholly uncharted waters.

The basis of CRRP implementation strategy was community mobilization, which enables the affected households to organize themselves to take collective action by developing their own plans and strategies for recovery. The mobilization and organization of the community are strengthened by the establishment of a representative and elected community development council (CDC), which is registered with the competent local authority. Each CDC brings together representatives from groups of approximately ten households, designated primary groups. These are usually comprised of households living in close proximity to each other which provide mutual assistance in the construction process. With the establishment of the CDC a community action plan (CAP) is prepared by the community under UN-Habitat guidance.

Housing construction was the core component of the project and the financial instalments are paid direct to the beneficiary bank accounts by the IFRC on the recommendation of UN-Habitat. The UN-Habitat recommendation was based on a request by the CDC, endorsed after inspection by district-level staff. A unique feature of the CRRP is the development of a comprehensive database which has all beneficiary details, payments made and construction progress. Payments are generated following entry into the system of physical progress reports.

The CRRP was guided by a National Steering Committee which held quarterly meetings. Day to day management decisions were taken by a National Project Management Team chaired by UN-Habitat National Project Manager, which met weekly. District offices were established by UN-Habitat in each operational area, employing engineers, technical officers, community mobilizers, a database operator, and finance and administration assistants.

Two years after its inception the CRRP Partnership had become the single largest Red Cross programme in Sri Lanka and one of the largest programmes of the movement world-wide. With a budget of almost $50 million, the CRRP was also among the largest housing reconstruction programmes in the country, consisting of a base grant programme of $25 million (some 11,000 households are expected to have received this, although final data are awaited from

GoSL at the time of writing) and the top-up programme of $25 million (5,434 households). It had been implemented not only in the peaceful and relatively prosperous districts of Kalutara and Colombo (421), but mainly in areas which suffered continuing effects of civil war in Batticaloa (2,718), Ampara (1,865) and Jaffna (430).

The programme's funding structure reflected the ODP's requirement for provision of sufficient funding to construct one 500 sq. ft. house per beneficiary household to established minimum standards, on land owned by the beneficiary (not necessarily prior to the disaster); and the freedom in the programme for NGOs to top-up the government base grant of $2,500 to allow for the cost of inflation and for additional investments at household and community level. It was earlier envisaged that CRRP would provide a top-up grant equivalent to the GoSL base grant. However, the project eventually developed district specific top-ups calculated in recognition of localized inflation rates. The CRRP also insists on the construction of a sanitary latrine to minimum standards, and has provided a separate grant of $500 per household to facilitate this.

The project also provided funds at the rate of $80 and $200 per household, which were allocated to rebuild or improve community infrastructure and community water and sanitation facilities through community contracts undertaken by the CDC. The projects emerge from a CAP process, which identifies needs, prioritizes problems and agrees on a course of action.

Income earning activities were also promoted through the CRRP to supplement other initiatives in this area, and to forge links with related agencies, supported by a fund of $10 per household.

Thus, the CRRP is an interesting case of a large-scale housing reconstruction project, undertaken with community-based participation, and aiming to provide a foundation for integrated planning and development, as well as a local-political entity and structure for the longer term, which is linked into national civil society structures.

We now turn to review this broadly developmental approach to reconstruction through the lens of the SLF. It is impossible in a chapter of this scale to give proper attention to all aspects of the SLF, but the discussion below highlights issues of financial, physical and social capital development at individual and communal level.

Levels of engagement and influence

Development theorists have argued for inclusive institutionalized participation at an urban level to foster partnerships, allow the spread of ideas and the development of an increased citizen base which participates in decisions, achieves progressive transformation (Hickey and Mohan, 2004) and enhances pro-poor policies (Devas, 2004), arguing that the active involvement of civil society or the citizenry as a whole, on the one hand, and the strengthening of the state, on the other, are not mutually exclusive (Ackerman, 2003). In other

words, the argument being put forward, was that for empowerment to take place through the participatory process, the participatory process must engage in debate not with the small local level, but with social movements (Hickey and Mohan, 2004), or through an institutionalized process in which citizens engage as individuals (Ackerman, 2003).

As discussed above, in the CRRP processes participation has taken place simultaneously at three levels, attempting to develop deeply rooted local decision making structures able to make links outside the community. What influence have these structures and processes afforded people and groups over reconstruction, and what has been their lasting effect?

The individual

First, the CRRP has been almost unique in the Sri Lankan reconstruction scene in its responsiveness to *household preferences*. In essence, it has allowed diversity of plan, design and finishing levels. Insisting only on the core government requirements as a definition of completion, it has provided technical and administrative support for households to develop and implement their own priorities. The extent of this diversity can only be understood in comparison with other projects and relates directly to the model of procurement adopted. Typical contractor-procured projects from the DAP, comprise sites with large numbers of identical houses planned and laid out with no reference to potential residents (indeed, it was often not known in the DAP until after completion who the residents of any given site or house would be).

Housing provided by some large international NGOs working through the ODP with carefully restricted levels of participation produced very similar outcomes. Typically in such projects, following selection of one of a small number of house plans presented by the NGO to a community planning meeting, the NGO provided each household with the necessary plans and building materials to construct the house, supplemented by technical supervision and finance for hiring labour. The direct supervision of construction (and often some unskilled labour) were undertaken by the householders. It is striking that the levels of uniformity and finish in these two types of project are very similar.

In contrast, Figures 2.1–2.3 show a small and almost accidental selection of houses in close proximity to each other from one of the CRRP sites in Batticaloa district. It is striking that these houses lack the drabness and regimented layout of sites so typical of institutional housing. It is a particularly important feature, however, that they lack the uniformity developed through the DAP. What has been produced is not 'CRRP houses', like the easily recognizable house models of many large agencies, but 'people's houses'. These are the houses of ordinary people, genuinely in control of their own housing design and building.

Moreover, just as the uniformity of the houses procured with no – or limited – participation embodies an institutionalization of their residents, the diversity of the CRRP houses illustrated in Figures 2.1–2.3 embodies a far fuller

Figure 2.1 House 1: Flat-roof construction with ornamented windows and preparation for extensions

Figure 2.2 House 2: Pitched roof with ornamented veranda

Figure 2.3 House 3: Raised on piloti to provide semi-enclose below

control of individuals over their housing process and, therefore, of their empowerment. The link between such control and empowerment is stronger, perhaps, in a culture such as Sri Lanka's, which values the house as an embodiment of a household's status and achievement, but must be seen as valuable in almost any culture.

Another expression of the freedom accorded by the CRRP to participating households has been the almost universal choice – particularly in the East – to build roofs which could provide an escape in the event of another tsunami. Many houses were thus built with stairs to the roof. In turn, the roof was conceived as the site of further construction, with projecting reinforcement bars awaiting further construction at some future date.

A number of constraints limit diversity in addition to the minimum government standards and local technical constraints. In general, poorer communities have had less freedom to go beyond the basic state requirements and therefore have been able to express less diversity. There is also clear indication of cross influence within communities, as ideas take hold and are adopted, at least within localities. Individual households typically have chosen to diversify within a locally acceptable style and expressing local, as well as personal aspirations.

The responsibility taken by households for their own prioritization has not been without cost. In some cases, households were unrealistic and have been forced to come to terms with the implications of cost over-runs for levels of internal and external finish, for delays in the installation of joinery and so on, though mutual support through the primary group has often lessened this burden.

Some differentiation among individuals and between sites is visible on all CRRP sites visited over the past two years (some 5,000 dwellings of the 5,434 in total), but the extent of diversity varies. Thus the diversity cannot be attributed only to the programme structure. To some extent the products of these participatory processes express also the priorities and personalities of project managers involved. It was an achievement of the CRRP that it was able to draw out of retirement (and on some occasions out of active careers) planning professionals with long experience of participatory work in the HTHP and the MHP mentioned above.

Finally, there is no mistaking people's sense of pride, ownership and achievement on such sites. The inability – and even reluctance – to accommodate diversity while maintaining minimum standards has been a consistent failure of state programmes and large projects, not only under the pressures of reconstruction, but also in 'normal' times. It is a physical manifestation of the effacement and silencing of the individual by the state or other supporting agency, which is often a product of centrally conceived and delivered work on a large scale.

In contrast, the enablement of individual expression is the physical manifestation of a profoundly different political economy achieved by this programme's structure and practice. While such diversity can – and often is – achieved within small-scale development and reconstruction projects, it is important to note that, in this case, and using the CRRP's three-level engagement mechanisms, it has been achieved on a large scale, within a large-scale project, funded and managed by large-scale actors.

The individual and physical assets: The house

The vast majority of CRRP houses meet the minimum space, finishing and building regulations published for post-tsunami reconstruction in Sri Lanka and, in many cases, exceed them. Nevertheless, the quality of house construction through the programme has been variable, and this variability provides excellent insights into the range of issues which may influence construction quality.

First, late entry has created a level of uncertainty about the quality of construction. The vast bulk of housing reconstruction in Sri Lanka was carried out with reinforced-concrete framed buildings cast in situ, with brick or block walls, and timber-framed roofs tied down to a wall plate. The idea was to improve living conditions and general durability for the large numbers of households which had previously lived in houses with cadjan walls or roofs, or in shack-like structures built of non-indigenous materials. This new approach to construction was also intended to reduce structure vulnerability to flooding and to high winds in the annual monsoon. The integrity of the masonry structure thus depends essentially on the quality of foundations and the integrity of the reinforcement in the frame.

In some areas, particularly in the East, communities joined the CRRP after their member households had already constructed a substantial proportion of their house independently, using the government base grant. Because of supervision failures in this early stage and sometimes faulty construction had already been ratified by government inspectors when they joined. In some cases, inadequate structures had been approved. In others, work was so advanced that there was no possibility of reliably examining the quality of construction. CRRP managers were faced with the choice of requiring demolition of such construction where it was unfit – and being able to construct only a very small house with the balance of funds available – or of making sure that all top-up funds were used responsibly.

Second, where participants are closely involved in the construction of their own homes, whether in the purchase of materials, supervision of skilled labour, provision of unskilled labour, or any other aspect of the procurement, as lay people they will need support from technically competent project staff. The CRRP provided these from the outset, and the staffing ratio was fixed at 100 households per technical officer. However, the programme comprised a large number of relatively small communities scattered over a wide area, making even weekly visits to each household difficult. Thus, there has been widespread feedback that a higher staffing ratio is needed. To further complicate matters, the terrain was, in some areas, difficult to traverse. In the East, curfews and other security-related issues affected mobility. Thus, the coverage of technical support achieved by this flat rate was in fact far from even, with some areas being less well supported than others.

Finally, the CRRP was exceptional among housing programmes in Sri Lanka in allowing households freedom to adapt and modify their house plans. We

discuss the developmental implications of this below. It is however, important to mention that providing supervision and technical support for the construction of one hundred similar houses is less demanding of a technical officer's time and skills than the supervision of one hundred different houses. Again, this means that a more realistic evaluation of officer case loads needs to be made.

The community

The CRRP housing reconstruction process in Sri Lanka has succeeded in tying most households into proactive social structures and in linking these social structures outward and upward – at least over the reconstruction period. Horizontal, vertical and bridging social capital have all been addressed with varying degrees of investment and success.

Turning first to horizontal social capital, neighbourly peer ties have been drawn upon and developed through the linking of individual households into primary groups of ten households. This has been maintained throughout the construction process by a system of mutual responsibility for completion of payment stages. Although this may have happened in any case, the formality ensures that the more vulnerable households in each primary group, whether for economic, health or social reasons, are necessarily supported by the others in various ways to achieve the necessary stages. In visiting CRRP sites there were numerous examples of widow-headed households or households with other vulnerabilities which had received help in the form of unskilled labour, building materials and so on.

Second, at broader collective level, the main institutional vehicle for collective empowerment is the CDC, and there is no doubt that, across the overwhelming majority of settlements, communities have become capable of deciding and managing their affairs. This is clearly a valuable step towards reduction of marginalization.

There are several key areas of CDC activity. Supported by CRRP mobilizers, the CDC is responsible for formulation and development of the CAP from the outset of the reconstruction process, and this gives it influence over many aspects of planning, land-use and future development. It is also responsible for planning and implementation of projects undertaken through the community infrastructure fund. This is the fund of $80 per household allocated for infrastructure works and available for implementation through community contracting. It is evident that the fund has been used for a very small range of community projects, largely including surface drainage and roads. While a CAP process was undertaken to prioritize community needs, and while the scale of available funds restricted, to some extent, the viable uses to which they could be put, this raises questions about the authenticity of community engagement in needs prioritization. The community water and sanitation programme was included in early 2007 to address the additional needs of

community infrastructure. Despite this top-up approach, the infrastructure needs are more than could be addressed by the grant.

Interestingly, there has been far more diversity in the development of income-generating activities, suggesting that a more fine-grained analysis of local conditions underpins the CAP for this. The CRRP provides an interesting example partly because its entry into the reconstruction process, later than most other large ODP projects discussed, for example in chapter four, meant that its designers included a livelihoods component from the outset. Despite this, and despite working with people who were building on their own plots, the CRRP was not able to commence livelihood activities until after near completion of the house construction.

Income-generating projects developed through the CRRP are locally managed by the CDC, and selectively targeted at households which are vulnerable for any number of reasons, and offered participation in a range of livelihood schemes. These are structured in a range of ways, from fully cooperative schemes to schemes which are individualized, and address the needs of households which have lost their income or suffered a significant reduction as a result of relocation or loss of a key earner. The schemes share such key features as a start-up loan and initial training, and are generally based on participatory market research. As throughout Sri Lanka's reconstruction process, the CRRP's income-generation element was introduced very late and it is difficult to judge its long-term impact. However, certain problems have begun to emerge, such as difficulties in changing from one livelihood sector to another and difficulties in continuing to adapt to and be sensitive to changing conditions in markets for products. It is important to note that the funds within the project are very small ($10 per household), allowing only very modest investments. The programme's original intention, to use the funds to leverage links with agencies specialized in income-generation projects has had only partial success, largely because of a dearth of partners.

This leads directly into discussion of the important issue of sustainability of CDC empowerment. Like many development projects, the end of funding for CDC projects by or through the CRRP has generally resulted in an end of activities. The CDCs do not, in general, take a proactive role in raising funds for further development and taking forward the processes of community action planning and community contracts which they have used in the CRRP. A small number of exceptional communities are primarily muslim, both peri-urban and urban, where a strong community ethos and existing community institutions have been strengthened by the CRRP process, and where the CDC has worked in cooperation with the local mosque and even with non-muslim CDCs in the area for continuing development of educational facilities and activities, further infrastructure development, microfinance activities and so on – but these communities are a small minority.

In most cases, the continuing pursuit of development and income-generation projects envisaged by the programme's planners has not been sustained. CDC members interviewed appear baffled by the demands of

identifying and negotiating with external partners to promote inward investment. Despite the forward-looking element of the programme's organizational structure, long-term links with the local Red Cross movement do not appear to have developed in this direction. On the other hand, another aspect of income generation is not so much the fostering of entrepreneurship and take-up of new livelihood activities among programme participants, as the potential of a large-scale programme to accept and encourage individual efforts. While some providers of permanent housing felt it necessary to demolish temporary shelters, CRRP has allowed these to be retained, and they have been used for a variety of income-generating activities.

Some observations about management

Several issues to do with the processes of engagement themselves are interesting to reflect upon here.

First, the assumption underlying the argument so far has been that communities are likely to cooperate in a collective, participatory process. In reality, the process often meets with initial local resistance, with the politics driven by pressures from both sides. Agencies are under pressure – far more so during reconstruction than in the course of development work – to get on and carry out work within programme deadlines, set both internally and, for example, by national governments. Again, particularly in a reconstruction context, this pressure may be exacerbated by the urgency created, as in many post-tsunami sites, by the competition among agencies to carry out work in a given location.

The pressures under which agencies are operating can sometimes be exploited by local actors concerned either to leverage a higher investment from the agency for the general good or to exploit their mediating role to leverage local power. This appears to be particularly an issue in post-conflict situations, or in other arenas where trust has been heavily undermined, for example in South Africa post-apartheid (Lyons et al., 2001); in Sri Lanka's Eastern Province; in Aceh and Nias where reconstruction coincided with the end of civil conflict.

Such confrontations can significantly hold-up or subvert development (ibid.), and their resolution is important. While small organizations can be quite flexible in their use of funds, the capacity of large organizations to successfully conduct such negotiations may well be hampered by their more explicit guidelines designed, for example, to avoid mismanagement of funds. An interesting case in point is provided not by the CRRP but by a sister project in Indonesia, the Aceh and Nias Settlement Support Programme (ANSSP), a partnership of UN-Habitat with UNDP. Here agency rules prevented the project staff from contributing to the costs of a feast to celebrate the ground-breaking ceremony. The contribution would have been seen as an endorsement of the village head's status. The resulting stand-off caused several weeks delay, and was only resolved when the project staff made the

contribution privately. Failure to break the deadlock would have meant failure of reconstruction – and with it opportunities for development and vulnerability reduction – to reach this marginal settlement.

Second, working in parallel on several strands of development, for example, construction and income-generation, raises its own problems. First, there are difficulties in managing concurrent participatory processes in a given community because of the potential for confusion over the roles of different mobilizers; because of difficulties for people – already heavily committed because of their active involvement with the construction process – in finding resources to tackle major innovations in other areas of their lives; and difficulties in involving the CDC, already working mainly voluntarily, in initiating and supporting additional activities. These are all challenges which need to be recognized when designing integrated development programmes, and may be particularly challenging in a post-disaster situation.

Another cause of delay which challenged the CRRP was capacity building within the partnership. Livelihoods development was to be carried out by community mobilizers from the SLRC. The potential strength of this arrangement for the long term was clear, in that the development of local SLRC branches and primary units would provide a long-term link of the local with national – and even international – structures. However, SLRC had no background in livelihood development, few contacts among development agencies engaged in the sector, little ability to identify and adapt suitable projects, and little experience in mobilizing participation in this area. In the context of shortages of skilled staff following the tsunami it was difficult to expand and train a cadre of officers on a suitable scale. The different working culture of the partners meant that quick decisions could not be made, considerably delaying implementation. Centralization of spending decisions by partner organizations – even decisions within the project budget – away from local management and, in some cases, to the regional office also caused substantial delays and is perhaps surprising in a project which decentralized so much decision making to beneficiaries.

Discussion and conclusions

The introduction to this chapter summarized some of the key changes in the architecture of aid for post-disaster housing reconstruction, demonstrating an increase in the involvement of major international funders, such as the World Bank and the Regional Banks; the rising incidence of implementation by large humanitarian agencies; and the increasing prevalence of participatory housing reconstruction projects undertaken on a large scale, with a single programme undertaking the participatory development of thousands of dwellings.

It then argued that the sustainable livelihoods framework, situational vulnerability assessment and reduction, and integrated participatory development share important concepts. All have economic, social, physical and economic dimensions; and all need to be responsive to local and individual

situations in the interpretation and prioritization of these dimensions, their mutual dependence and the potential for interventions which support one combination or another. Finally, all benefit from the participation of affected people in decision making.

Against this background, a review of the CRRP was used to explore in more detail the implications of up-scaling participatory, integrated reconstruction. The findings suggest that the large-scale programme was able to reinterpret its guidelines to local preferences and priorities in house design and construction; support the development of local-political structures; support livelihoods development and income-poverty reduction; reducing economic, social and physical vulnerability.

The outcome of the physical development has been a much improved housing stock, but also a much improved housing environment, and a growth in the local building-trade which suggests that relatively low-tech high-standard building skills and materials will continue to be integrated into ongoing new-build and house adaptation.

The outcome of the participatory management and implementation processes has been a much strengthened and better connected citizenship of individuals and localities. However, questions have been raised about the sustainability of these gains.

At the same time, flexibility was lacking in adapting management structures to coping with local differences in the demand for technical support; while reluctance to decentralize financial management slowed the project. Evidence from other large partnerships suggested lack of flexibility in adapting to local-political pressures. While the first is under review for the new generation programme, the second and third are products of deeply entrenched internal management systems of large organizations. These internal barriers require internal systems and values reviews by organizations, and may be more difficult to address.

Nevertheless, the findings richly support the argument that the involvement of large-scale partnerships and organizations in large-scale housing reconstruction programmes can result in the constructive and substantial participation of residents, and in the contribution to development and to vulnerability reduction which are often associated with participatory projects.

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The people's process: The viability of an international approach

Lalith Lankatilleke

The key argument of this chapter is that, in order to become widespread and mainstream, participatory, people-centred reconstruction requires the development of a formal, transferable model. Its aim is to set out the main components of the people's process, the model widely adopted by UN-Habitat. The people's process is the collaboration of many households in a community to establish communal interests such as water, sanitation, infrastructure, etc., and to establish and manage the local institutional infrastructure through which they build, or manage the building of their homes. It is a generic model, developed to reflect and formalize traditional practice and to facilitate functional links between the traditional and the modern, the local and the global. The main support methodologies are explained. Finally, key barriers to wider adoption of this, or similar models, are discussed.

What is the people's process model of development?

From the time people emerged from caves, they have been building shelters and creating settlements. Over the centuries people have improved their shelter to the form of 'house' that we know today. In simple terms development is about what people do for themselves to improve their lives. Therefore development is fundamentally based on the 'creativity and ingenuity' of the people. People's desire to improve their lives is the driving force of development, whether through science, technology, arts or philosophy.

This chapter discusses the area of housing and settlements in the context of reconstruction in the aftermath of disaster. Remains and archaeological evidence of housing and settlements amply demonstrate that people have built these settlements with skills they had acquired over generations. These settlements also reveal that the resources that have gone into the creation of housing and settlements have been obtained by the surrounding environment and in effect creating very organic forms. Evidence further tells us that people had established certain norms, standards and a mutual understanding of the community to create these settlements. This is what is recognized as the *people's process* of housing.

Through the centralization of authority with governments assuming responsibility for the welfare of the people, this process gradually disappeared especially in developed economies. The state and the private sector backed by professional bodies took over the responsibility of housing the people. In developing countries, however, people by far are the major producers of housing. In the 70s and 80s when the governments of developing countries were confronted with the ever increasing urban populations and consequently slums, they began to realize that people were the best producers of housing. Therefore instead of trying to compete, governments adopted and supported the people's process of housing. During this time there were several examples of successful projects and programmes in several countries. The Million Houses Programme of Sri Lanka (1984–89) is one example, where the government supported the People's Process on a national scale. During the course of implementation of the Million Houses Programme, many participatory methodologies to support communities were developed in partnership with UN-Habitat and reputed academic institutions like the Massachusetts Institute of Technology's (MIT) School of Architecture and others. Following successful lessons learned from this experience, several participatory tools like *community action planning* and *community contracting* were introduced by UN-Habitat to many Asian and African countries.

Owner-driven housing and the people's process

A clear understanding of the 'owner-driven' approach and people's process is necessary in light of the current development debate. 'Owner driven' intrinsically implies that the house (or the plot) owning family is fully responsible for the construction of the house with external support in the form of technical advice and funding. This certainly gives the family freedom to decide on how to build the house within resources available, which they do, to meet their needs. Families however do not live in isolation; they live in communities, which place them in a position of responsibility to each other. By tradition and in resource constrained societies this responsibility is inherent. In addition they also need services like water, sanitation, roads, power and civic facilities. These have to be addressed through a collective effort. Therefore, naturally it becomes a community approach where every family has to participate in the development of their housing and settlement. This extension from the individual to the community is what is articulated as the people's process of housing and settlement development.

Control paradigm and support paradigm

Active support to the people's process from the state, local governments and NGOs is essential for it to realize its full potential. Support is needed in the form of assistance in mobilization and empowerment, recognition, technical and
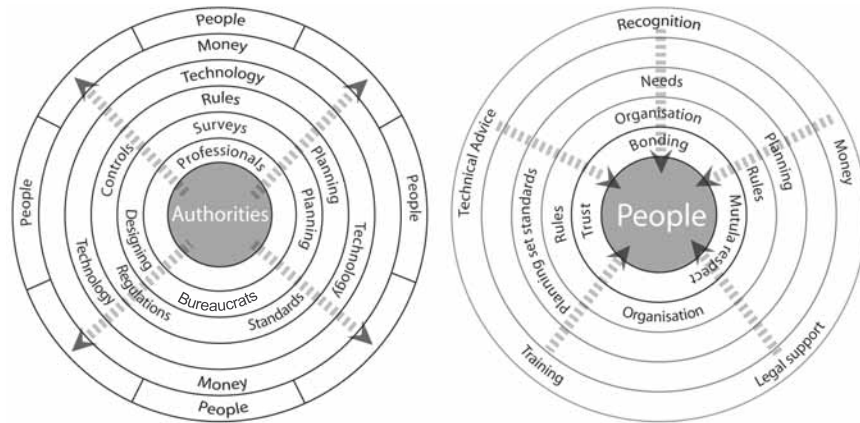
Figure 3.1 The control paradigm and the support paradigm

financial assistance. Development driven by authorities – the control paradigm – and development driven by people – the support paradigm – can be compared using the conceptual framework shown in Figure 3.1. 'Projects' with the authorities at the centre of the process are designed by professionals with controls established by bureaucrats. They consume more time and money, thus impacting lives of a limited number of people. When people are placed at the centre of decision making and action, and, are supported by the authorities, they optimize resources with a greater degree of satisfaction and reach a larger number of people.

From disaster to development

Application of the principles of the people's process in a post-disaster and post-conflict context has proved to be the most effective means to literally get the affected back on their feet in the shortest possible time. If people are mobilized and organized from the time of disaster, *the transition from relief to recovery to reconstruction and development is seamless.* This process builds on the ingenuity and creativity of the people to direct the rebuilding of their lives and their physical assets. What are the keys to unlocking this huge potential? 1) The confidence to cross the psychological threshold; 2) empowerment through mobilization; 3) security, a place to call their own; 4) some form of financial assistance to get them started; 5) technical advice to build better housing. These complete a cycle of support for the people to rebuild their lives and their homes (UN-Habitat, 2008a).
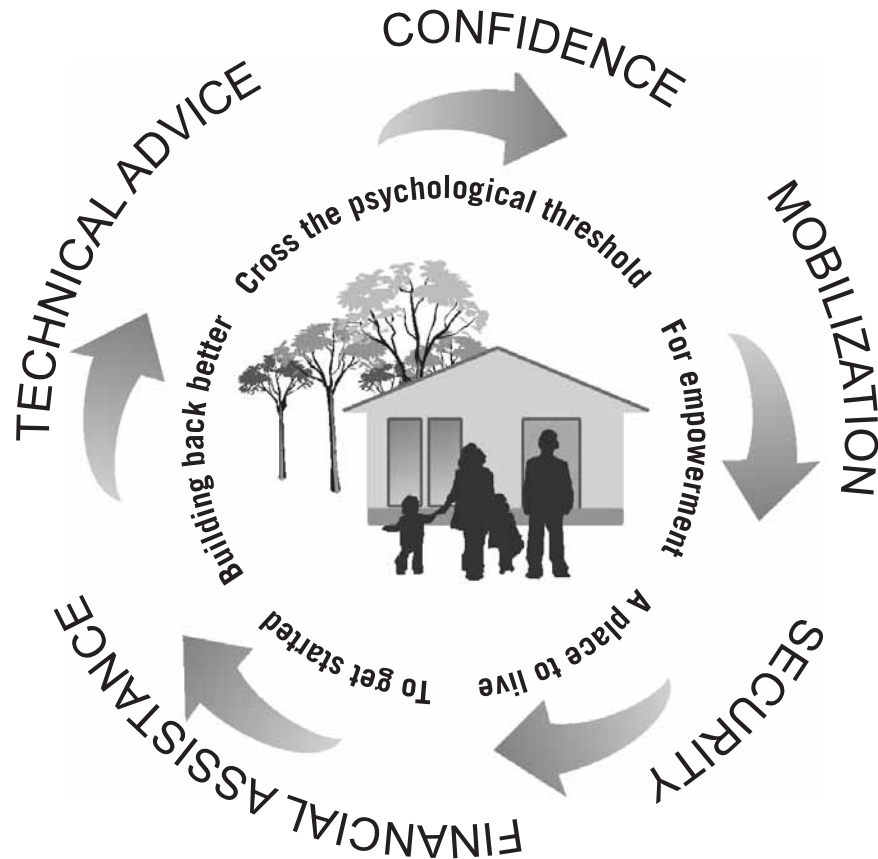
Figure 3.2 The transition cycle

Examples of the application of the people's process in reconstruction

The success of these projects has generated the interest of disaster management agencies, both governmental and non-governmental, in recent years. Therefore at this point it may be useful to consider a few examples and lessons learned. In the post-tsunami reconstruction programme in Sri Lanka, numerous organizations came forward to assist the people. Many of them took the conventional path: build a house and give it to the affected. They were confronted with costs, standards, problems with contractors and labour etc., resulting in long delays. At the same time UN-Habitat followed the people's process of reconstruction and families were building their houses very quickly to their satisfaction. This breakthrough led to the establishment of a partnership between the International Federation of Red Cross and Red Crescent Societies (IFRC) and UN-Habitat known as the Community Rehabilitation and

Reconstruction Partnership (CRRP). Over 6,000 families have been assisted to rebuild their houses under this programme and results show that the families have optimized the resources available to them and built houses that they are satisfied with.

A similar approach was adopted by UN-Habitat in the post-tsunami reconstruction through the Aceh-Nias Settlement Support Programme. Assessments have shown that in terms of beneficiary satisfaction, families were much happier than those who received houses.

Pakistan's post earthquake Rural Housing Reconstruction Programme can be identified as one of the most successful post disaster reconstruction programmes. The Government of Pakistan with the technical assistance of UN-Habitat and financial support from the World Bank adopted a policy of owner-driven reconstruction uniformly over the entire affected area. The Earthquake Rehabilitation and Reconstruction Authority (ERRA) ensured that all development partners followed this policy. The role of the development partners was that of supporting families to rebuild their housing. UN-Habitat carried out a massive information and training programme for home builders and artisans to ensure that the families rebuilt to earthquake resistant standards. Technical guidelines were developed for standards that were affordable and also used local construction technologies. Over a period of three years 530,000 houses were rebuilt in very difficult terrain. Of these, 102,000 were rebuilt with traditional *dhajji dewari* construction to earthquake resistant standards.

Figure 3.3 Reconstruction underway in Pakistan after the earthquake

What are the key lessons learned from these cases?

Application of supporting the people's process for post-disaster reconstruction has proved to be the most effective means of development from disasters. Firstly, it has helped the affected people to recover from the trauma of the disaster. It gives them the energy and confidence to cross the psychological threshold. It has been proved that people have the ability to rebuild their housing if they are provided with technical and financial support. People had the freedom to build according to their traditions and social norms associated with the design of the house. The process can also allow traditional local technologies to be used with improvements.

The above examples also demonstrated that people, though poor, have the ability to mobilize resources to add to their house. These additional resources come from relations, well-wishers, access to second hand material, labour from the community and other sources. Invariably people were able to build back better. The majority of the families in these cases were living in poor quality housing and in the process of reconstruction, with the technical guidance provided, they were able to build better housing with proper sanitation. Some people did struggle to rebuild their houses but the sense of achievement after completion gave them pride and dignity. Even a cursory assessment would indicate that the capital asset created in the form of a house is far more valuable than the monetary investment made. One important lesson is that people can be re-housed at a much lower cost through adopting the people's process rather than a conventional contractor driven process.

One outstanding feature of the process is equity and transparency. The financial grant to each family is the same and the families manage their money very prudently.

Impediments to the people's process: What and who is standing in the way of the people's process?

Development authorities run by bureaucrats and professionals have very little trust in the capacities of people. This misjudgement, and the welfare mentality driven by political expediency, leads them to 'provide' for the people. This remains the main obstacle in formulating policies and programmes that give the ownership of development to the people. The provider approach is reinforced by professionals who believe that they have the solutions to the problems of the people. Therefore they have to design for the people and people have to accept what is supposedly good for them. The division of *us*, the designer and *them*, the recipient is thus created:

> The terminology of the day emphasised this division: first world, third world, under-developed, developed and developing. Development was considered to be something that could be brought to the people by those who know best in terms of technology. It was something that was done for

others, something that was provided for others who cannot provide for themselves. (Hamdi, 2004)

The emergence of professional bodies to protect vocations saw the gradual erosion of the people's process over the years. Legislation and systems of licensing protected the vested interest of the professionals thus they became the initiators and designers of development, forgetting that development is about improvements people make in their lives.

Development driven by missions of welfare requires stricter controls to stop abuse. Based on this premise authorities acquire an obsession for controls. This acquired obsession prevents authorities giving away development responsibility to the people.

Support methodologies

Experience tells us that the optimum results of the people's process can be achieved when the process is actively supported. Over the last two decades UN-Habitat has developed several methodologies for supporting people to carry out their own development.

Mobilization and empowerment

Immediately following a disaster, communities need to be assisted to organize themselves to initiate collective action for recovery. The mobilization process can start from the camps. Providing communities the space to take action will empower them to take charge of their recovery and reconstruction process. The organization can be elected representatives of the affected community, preferably a man and a women representing 10 to 15 families (primary groups) living in close proximity. The community organization in the form of a community development council can ideally cover 100 to 250 families living in a physically identifiable area. Recognition of the community organization through registration or accreditation by the local authority is the first step to give the organization some form of legitimacy. Ensuring equal gender representation and representation of vulnerable families is an important consideration in the formation of community organizations.

Community action planning

Communities can develop their own plan taking informed decisions on: what they need immediately, assessing damage and enumerating the affected, how to make the best use of external assistance, how to organize the clearing of debris, how to re-plan and reorganize the settlement, how to build the houses etc. Community action planning is a framework within which the community organization can sit together, identify their needs, negotiate amongst each other and prioritize the needs to be addressed, and prepare a plan to address

their needs considering all options within available resources. Together they can understand their present situation and work out means of overcoming their problems. The objective is to achieve a qualitative difference in lives, ensuring safety and security for the future. The role of the facilitator is critical in this process. He or she has to refrain from what he or she thinks is right or good for the people, but has to clearly articulate the trade-offs of the different decisions that the community is making. Finally the community action plan has to be presented to the entire community for their inputs and to reach consensus.

Community contracting

A community contract is a contract awarded to the community organization by a government agency or an NGO to carry out physical works that have been identified in the community action plan. The works usually cover construction of houses and community infrastructure. If infrastructure or housing is built through conventional contracts the community benefits only from the output of the contract and not from the process of construction. Awarding the contract to the community has the advantages outlined in Table 3.1.

Scaling-up of the people's process

Scaling-up the people's process of reconstruction requires attitudinal changes amongst decision makers, policy changes within governments and donors, and system changes within administrations of governments and donors.

Attitudinal changes

Firstly, decision makers have to intrinsically *trust* the people. The fundamental desire of an affected family is to get themselves out of their situation. The honour and dignity of the family cannot be questioned especially in the circumstances they are in. Secondly, *recognize* people's organizations and their

Table 3.1 Comparative advantages of community contracts

Process	Conventional contract	Community contract
Planning	Outside professionals	Community
Design	Outside professionals	Community assisted by professionals
Physical works	Outside contractor	Community
Labour	Machine intensive	Labour intensive
Experience	Goes out of community	Stays within community
Quality of work	Chances of being inferior	Good, it's their own
Profit margin	High	Low
Feeling of ownership	None	Very High

capacities. The underlying premise is that they do have the *capacity* to over-come the situation that they are in. Recognize that answers to the problems are with the people and the role of the external agents is to facilitate a process of *realization* and *actions* to deal with them. This recognition would naturally lead to strengthening mutual respects and dialogue. Professionals in this situation have to change from being 'prescriptive' professionals to 'support' professionals. Thirdly, *cultivate* a spirit of solidarity and community cohesiveness. Authorities should accept that *responsibility* for recovery and reconstruction rests with the families and the communities and that their role is to support the affected to achieve this.

Policy changes

From the experiences of recent post-disaster reconstruction programmes, it is evident that national governments need to adopt the people's process as the *mainstream process of reconstruction*. The policy requires consistency, uniformity and equity in terms of application across the affected areas. The policy framework has to be in place before any disaster happens to avoid long debates on how to respond after a disaster.

It has been witnessed that very often, marginalized and vulnerable groups like the landless, women-headed households and renters get left behind in post-disaster reconstruction programmes. Therefore it is of paramount importance to ensure the protection of these groups and their right to a 'place to live' is guaranteed.

Wishing to take responsibility, governments very often tend to establish centralized bodies under the president or the prime minister to address post-disaster reconstruction. The centralization of authority for decision making tends to paralyze the decision-making authority at the local level. Though they are necessary for the application of a uniform policy and for coordination, such authorities should implement a decentralized reconstruction process. To address the needs of the people at a scale that is required necessitates the devolution of decision making to the point of action.

System changes in the administration governments and donors

To implement a reconstruction programme at scale, authorities have to change from control obsession to a facilitating framework. Designing control systems are easy; professionals and bureaucrats is familiar with these. Designing facilitating systems, on the other hand is difficult; professional and bureaucrats are unsure. For example, channelling funds directly to the people is beyond the rules and regulations of governments and donors. Although trying to be innovative within the rules and regulations, they would invent different packages like standardized material packages, purchase vouchers, smart cards etc., these still stifled the flexibility that a beneficiary would otherwise enjoy with cash in hand.

In attempting to design a system of assistance, it is well known how governments and donors struggle with standards, costs and how to spread the resources available equitably; debates on issues like higher standards for the few or a basic standard for all are common. The principle that should guide the design process is the generation of a process that would allow every family in need build a basic house that can be improved incrementally. Another aspect that has to be considered in the design of the system is to ensure that the reconstruction investment remains with the community as much as possible.

Past experience has also shown us that horizontal expansion of a programme through affected communities mobilizing and training other affected communities is an effective means of speeding up reconstruction. As can be expected, the technical human resources available for a massive reconstruction programme are not available in most situations. In such circumstances people to people learning and reconstruction has to be organized by the authorities. This creates a rapid ripple effect in the reconstruction process.

Conclusion

Development agencies with a global mandate like UN-Habitat, IFRC and The World Bank can play a crucial role in assisting governments to formulate policies to support the people's process of reconstruction. In order to provide this technical assistance to governments, the development community has to approach governments with conviction and resolve for the common objective. If a policy framework is in place within national disaster-management authorities, implementing the policy after a disaster could be quick and easy. The initiative of the IFRC, Practical Action, and London South Bank University (LSBU) to hold an international conference on this subject can be considered as the first step in this direction. It is about time we move from disaster-reconstruction 'projects' to national policies and programmes.

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PART II

Making Programmes Work for People

CHAPTER 4

Scaling-up people-centred reconstruction: Lessons from Sri Lanka's post-tsunami owner-driven programme

Vishaka Hidellage and Aziza Usoof

The post-tsunami Owner Driven Programme (ODP) is being successfully completed in most tsunami affected locations in Sri Lanka. It accounts for the bulk of reconstructed dwellings; is achieving good results on most measurable outcomes, and provided higher beneficiary satisfaction and ownership by beneficiaries than donor-built housing. However, the scaled-up ODP projects at times failed to deliver their results effectively to the more vulnerable. Construction quality of owner-driven housing was not poorer than donor-built housing, but assessments have shown gaps in the construction quality of many houses, and identified other long-term vulnerability issues. This chapter critically analyses the ODP, tracing policy and institutional frameworks, implementation strategies and processes, and its impacts on different contextual variations. Recommendations for future policy are made.

Introduction

The post tsunami Owner Driven Programme (ODP) is being successfully completed in most tsunami affected locations in Sri Lanka. It has been successful in reaching large numbers of the affected, and was less time consuming, incurred lower cost per house than donor-driven contractor built houses, provided higher beneficiary satisfaction and a higher sense of ownership by beneficiaries. Most of the owner-driven houses were built in-situ, which meant that existing physical infrastructure was used, resulting in fewer social and economic issues associated with resettlement. However, the scaled-up ODP at times failed to deliver its results effectively to the more vulnerable beneficiaries – the poor, women-headed households, the elderly and conflict affected communities, who did not have access to external economic and physical resources. The programme, in general, was not flexible enough to take into account the ground realities and resultant contextual differences in its design, which gave rise to many problems later. Construction quality of owner-driven housing was not poorer than donor-built housing, but

assessments have proven that many houses in some areas had gaps in construction quality.

This chapter attempts to critically analyse the ODP implemented under the post-tsunami reconstruction programme in Sri Lanka in relation to the policy and institutional framework, implementation strategies and processes, and its impacts on different contextual variations. Through this it attempts to formulate guidelines and recommendations to overcome these gaps in future scaled-up national level owner-driven housing programmes.

Background

Context

The Asian tsunami on 26 December 2004 was one of the most devastating natural disasters in history. Triggered by an earthquake in the ocean close to Northern Sumatra measuring 9.1 on the Richter scale (the most powerful earthquake in 40 years), the tsunami waves travelled at a speed of 500 km/h throughout the Indian ocean and caused waves as tall as 20 m to affect 14 countries in South East Asia, South Asia and Africa (Virtual Library Sri Lanka, 2009). In total, 227,898 persons were reported dead or missing and among them were 2,216 persons from 40 countries other than the 14 directly affected by the tsunami (TEC, 2006). Indonesia was the worst affected country with 167,540 losses of life and Sri Lanka, India, the Maldives and Thailand were the other countries severely affected (ibid.).

The damage and losses to the economies of Indonesia, Sri Lanka, India, the Maldives and Thailand is estimated at US$9,930 million (ibid.). The overall physical damage was mainly to the housing sector with substantial damage reported to physical infrastructure and productive sectors. In Indonesia, which bore the brunt of the damage, 141,000 houses were lost. The productive sectors which suffered the most damage were fisheries and tourism. The damage was not limited to physical and economic aspects. The disaster has had profound environmental and social impacts, which has made recovery challenging in many contexts.

The unprecedented damage from the tsunami mainly resulted from the unexpectedness and unpreparedness for the disaster (ibid.). The sheer magnitude of the disaster resulted in unprecedented media coverage. Matching the media coverage was the amount of aid generated where pledges amounted to 40 per cent oversubscription to the estimated damage and losses, which was not excessive as the cost of relief operations needed to be accommodated within these funds (ibid.).

Impact on Sri Lanka

Sri Lanka was the second most severely affected country and a disaster of this magnitude had never hit this small island nation in its 2,500 years of recorded

history. The official figure of those dead or missing stands at 35,322. Twenty thousand people were injured and more than 516,150, people were displaced (GoSL, 2005; 2). 13 of Sri Lanka's 15 coastal districts or two-thirds of the coastline (measuring around 1,000 km of coastline) were affected to various degrees (ibid.: v, 6). This included 13 urban areas in the coastal belt some of which had a high population concentration (ADB, JBIC, World Bank, 2005). The entire area of the affected western coast was densely built up, with the main southern arterial road and rail network running along the coastline being severely affected. Highly built up areas in the eastern province, especially in the Ampara district, were also severely damaged.

The damage and loss from the tsunami were estimated at $1,454 million which amounted to 7.6 per cent of Sri Lanka's GDP (TEC, 2006). The pre-disaster growth rate for 2005 of 6.0 per cent was adjusted to 5.4 per cent due to the impacts of the disaster (ibid.). Although the main damage was caused to the housing sector, physical infrastructure and productive sectors were also significantly affected. Tourism and fisheries were the most severely affected productive sectors with an estimated asset loss of $250 million and $97 million respectively (ADB, JBIC, World Bank, 2005: 3). Health and education were the other main sectors affected as most of the health and education infrastructure situated in the affected areas was destroyed. The asset loss in the health sector was estimated at $60 million, while in education it was estimated at $26million (ADB, JBIC, World Bank, 2005: 3).

The impact of the disaster was particularly severe on the nation as it had been engaged in an internal conflict between the Government of Sri Lanka (GoSL) and the Liberation Tigers of Tamil Ealam since 1983. Although a ceasefire was in place since 2001 there were violations on both sides and low-level conflict in the Northern and Eastern Provinces, which had been severely impacted by the tsunami. This ceasefire did not last long as a full fledged conflict re-emerged in the East in 2007 (GoSL, 2005; 2).

Damage to the housing sector in Sri Lanka

The number of damaged or destroyed houses was initially assessed at 136,000 of which 99,000 were reported as fully destroyed (World Bank, 2009). The World Bank fact sheet recorded 88,544 houses as fully destroyed or badly damaged. The German Development Cooperation (GTZ) has recorded more than 108,000 houses fully or badly damaged. Subsequently, according to the detailed housing damage assessment conducted in February 2005, the total number of housing units damaged was estimated at 98,525 (GoSL, 2005). The initial estimate for replacing the damaged housing stock was estimated to be between $437–487 million (ADB, JBIC, World Bank, 2005: 3). After several subsequent assessments the current number of destroyed houses is 120,858 (UN Habitat, 2008). This is seen as a result of government authorities including a number of conflict affected and vulnerable cases into the eligibility list for tsunami housing assessments.

Impact of reconstruction approaches, institutional frameworks and policies

The relief phase

The general public, local NGOs and societies responded to the emergency magnanimously by rushing food, water, clothing and medicine to tsunami affected communities around the island. The president announced a state of emergency within 24 hours of the disaster and requested international assistance for relief and recovery activities. The president established the Centre for National Operations (CNO) and three taskforces under CNO to coordinate relief activities. The CNO also carried out initial damage assessments and disseminated information.[1]

The relief phase utilized local capacities to the full and was adequately supported by international humanitarian agencies and the international military.[2] The GoSL's institutional set up for the relief phase was based on the traditional model of post-disaster relief with allocation of tasks and responsibilities mainly focused on relief alone. Although TAFREN – The Task Force for Rebuilding the Nation set up under the CNO – continued into the recovery and reconstruction phase, the relief phase failed to be innovative in integrating medium and long-term perspectives into its institutions and operations.

The Sri Lankan Government's initial formal response towards shelter began with the establishment of the Transitional Accommodation Project (TAP) in February 2005 to coordinate the provision of temporary accommodation for those displaced by the tsunami. This was well supported financially and implemented by UN agencies, international humanitarian agencies, as well as local and international NGOs. Guidelines for planning and updating shelters were produced by a variety of UN/INGO bodies, endorsed by national authorities (see GOAL, 2005; RedR/CHA, 2005; UNHCR, 2005). By August 2005 most families displaced by the tsunami were housed in temporary shelters on cluster sites, which were mainly constructed using a donor-driven contractor-built approach. This affected the communities' enthusiasm to engage in reconstruction efforts considerably. At the end of 2005 it was estimated that 57,000 transitional shelters had been completed (GoSL, 2005).

Although the operations for the provision of transitional accommodation progressed smoothly, it is questionable whether setting up cluster sites was the most efficient way of making use of the available resources, at least for families who could return to their lands. Not withstanding their usefulness, cluster sites were congested, expensive to maintain, created a dependency mentality among their residents and had many social ills. Assisting families who could return to their own lands may have been a good option, both in cutting costs and maintaining the families' enthusiasm in rebuilding their futures.

The reconstruction and recovery phase

TAFREN continued to be the apex agency for reconstruction until the Reconstruction and Development Agency (RADA) was set up. Institutional structures such as South West Housing Re-construction Unit (SWRHU) and North East Housing Reconstruction Unit (NEHRU) were also set up under TAFREN and continued under RADA to coordinate the Owner Driven Programme (ODP). Policies for reconstruction and recovery such as the buffer zone policy and its revised version, and the tsunami housing policy were established to regulate post-tsunami housing reconstruction, and had a large impact on the ODP. This section looks at the institutions and policies established and their implications on owner-driven housing reconstruction, and therefore on the ODP.

International humanitarian response

International agencies, INGOs, well-wishers from abroad (individuals and groups) engaged in recovery and rebuilding efforts. Memorandums of understanding were signed between GoSL and major relief and aid organizations to repair and rebuild permanent houses (GoSL, 2005). Many of them had little or no previous experience in constructing permanent housing, but had funds available due to the generosity of the public in their countries, which contributed lavishly, moved by the extensive media coverage of the disaster. These agencies were requested by the government to construct permanent houses and many accepted to do so without really understanding the complexity of the task at hand.

Initial government response: Establishment of the buffer zone

Initially the GoSL established a buffer zone of 100 m inland from the mean high water line in the south and west of the island, and of 200 m in the east and 500 m in the coastal areas under the control of the Liberation Tigers of Tamil Eelam (LTTE). This was done with the intention of minimizing damage to life and property in the event of a future tsunami. The basis on which the buffer zone was demarcated is not clear, except for the fact that the damage was more severe in the North and East rather than the South and West. These buffer zone regulations were contrary to the Coast Conservation Act of 1981. The construction of housing was not permitted in the buffer zone although persons owning land within the zone could use the land for agricultural purposes and still had legal ownership of the land. The GoSL planned to provide households who were not allowed to return to their original plots with land and donor built housing at alternative locations. This deprived a section of affected communities of the choice to rebuild their own house.

This was subject to much debate by civil society as well as international humanitarian agencies which maintained that people should not be removed from their original places of residence by force and therefore voluntary return

should be allowed (from discussions at Shelter and Settlement Forum Housing and Habitat Forum and Buffer Zone working group meetings, December 2005 – March 2006). These debates were based on Principle 2 and Principle 5.3 of the Pinheiro Principles (the UN principles on housing and property restitution for refugees and displaced persons) and somewhat based on the perception that the land within this coastal buffer zone would be used as a tourism development zone.

Owner-driven housing was allowed only outside the respective buffer zones (P2P Rescue, 2007) and this was later to be known as Phase I housing. Phase I housing, which consisted of the bulk of the houses, was first to get off the ground with government cash grants of LKR250,000 (approx $2,180) for a fully damaged house and LKR100,000 (approx $870) for a partially damaged house. These owner-driven houses formed the bulk of the housing reconstruction, although initially it was GoSL's intention to build the bulk of the housing using a donor-driven approach. Many donors also preferred the latter as it did seem more convenient to contract out the job than to be involved with hundreds of individual beneficiaries constructing their own houses.

TAFREN: Housing damage assessments and slow progress with housing construction

The Task Force for Rebuilding the Nation (TAFREN), which was set up in January 2005, became the apex agency for reconstruction and the Centre for National Operations was disbanded in February 2005 (GoSL, 2005: 3,4). The key personnel of TAFREN came mostly from outside the regular government administrative structure, due to the perception that this would fast track recovery and reconstruction activities. The government administrative structure was bypassed under the same assumption and TAFREN was vested with powers which surpassed the government administrative structure. This meant any experience the government administrators had with reconstruction after minor disasters was lost in the tsunami reconstruction process due to the new institutional structure.

One of the initial tasks of TAFREN was to conduct detailed damage assessment and registration of tsunami affected persons. TAFREN with the support of several international agencies and the Department of Census and Statistics carried out official registration and detailed assessments of tsunami-affected households and property.[3] Although this helped in arriving at the official numbers for housing assistance, it was the damage assessment carried out with the local divisional secretary (DS) office that formed the basis for housing assistance (CPA, 2005).

The *grama niladhari* (village administrators), a National Housing Development Authority's (NHDA) technical officer assigned to the area, representatives from the Village Rehabilitation Committees (VRCs) and a representative from the district sponsors (donors) were expected to carry out the damage assessments (CPA, 2005). However in reality it was mostly the *grama niladhar*

and the NHDA technical officer that carried out these assessments. The VRCs were severely affected or non-functional in many areas and it was rarely that donors allocated any staff for assessments. The DS certified this data and determined whether and what type of housing assistance a household was entitled to. The form completed by this team was essential in accessing housing assistance and was commonly known as the Damage Assessment Declaration (DAD) form.

There was much dissatisfaction and allegations of corruption from agencies and beneficiaries around the detailed damage assessments. Most dissatisfaction and debate concerned the classification of a house as fully damaged or partially damaged. The directive for classifying a house as fully damaged was that it should be over 40 per cent damaged. In some areas houses which were classified as fully damaged had suffered less damage than those which were classified as partially damaged. In some DS divisions of Ampara district the assessment teams arbitrarily classified houses within a certain distance from the sea as fully damaged, and those outside it as partially damaged, irrespective of the actual damage to the house. There were also complaints that some beneficiaries were able to get names included for housing or become eligible for a higher level of assistance by bribing the assessment teams. One main reason for this dissatisfaction may be the non-involvement of the beneficiaries themselves in the assessment process and the lack of community mobilization. Community-based beneficiary selection may have increased the beneficiaries' sense of ownership of the process as well as the overall transparency.

Owner-driven programme (ODP)

TAFREN set up Tsunami Housing Reconstruction Unit (THRU) to coordinate donor-driven housing programmes in districts affected by the tsunami (GoSL, 2005: 10). It also set up SWHRU and NEHRU to carry out coordination of owner-driven reconstruction in the Southern and Western, and Northern and Eastern provinces respectively (ibid.). These units were established to work in collaboration with TAFREN (and later with RADA) to ensure acceptable standard and quality of reconstructed buildings (ibid.). Representatives of these units were attached to the respective district secretary offices in each district. The more experienced National Housing Development Authority (NHDA), which implemented the million houses programme, was overlooked and their involvement was limited to the attachment of a few technical officers to DS offices to oversee the owner-driven housing construction. This programme was financially supported by the World Bank in all districts except Matara and Trincomalee, which were supported by the Swiss Agency for Development Cooperation (SDC) and a few DSs, and in Batticaloa and Ampara, which were supported by the German Bank for Development (KFW).

Beneficiaries were entitled to a LKR250,000 (approx $2,180) cash grant payable in four instalments for reconstructing a fully damaged house of 500 sqft (45 sqm) and a LKR100,000 (approx $870) cash grant payable in two

instalments for repairing a partially damaged house. The basis for determining the cash grant seemed arbitrary and the inadequacy of the grant was realized before the first year of rebuilding was over; RADA stated in its first year report that co-financing arrangements with agencies would be worked out by the end of 2005 to overcome the inadequacy of the grant. Certain cut-off dates were set for the instalments, by which time the beneficiaries had to reach specified levels of completion to be eligible for the next tranche. This programme showed satisfactory progress especially in the South and West in terms of speed of construction. In reality the houses built under this programme were not fully complete at the end of the programme. Only the structure was complete in most instances and made habitable with the addition of a minimal number of doors and windows etc. However for the official completion figures these houses were accounted as complete with the release of the final grant (discussions with UN Habitat Housing Coordination project staff). In the North and East the construction rates were slower and the programme closed prematurely, with a considerable number of grants remaining unreleased to the beneficiaries as they had failed to reach specified completion levels at the cut off dates. However, donors did lobby for the reopening of the base grant for almost two years and, as a result, at the time of writing steps are being taken to reopen the grant to release funds for those who are in arrears of some of the tranches in the Eastern Province.

The post-tsunami recovery phase introduced a new dimension to the existing ceasefire agreement between the GoSL and the LTTE with the Government of Norway as the facilitator. An opportunity was created for the Sri Lanka Government and the LTTE to cooperate in rebuilding the country that was already devastated by ongoing civil conflict. A mechanism to handle post-tsunami recovery and rebuilding was proposed for this purpose in the form of a memorandum of understanding signed by the government and the LTTE to set up a Post-Tsunami Operation Mechanism Structure (P-TOMS) (GoSL, 2005: 5). This mechanism failed due to political pressure and anti P-TOMS agitation by political parties.

Meanwhile, TAFREN faced major challenges in implementing the donor-built housing programme. The identification of suitable land for donor-built housing proved to be a challenge for GoSL. The Urban Development Authority who were tasked with this failed to identify sufficient suitable land belonging to the state. Acquiring private land was time consuming and expensive and even some of the identified lands were found to be unsuitable due to flooding, lack of access, the conflict between human and elephant and other issues such as caste conflict (discussions at Housing and Habitat Forums, 2005 and 2006). When GoSL identified private lands to be acquired for donor-built housing it was often faced with legal issues regarding ownership. In addition implementers faced severe difficulties in sourcing material and labour, which was suddenly in high demand due to the scale of reconstruction going on in the tsunami affected areas. TAFREN also found it challenging to meet the demands of donors regarding the participation of line ministries in the

construction process and provision of beneficiary lists by the DS for donor-built schemes. These too contributed to delays particularly in donor-built housing.

RADA: Revised buffer zone and tsunami housing policy

TAFREN came under criticism from several quarters mainly due to delays in reconstruction efforts. As a result RADA was formed to oversee reconstruction activities (throughout the island) in 2006. RADA also had powers which bypassed the government administrative structure and was manned by high profile professionals from the private sector in the hope that this would help accelerate the already 'slow' reconstruction process. RADA took on the task of housing reconstruction at a challenging point in time; only a few houses were built, apart from owner-driven housing outside the buffer zone, and there was slow progress on donor-driven relocated housing. The beneficiaries and the government were disenchanted with the situation, as political pledges could not be fulfilled. The media was critical of agencies that pledged housing construction, while the agencies themselves were frustrated with bottlenecks that prevented them from building houses, as well as realizing realities that would make it difficult to honour pledges with passing time.

The revised buffer zone

Mounting pressure from civil society and donors due to restrictions imposed by the buffer zone and the difficulties faced in finding land for relocation housing sites, prompted GoSL to reconsider reducing the buffer zone. In a circular dated 27 December 2005, from the director of coast conservation to the DS, the buffer zone was reduced. The new buffer zone ranged between 35–125 m from the mean high water line depending on the topography of the coastal location. This circular also required any construction within 300 m of the mean high water line to be approved by the Coast Conservation Department. The 1997 Coastal Zone Management Plan formed the basis for the reduced buffer zone. The reduction of the buffer zone moved between 12,000–20,000 houses from the donor-driven programme into the owner-driven programme (GoSL, 2005:12).[4] The exact number of houses that moved into the owner-driven housing programme due to the buffer zone was difficult to determine as the DS took this opportunity to include on the beneficiary lists vulnerable cases such as conflict affected persons and squatters, not previously included for housing assistance. The strip of land between the old and new buffer zones was named Phase II, while the area inland from the original buffer zone was known as Phase I. Although the start of the phases were at different times, the more important defining factor was the geographical demarcation rather than the start and end dates. In many owner-driven housing projects both phases were eligible for assistance until the end of these projects.

The revision of the buffer zone did have its own pros and cons. On the one hand, a considerable number of houses shifted to the ODP, thereby accelerating the speed of construction. On the other hand, donors of some owner-driven houses were suddenly deprived of their beneficiaries. This was due to the fact that some beneficiaries were reluctant to shift from the completed donor-built housing they already occupied, or from future donor-built housing, partially due to fear of another tsunami and also partially due to a dependant mentality. However the majority of the new caseload did move successfully into the owner-driven programme.

The post-tsunami housing policy

A formal policy for the provision of post-tsunami housing assistance was not in place until RADA began formulating a policy for housing reconstruction, although a basic guideline and circular was available for the implementation of owner-driven housing. This circular to all DSs of tsunami affected districts, dated 3 May 2006, outlines the GoSL post-tsunami housing policy, which had taken into account many issues and concerns that emerged over the year and a half after the tsunami. However, the timeliness of these policy guidelines on the ODP is questionable as a considerable number of houses were completed by the time the policy was formulated and disseminated. It did however allow tsunami affected persons within the revised buffer zone in Colombo district and three divisions in the Ampara district to purchase land with a government grant and build houses under the owner-driven scheme.

The post-tsunami housing policy of March 2006 took into account the inadequacy of the grant to build a house and included co-financing in its policy for ODP. The policy stated that 'regulated donor assistance of not less than Rs.250,000 be provided to complete FD (fully damaged) houses to a minimum standard specification' as part of what beneficiaries under ODP are entitled. Large implementers who were still in the country were encouraged to take up this challenge and as a result started their own co-financing projects, popularly known as the 'top-up projects'. The government grant as a consequence became popularly known as the 'base grant' programme.

The Red Cross and Red Crescent Movement is particularly noteworthy in this respect as it supported two of the largest owner-driven projects implemented – namely the Austrian Swiss Red Cross's Cash for Repair and Reconstruction (CfRR) project and the International Federation of Red Cross and Red Crescent's Community Reconstruction and Recovery Partnership (CRRP) project, implemented in partnership with UN-Habitat and the Sri Lanka Red Cross Society, discussed in more detail in chapter two.

Key implications

The key implications for the ODP of the institutional framework and policies for post-tsunami housing reconstruction are:

- The initial stages of the ODP were not conducive for the active involvement of agencies in its implementation. The ODP at the base grant stage was led by GoSL and large donors.
- The policy revisions (buffer zone relaxation, housing policy introduction) and challenges faced with DDP control over beneficiaries boosted its growth. This study does not focus on the small-scale programmes as data is hard to collect, and instead look at the scaled-up national level ODP.

Implementation strategies and processes

People-centred construction process

The implementation strategies of major housing projects within the ODP (henceforth ODHPs) were beneficiary centred, for example, the establishment of entitlement criteria for beneficiaries, establishment of minimum standards of construction quality and house size, cash transfers to beneficiary bank accounts in tranches when stipulated stages of construction were reached, and provision of technical support to beneficiaries to ensure housing quality and establishment of grievance mechanisms. These strategies were similar across all the main ODHPs including the GoSL base grant and major co-financing projects such as the CRRP and CfRR.

The implementation guidelines formulated for each of the projects varied in length and detail. For example, GoSL base grant guidelines took the form of short government circulars to the respective officials, while CRRP had a 140 page implementation manual. The strategies and resultant guidelines looked good on paper, however their implementation at ground level was not easy as the guidelines had little provisions to respond flexibly to the ground realities and contextual variations.

The CRRP differed strategically to the GoSL base grant programme, the CfRR, and the rest of the ODHPs as it adopted a holistic approach to housing, which integrated livelihoods, community water and sanitation and infrastructure into the project.

Yet the design and planning of ODHPs that promoted people-centred implementation processes were not participatory. No local consultations with local officials and stakeholders were carried out during the centralized project design stage. Centralized project design and planning may have helped to get the programme off the ground very quickly, but failed to take into account local social dynamics, such as the collapse of social support systems, localized market dynamics, and political and security conditions, which directly affected the beneficiaries' ability to drive implementation of ODHPs, especially in the conflict affected Northern and Eastern Provinces. Some ODHPs did not conform to basic owner-driven principles, for example, there were instances where beneficiaries were not given a free hand in designing their own houses and standard housing designs provided by agencies were not responsive to

the social and cultural need of the communities. But in general construction within the ODP was beneficiary driven.

Equitable access to assistance

Assistance through the ODP was not delivered equitably in comparison to the donor-driven (or 'donor-assisted') programme (DAP). Persons within the buffer zone received houses based on humanitarian needs alone, whereas those outside needed proof of ownership of the damaged or destroyed house and had to be registered in the DAD database to be eligible for assistance; from the base grant and later the post-tsunami housing policy. Not all who got displaced due to the destruction could get ODP assistance. It excluded renters, squatters on private land and extended families. Squatters on government reservations within the buffer zone fared better. They were made eligible for assistance especially in Colombo, Trincomalee and Batticaloa districts under the tsunami housing policy. In total over a thousand squatter families were made eligible for assistance due to authorities providing land or cash grants to purchase land and subsequently providing housing assistance under ODHPs. Some district administrators in districts such as Trincomalee and Batticaloa provided many landless families who squatted on the beach with land so that they could be included in ODHPs.

Legal titles of ownership of land and houses, in many cases, were destroyed along with the house and its possessions. Establishing ownership was another challenge faced by beneficiaries. Obtaining copies of the deeds from the local land registry was a drawn-out process. In some areas the land registries themselves were damaged or the staff were severely affected. There were also instances where the family lands were not subdivided, or the transfers of land from parents to the beneficiary had not been done. The support mechanisms set up to address these issues, including authorization letters from the DS on recommendation of the *grama niladhari*, were able to overcome some of these problems.

Beneficiary verification was also a prolonged process especially with some co-financing projects. Agencies initiated their own processes, not satisfied with the eligibility requirements establishment by the GoSL, which took almost a year to be completed in some locations.

Adherence to minimum standards

The ODP specified the following minimum requirement for houses across all its projects; a 500 sqft (45 sqm) house consisting of one lockable room, kitchen and internal or external toilet. The structural specifications across the ODP in Sri Lanka were based on the post-tsunami housing guidelines of the NHDA. The specifications included rubble foundations with reinforced plinth beams, RCC columns and tie beams at wall plate level.

The minimum requirement for the ODP was established with the objective of constructing better quality housing with improved disaster-risk reduction features. The initial estimates for cash assistance, however, did not seem to have taken the additional cost of disaster proofing into account.[5] This added additional challenges to meet quality and the deadlines of the ODP (discussed further later). Some ODHPs specified standards beyond the minimum ODP standards thereby burdening beneficiaries unnecessarily in some instances. For example, some co-financing had requirements such as internal and external painting using emulsion paints and internal wiring. These were sometimes seen as not relevant due to social and locational implications. For instance slaked lime wash is considered an acceptable finish for walls in Sri Lanka and is widely used. Some ODHPs did not allow the use of lime wash and insisted on emulsion paints, which cost more. Internal wiring was insisted upon even in areas which were not covered by the national electricity grid and when the beneficiaries did not have the means to afford electrical connections.

In addition, the large co-financing projects specified clay tiled roofs, due to health concerns regarding the use of corrugated asbestos roofing sheets, although RADA had approved its use as a roofing material in the project implementation guidelines of the respective projects and also in the post tsunami housing policy.

Technical assistance in ODP

Availability of technical assistance in implementation to ensure minimum construction standards was not adequately emphasized in the ODP. At the conceptual level the ODP seems to have recognized the importance of technical assistance as this is incorporated into its plans. Technical personnel attached to the DS offices from SWHRU, NEHRU and NHDA were tasked with providing technical assistance to beneficiaries of the base grant (GoSL, 2005: 11). Enforcement was not a priority, and the plan was impractical. The sheer numbers in the caseload allocated to these few officers was unrealistically large and it made them less effective. Beneficiaries could obtain external technical assistance during reconstruction but the cash grants did not incorporate sufficient funds for this.

Mechanisms for the delivery of assistance in ODHPs

Multiple evaluations carried out on the effectiveness of cash transfers have found mechanisms for the delivery of assistance to beneficiaries has been highly successful (Aheeyar, 2006).

The main mechanism of providing assistance in the ODP was cash transfers to beneficiary accounts through state and commercial banks. In the GoSL base grant and CRRP the sole mode of assistance was cash. In the CfRR material assistance was provided in Kilinochchi, due to the restrictions on transport of

material and resultant shortages and prevalence of black markets in this LTTE controlled area.

There has been no report of corruption, although delays in releasing cash from banks have been reported in some instances. It has helped to build capacities of beneficiaries in handling bank accounts as well as the capacity of local banks to handle mass cash transfers.

Grievance mechanisms

The GoSL base grant did not have much emphasis on grievance mechanisms, with the *grama niladhari* and DS having powers to include or exclude persons in the beneficiary list. After allegations of widespread corruption and accusations of favouritism, RADA established district grievance committees through its housing policy, which the district secretary chaired. This worked fairly well in some districts. In Ampara District alone over 12,000 grievances regarding housing assistance were received (discussions at Housing and Habitat Forum, 2006). The Disaster Relief Monitoring Unit of the Human Rights Commission was another institution which handled grievances of the tsunami beneficiaries effectively.

Both major co-financing projects had their own grievance mechanisms. In CRRP the grievances were channelled through the community development committees and *grama niladhari* to the project management of the area. The effectiveness of this is questionable as these persons were often the miscreants. This process was also not well communicated to or understood by beneficiaries and in many instances they directly approached the programme managers at district level. This, although highly inconvenient for the managers, overcame some of the issues of the formal process. In the CfRR programme a similar situation was evident.

Holistic and integrated approach to housing

The majority of ODHPs were standalone programmes, which focused only on housing. The GoSL base grant had no provisions for integrated interventions, and was limited to housing grants alone. RADA too, failed to include integrated interventions in the post-tsunami housing policy, which was published after such issues become evident.

Discussed in more depth in Chap. 2, CRRP was an exception to this and aimed at achieving holistic outcomes through its housing project that incorporated community infrastructure, community WatSan and livelihood components into the programme. It used community action planning methodology for identification of appropriate interventions and implemented these with leadership from the community development committees.

Success and concerns of scaled-up ODHP in Sri Lanka

The Post Tsunami ODHPs have been impressive in achieving most of the programme objectives. Despite set backs in starting the programme due to the confusing policy context, Sri Lanka seems to have faired well in housing reconstruction due to the wide adoption of the ODP to housing reconstruction following the tsunami disaster.

Examining outcomes beyond statistics and numbers, however, shows the realities of promoting scaled-up ODP within the prevailing policy and macro/micro socio-economic context. The discussion in this section reviews the statistics and then focuses on learning about the successes and concerns and reasons behind them.

Reaching large numbers of beneficiaries in a short period of time

ODHPs were faster to get off the ground especially for damaged or destroyed houses situated outside the original buffer zone of 200–500 m. December 2006 figures form RADA show that 81 per cent, or 48,981 houses completed, were through the ODP, while 68 per cent of ongoing housing constructions, or 32,517 houses, were also done under the ODP, bringing the total contribution of the ODP to 73 per cent of completions and ongoing constructions. This programme started off with the GoSL base grant for partially damaged and fully damaged houses during the latter half of 2005. There was no bottleneck in identifying lands for housing construction, unlike in the resettlement programmes, as the houses were repaired/reconstructed in-situ.

Housing completion rates of the ODHPs are impressive. By 31 July 2008, 76,984 houses or 77 per cent of the houses completed were constructed by the ODHPs, according to the UN-Habitat coordination project. The latest available figures also indicate (31 July 2008) that 88,338 owner-driven houses are either complete or in progress out of a total of 120,858 post tsunami houses required. The completion numbers are taken to be optimistic estimates as they are based on the release of grants for construction rather than on physical completion estimates. However, observations have shown that in most cases the funds have been used for substantial completion of houses.[6]

In a sample of 483 households supported by the American Red Cross under CfRR in Trincomalee 447 beneficiaries completed their houses by January 2008. Similarly out of a case load of 281 funded under CRRP in Jaffna 279 completed their houses by August 2008, while in Kalutara 132 out of 137 beneficiaries reached completion by July 2008. Even in Pothuvil, Ampara, which has been a challenging location for implementers, 579 houses have reached substantial completion out of a total caseload of 708 by December 2008 (from surveys carried out by Practical Action and American Red Cross monitoring teams, and IFRC CRRP project reports).

High occupancy rates and beneficiary satisfaction

If occupancy rates are to be taken as a proxy indicator for the level of satisfaction, the ODP may be termed as 100 per cent successful in the post tsunami context. None of the houses have been identified as unoccupied by the UN-Habitat coordination project, which also provides the official figures for post tsunami housing. In addition, a study involving a sample of 135 beneficiaries from the Eastern and Southern provinces indicated that the beneficiaries of ODHPs expressed a high level of satisfaction.[7] Over 70 per cent of beneficiaries were happy or very happy about all the aspects of the houses except energy and infrastructure. This has also been the general observation in all ODHPs and may be due to the relatively high decision-making ability that remained with the beneficiaries compared to the DAP projects.

Beneficiaries contributed to construction

The same survey revealed that 51 per cent of the beneficiaries made monetary contributions towards the construction of the house. This is seen as one aspect which increased the sense of ownership for the houses. The size of the contribution ranged from LKR3,000–600,000 (approx. $25–5,220) depending on the wealth, interest and need of the beneficiary. The sources of funds ranged from personal savings to selling and pawning of gold jewellery and in many cases raising loans, from banks, friends and relatives or money lenders. Beneficiaries who did not contribute physical labour to the construction of their houses are very rare. Such beneficiaries either belonged to the middle class or labour scarce families such as elderly or women-headed families with young children. A direct correlation was found between the financial contribution of the beneficiary and the quality of the house in a survey carried out in Ampara, Trincomalee and Batticaloa districts. Observations on owner-driven houses in the Western Province also support this finding.

Marginalization of vulnerable households

Inequity, between the basis for assistance to those within the buffer zone and those outside, remained an unresolved issue of post-tsunami reconstruction. Many vulnerable households were excluded from assistance. For example over 500 tenant and extended families remained in transitional camps in Colombo district at the end of 2008, faced with possible eviction. RADA identified this as a challenge and reiterated the need for a more inclusive approach and suggested a Phase III of housing assistance under the housing policy to address this problem (Post-tsunami Housing Policy, 2006). This proposal however, never got off the ground due to the complications in completing the large caseload and limitations in funding. The ODHPs could not work with 'non-owners' who were very often more marginalized than the owners.

The ODP provided less assistance for housing in comparison to DAP. For example, the ODHPs released LKR500,000 per house (base grant and top up) to construct a good quality house with beneficiary contribution. A comparative house constructed by DDHP cost about LKR800,0000–1,000,000 (or more) depending on the location and time. In the DAP, the risk of escalating costs was accommodated by the implementing agency, whereas in the ODP this risk was transferred to the beneficiary. Some agencies tried to address this by providing cost adjustments, which helped in managing shortfalls to some extent. Yet it failed to address quality gaps of houses built by poorer beneficiaries, who could not contribute to the construction.

Weak gender considerations

ODHPs were initially not particularly gender sensitive and had a negative impact on some groups of women. Land ownership in Tamil and Muslim communities generally in the East as well as in some Sinhala communities was matrilineal. Traditionally lands and houses are given as dowry to daughters on marriage under the *mukkuwa* system (P2P Rescue, 2007). The damage assessment declaration database recognized the male as the head of household although the land sometimes belonged to the female. Thus the men were recognized as beneficiaries and the women had to either transfer the deed of land to their husband's name or give an affidavit to let their husband construct the house on the land. The outcomes varied from area to area depending on the decisions of DS and the implementing agencies. Transfer of ownership to the registered beneficiary, as requested in some instances, caused the women to lose their ownership rights to land and house, thus disempowering them within the family structure.

CRRP and CfRR fared much better in this aspect, although there was a delay in deciding on a suitable approach to be adopted. In many cases the assistance was provided to the woman under these programmes taking into account the traditional practice of matrilineal transfer of property under the *mukkuwa* tradition in the East and prevalence of a high degree of alcoholism among males.

Inadequate cash grants

The cash grant given to beneficiaries of the ODP was inadequate to complete construction to given standards. The government estimated financial assistance based on the pre-tsunami cost of a 500 sqft (45 sqm) house for the base grant. The boom in the construction industry after the disaster, due to the high volume of construction in rebuilding, increased the prices of construction inputs. The re-emergence of the conflict in the East added to the price escalation of construction inputs in those areas, as did the global increase in fuel prices.

The inadequacy of the base grant combined with impractical cut-off dates had a detrimental effect on construction quality. Beneficiaries who could not afford to contribute in cash, labour or materials had to compromise on input quality, e.g. material quality and skilled labour, to meet construction deadlines. This resulted in inferior quality of house structure and its disaster-risk reduction features.

The Institute for Construction Training and Development that routinely monitors and forecasts trends in construction prices was ignored in the original estimation of assistance to the base grant. Had proper use of this facility been made, more realistic estimates may have resulted, which may have helped to improve construction quality of houses under ODP.

The inadequacy of the base grant was realized quite early in rebuilding (GoSL, 2005: 10). The post-tsunami housing policy (2006) recommended additional financial support to the GoSL base grant, which many large agencies used to provide much needed additional cash to complete the houses. The grants got the majority of houses complete, but it was difficult to rectify the initial defects. Out of a sample of 135 houses surveyed by Practical Action in the Trincomalee and Batticaloa Districts of Eastern province, it was found that 23 per cent of foundations, 20 per cent of the columns and beams, 22 per cent of walls, and 17 per cent of roofs were not of satisfactory quality. The defective foundations were mainly due to non-inclusion of a plinth beam which was mandatory under the NHDA regulations for disaster-resistant housing. This is of concern as many of the areas under study are prone to floods and even a future tsunami. The main defect with the structure was that a ring beam had been replaced with a lintel beam or removed all together. These defects may be mostly attributed to the base grant, as beneficiaries had to achieve stipulated stages of completion with the base grant.

Top-up grants were also released in similar tranches as the base grant, and were also tied to reaching stipulated stages of completion. Even though co-financing made it possible to construct a 500 sqft (45 sqm) house for LKR 500,000 ($4,350), the delays in implementing some programmes meant that even the additional assistance was not sufficient to complete the houses.

Delays in implementation and the inability to provide top-ups in parallel with the base grant reduced the effectiveness of the co-financing. This combined with non-existent levels of access to quality technical assistance resulted in the repetition of the same problems experienced during the base grant, such as compromise on construction quality and dropping out of vulnerable cases.[8]

On the other hand, beneficiaries of the ODHPs which started later, after the housing policy was in place, were able to utilize assistance more effectively. They received the full grant simultaneously (e.g. Kalutara resettlement ODP sites) and got more cash to construct a particular stage of the house. They were able to work better towards achieving standards as a result. Implementation delays also meant that assistance came when beneficiaries had substantially

reverted to their livelihoods and therefore did not utilize the grant for purposes other than construction.

Similarly some ODHPs were more flexible than others in accommodating cost escalations. For example, CRRP included cost escalations in its top-up grant based on the labour and material costs at the given time and project location.[9] This was partially possible due to the flexibility of donors to the programme (primarily the Red Cross Societies present in Sri Lanka) and savings from favourable exchange rates. The CfRR in Trincomalee did not accommodate such cost escalations mainly due to the large numbers covered by the programme and the complications in implementing, while the same project in Batticaloa did take into account this factor and set its top-up grant higher to accommodate these costs. The later extensions to CfRR in Batticaloa, which are still ongoing have also taken into consideration the cost, time and location implications.

Some agencies responded to highly difficult procurement circumstances and provided material assistance e.g. CfRR in Kilinochchi helped isolated communities to overcome vulnerabilities such as restrictions on transport of material and resultant shortages and prevalent black markets. This is an example of how outcomes have been improved through better focus on beneficiary and contextual issues.

Poorer beneficiaries were the most marginalized in general as an outcome of what happened. In most instances the houses constructed with the base grant were limited to the structure alone, as many beneficiaries used the final tranche meant for finishes to repay loans incurred to keep up with the construction cut-off dates. Poorer beneficiaries did not have sufficient funds to complete finishes and therefore the houses remained incomplete. Although the number was relatively small, some very vulnerable beneficiaries dropped out of the programmes due to the inability to meet the deadlines. This was mostly evident in the conflict affected districts of the North and East.

Inadequate technical assistance

Field observations in Western and Eastern Provinces have shown that the quality of technical assistance provided to beneficiaries had a direct impact on the construction quality of the houses. Concerns over skills and experience of the technical staff existed in almost all co-financing projects, especially in the conflict affected areas. The programmes in the South and West managed to recruit skilled and experienced technical officers offering higher salaries and other perks, and got better quality technical advice. It was difficult to get the same level of interest to work in the East due to conflict conditions. Persons without relevant qualifications and inexperienced young graduates straight from technical colleges were recruited by these projects as a result. The very flat management structure of many ODHPs made the guidance and supervision of the technical officers very difficult and further aggravated the quality of service provision. In the context where building a brick and mortar house

was a relatively new experience to many poorer beneficiaries, the technical as-sistance gaps had a direct negative impact on construction quality.

Little use had been made of the opportunities to enhance skills and build technical and social mobilization capacities of local personnel although most ODHPs had budgetary provisions for staff training. Some ODHPs even had plans to train local construction tradesmen involved in the ODHP, but it was only in a few instances that this was really carried out. Time and other pres-sures relating to completing a large number of houses led to a deprioritization of training, thus the opportunity to build local technical capacity and use it to increase effectiveness was missed.

It has been found that the ratio of beneficiaries per technical officer de-termined the quality of construction. The blanket ratio (100:1) applied by some ODHPs did not accommodate the required context specific variations. The ground realities of the terrain, which depends on the scattered nature of houses, movement restrictions in the North and East etc., also needed to be considered when determining the number of technical officers employed. For example, it was found in one instance a technical officer employed in Trinco-malee was expected to visit between 25–30 households per day, which gave him 16–20 minutes per house excluding travelling time. Another technical officer employed in Ampara complained, that his case load of 130 houses were scattered in two communities which were around an hour apart. Although it is accepted that finding suitably qualified technical staff willing to work in con-flict affected areas is difficult, the usual number of beneficiaries per technical officer exceeded the given ratio (100:1) as set out in most ODHP guidelines.

Disaster-risk reduction was not prioritised

Disaster-risk reduction was almost totally ignored in the implementation of ODHPs, although all projects had stipulated that housing should be construct-ed to NHDA standards, which had disaster-risk reduction features in its speci-fications. Even when the construction quality of housing and amenities were acceptable overall, many of the disaster-risk reduction features to be incorpo-rated into housing had not been included. It is felt that the opportunity to 'build back better' was not optimised; reduced disaster risk through improved housing and settlement quality was not achieved.[10] Training staff on context specific disaster-risk reduction in construction may have improved this but as mentioned previously not enough use of capacity-building provisions was made.

Non-involvement of local authorities

The government, in a bid to accelerate construction, nominated the DS of-fices to be the 'one-stop-shop' to facilitate reconstruction. Local government mandated to regulate physical development of the areas under their jurisdic-tion, and Public Health Officers who maintain the health and safety aspects

of development, operation and maintenance of common amenities, were by-passed as a result. Implementers obtained blanket approval from technical officers of the DS office, for a prototype house, consequently its fit to the site and neighbourhood environment, plus safety aspects, etc. were not given adequate attention.

Local authorities, who regulate normal housing construction, could have helped in tightening technical advice and supervision that ODHPs struggled with, had they been involved from inception. Periodic site inspections carried out by building inspectors/technical officers of the local authorities could have assisted in this. The general perception that local authorities were corrupt and had low capacity, which was true in most instances, as well as the convenience of not having to deal with multiple agencies led to implementers working with the centralized structure (the DS office). The opportunity to build capacities of these weak but important institutions for sustainable support to the affected community was unfortunately not taken seriously by the government and other implementing agencies.

The non-involvement of local authorities and other stakeholders had negative implications not only on housing construction but also on overall settlement quality. Many health and safety issues pertaining to the houses and settlements were evident in densely populated urban communities, for e.g. Ampara and Trincomalee Districts.[11] Issues were also observed in rural areas, for example, non-adherence to regulations regarding sewage disposal was common and the distance between the well and the septic tank/soakage pit was, in many instances, less than what was required, posing a serious health hazard considering the porous nature of the sandy coastal soil.

Lack of involvement in community infrastructure and community WatSan interventions in some areas was another concern. Community WatSan and infrastructure facilities are generally owned, operated and maintained by local authorities. The reduced sense of ownership due to their non-participation in the design and construction resulted in the deprioritization of supervision and maintenance of the new community infrastructure. The overall sustainability of the interventions have thus reduced, contributing to the deterioration of settlement quality in these areas.

Effective delivery mechanisms

All major ODHPs transferred cash grants through state and commercial banks to beneficiary accounts. Studies have shown that bank transfers are a better form of assistance to beneficiaries than transfers through post offices, community-based organizations (CBOs) and other traditional means of assistance (Aheeyar, 2006: 19). It is considered to be one of the key successes of the ODHP and resulted in multiple benefits. Strengthening local financial infrastructure and capacity building of beneficiaries to operate their own savings accounts in banks are examples of such benefits. Beneficiaries who had previously never operated bank accounts were empowered to operate bank accounts on their

own and many women were encouraged to save. In a survey of 135 households in ODPs of Batticaloa and Trincomalee districts it was found that less than a third possessed bank accounts prior to the tsunami, in severely conflict affected areas this was as low as 15 per cent. However all households successfully operated bank accounts for the construction of their houses. There have been no reports of corruption and on the whole it has been efficient and effective in delivering assistance to beneficiaries on time.

The success of cash transfers through banks may also be attributed to the high level of literacy prevailing in Sri Lanka. Field observations have shown that even when individual beneficiaries were not literate, other community members could help them deal with the bank.

Cash transfers also proved more effective than material assistance except under exceptional circumstances. Some smaller housing projects engaged in the provision of material assistance found the logistics challenging, which led to construction delays. Limits to the owner's choice of construction materials were another negative effect of providing materials instead of cash. Beneficiaries of one such programme complained that the material arrived too late to sell it at the right price as many in the community had a surplus of the same materials (the American Red Cross monitoring teams field observations in Ampara). Yet, material assistance in the conflict affected Kilinochchi area seemed to have worked well. The agency facilitated procurement and transport to the area. Beneficiaries would not have been able to achieve similar efficiency, with restrictions on material transport, had they too received cash grants.

Integrated interventions

Most ODHPs were standalone housing programmes as mentioned earlier, but there were examples where livelihoods, community infrastructure and community water and sanitation were included along with the ODHP.

Livelihoods

Incorporating provisions for home-based livelihood activities were higher in ODPs, but this was restricted when prototype plans were provided for housing. Where beneficiaries had a free hand with the design, livelihood provisions such as small grocery shops, barber saloons, tailoring etc. had been incorporated. This shows that the opportunity to address a critical gap was missed out when livelihood concerns were not integrated into housing reconstruction. This was particularly important in severe conflict affected areas such as Eachchilampattu and Kuchchaveli. A small but significant intervention was the setting up of small savings groups, known as primary groups under CRRP. These groups operate revolving funds with their savings, based on a traditional financing method practiced in Sri Lanka. This has proven to be quite successful. Implementation, however, in some instances missed its objectives as livelihood assistance was delivered because it was a component

of ODHP, even when it was not really necessary in locations where livelihoods had already been recovered.

Community infrastructure and common amenities

The community infrastructure and community water and sanitation components were successful where the need was high and communities were well mobilized. It was more challenging when communities had an individualistic outlook, or where the houses were scattered. Sustainability of these interventions in some locations is doubtful with the absence of the local authorities' long-term role. Centralized planning resulted in the DS, who has little or no ownership of the interventions, approving them and the role of the local authorities being ignored in planning and implementing the projects. Project managers in some locations, although challenging and time consuming, got the local authorities and relevant stakeholders on board resulting in proper implementation and sustainable outcomes.

Solid waste management is a major issue in everyday life in Sri Lanka as the capacity of most local authorities to handle the waste effectively is weak or non-existent. Originally it was not incorporated into their plan, but subsequently the CRRP encouraged at least 20 communities in the Western and Eastern provinces, where the majority of the caseload lies, to compost biodegradable waste and use it for home gardening with assistance from the World Wildlife Fund and local partners.

Transparency and accountability

Overall the ODP was more transparent and accountable than the DAP. ODPs reported lower levels of corruption, although there was more cash available in the ODPs in comparison. There were more reports of corruption in the DAP, targeted at staff of implementing agencies and local officials, as bribes are claimed to have been obtained to provide houses and in contracting construction. In the ODPs, allegations of corruption have been localized to certain locations. Ampara, in the East, seemed to have fared poorly when compared to the other districts (with the highest number of ineligible cases for housing assistance on the island).[12]

Grievance mechanisms were impractical as the culprits were often the local representatives such as *grama niladhari* and members of community development committees or VRCs who were also stakeholders in the grievance procedure. In an interview, a field coordinator from the CfRR programme in Batticaloa stated that the VRCs were discontinued from the bulk purchasing of materials and that beneficiaries purchased material themselves. This was due to the fact that the beneficiaries were paying higher than the market price for materials, as the VRC was making and keeping commission on purchased material.

Cultural aspects and socio-political factors have also prevented many grievances being aired. For example, there were allegations of corruption among technical officers of UN-Habitat in Pothuvil under CRRP and as a result four of them were discontinued. However when community members were requested to give evidence none of them came forward to do so fearing retaliation from the involved groups. Therefore the inquiries were inconclusive. In isolated instances when beneficiaries bypassed all stakeholders in the grievance procedure and were directly able to access programme managers, their grievances were more effectively addressed.

Coordination and learning

Different implementation strategies and methods were adopted by organizations. However, coordination and collaboration among agencies implementing ODHPs were low and little cross learning occurred between the implementers. Furthermore, not enough sharing has happened even between different teams within ODHPs. This is evident in the varying inputs and methodologies adopted to implement the programmes in different locations. The ratio of beneficiaries per technical officer, frequency of visits to beneficiaries by technical officers and project staff, communication to beneficiaries, record keeping, maintaining databases and involvement of relevant stakeholders in the programmes varied among locations, even where the same programme was implemented. Had adequate sharing of good practice been carried out, the quality of implementation could have been improved in the more challenging locations due to access to proven practices in other areas of the same programme.

It is inevitable that tenure of employment with the same agency in the humanitarian sector is low, due to the nature of its operations. This to some extent has hampered organizational learning from previous experiences in implementing similar projects. It was found that past experiences of organizations implementing ODHPs and guidelines developed for these had been ignored by teams from the same organization implementing similar projects after the tsunami. Access to resources developed from past experiences may have helped to avoid some pitfalls in implementing large-scale ODPs in the post-tsunami context.

Lessons learned

The following are the key factors which have proved critical to the outcomes of ODP in Sri Lanka. They give a better understanding about the context and conditions which would be conducive to the implementation of scaled-up ODPs in other post-disaster contexts:

- The acceptance of large donor agencies, implementers and the GoSL was critical to the uptake of ODP in Sri Lanka in the post-tsunami

context. This created the general environment – including cooperation of different stakeholders and setting up of the policy and institutional framework necessary for the implementation of ODP.

- Access of beneficiaries to construction related trades and services (although not entirely adequate and not of the best quality) did help in getting a large number of houses completed even with considerable delays.
- The presence of a well-developed banking network with wide coverage and the capacity of beneficiaries did help in getting the cash transfers through to the beneficiaries in an effective, efficient and transparent manner.

The success of the ODP in Sri Lanka (and previously in Gujarat) has prompted governments and agencies to adopt ODP as the preferred option in other post-disaster reconstruction scenarios. A few notable examples of such scaled-up ODPs are:

- Earthquake Reconstruction & Rehabilitation Authority (ERRA) which has recommended ODP as the only official mechanism for housing reconstruction following the October 2005 earthquake in Azad Kashmir.
- International Federation of the Red Cross and Red Crescent Societies (IFRC), encouraged by the success of the CRRP in Sri Lanka is proposing to implement an ODHP for housing reconstruction in China, following the Sichuan earthquake.
- GoSL, encouraged by the success of the post-tsunami ODP, is exclusively adopting this approach in its post-conflict North Eastern Housing Rehabilitation Programme (NEHRP).

This indicates an increasing trend in the adoption of scaled-up ODP as a popular option for housing reconstruction in post-disaster contexts. This is attributed to the wide publicity given to the success of ODP in post-disaster reconstruction in Gujarat and Sri Lanka. However it should be noted that implementing a scaled-up ODP is as, or more, challenging than any other approach to post-disaster reconstruction. This chapter has attempted to identify the major challenges regarding the scaled-up ODP in Sri Lanka and compared the mechanisms and processes adopted by the more successful examples of ODHPs and highly participatory DDHPs (it is worth noting here that this was done in the absence of data of successful small-scale ODHPs which may have handled these issues differently or even better). Table 4.1 gives a summary of the key issues and a comparison of mechanisms and processes adopted by the more successful ODHPs and highly participatory DDHPs, as against those adopted by scaled-up ODHPs.

Table 4.1 Small vs. scaled-up ODHPs: Key issues, processes and mechanisms

Key issues	Processes and mechanisms adopted by small projects	Processes and mechanisms adopted by scaled-up projects
Accommodating needs of vulnerable households	• Conducting detailed needs assessments, including and identifying the more vulnerable households.	• Needs assessments carried out to establish numbers of houses to be built/repaired.
	• Extensive community mobilization to prepare and build capacities of beneficiaries to construct their own houses and set up support mechanisms to help vulnerable families.	• Little community mobilization and communication about project activities and entitlements.
	• Providing support to vulnerable families to access assistance (filling in required documents, providing culturally sensitive housing designs developed in a participatory manner, opening bank accounts and nominating support persons to help with construction.)	• Providing support to individual vulnerable families is not always possible on this scale. Therefore vulnerable families were left to care for themselves.
Ensuring gender equity	• Detailed assessments provide an understanding of gender issues in the local context, including traditions of land ownership.	• Assessments carried out do not give a feel of local gender issues and centralized planning did not accommodate these issues.
	• Housing assistance provided is balanced with the traditions and norms of the community.	• Attempts have been made with some scaled-up ODHPs to provide assistance in keeping with the traditional norms of ownership by being flexible with the project guidelines.
	• Female staff were recruited into implementation teams to deal with women's issues as construction teams are usually male dominated.	• Implementation teams were predominantly male. This led to difficulty when dealing with women-headed household in Muslim communities.
Construction quality assurance	• Localized assessments gave an idea about construction input prices and assistance is designed based on estimates using these prices. At times the assistance is adjusted to accommodate unforeseen increases in construction input costs.	• Centralized planning did not give an idea of local variations in construction input prices and failed to predict trends in price increases of these inputs with the increase in demand due to extensive reconstruction activities. Therefore assistance was not sufficient to cover the cost of the house. Most ODHPs were not flexible to adjust the amount of assistance although some could have a localization cost to accommodate local variations in prices of construction inputs.
	• Minimum construction standards pertaining to quality and size were	• Minimum construction standards pertaining to quality were

	established and communicated well to beneficiaries.	established,but the communication and dissemination of these standards to beneficiaries and construction tradesmen was poor.
	• Adequate technical assistance in terms of the number of visits per beneficiary and of acceptable quality were provided.	• Technical assistance provided was not adequate for beneficiaries in terms of the number of visits and quality.
	• In–house technical training was provided to technical staff especially when skill and knowledge levels were low.	• It was difficult to recruit staff with acceptable skills and experience especially in the conflict affected areas due to high demand, however little or no training was provided to enhance skills.
	• Some training of construction tradesmen on good construction practices.	• Little or no training of construction personnel was carried out.
	• Beneficiaries were made aware of housing costs, minimum construction standards and construction quality assurance.	• Beneficiaries were not aware of housing costs and as a result could not handle their budgets and did not know how to ensure that the construction was taking place in keeping with the minimum standards.
	• Local authority approvals and supervision were included to ensure the construction met legal requirements.	• The non-involvement of the local authorities resulted in the regulatory and enforcement roles played in ensuring housing and settlement quality being neglected.
Holistic integrated approach to housing	• The integrated approach was implemented when there was a need for additional interventions such as community infrastructure and livelihoods e.g. post-conflict areas and new settlements.	• In most cases housing was a standalone intervention. In cases where integrated approaches were adopted, it was not really based on need, but implemented as the project included this component.
Ensuring transparency and accountability	• Assessments gave a good idea about the socio-dynamics of the communities.	• Quantitative assessments and centralized planning did not accommodate local socio-dynamics into the grievance procedures.
	• Entitlements well communicated to the community and selection criteria disseminated.	• Poor communication of entitlements to beneficiaries left room for corruption.
	• Community often involved in beneficiary verification and selection, therefore the process was more transparent.	• Beneficiary selection done by government officials, project staff and members of CBOs set up for the project, left room for corruption.
	• Programme managers were more accessible to beneficiaries due to small caseload and therefore beneficiaries could air their grievances.	• Grievance mechanisms ineffective as the miscreants were most often members of the grievance handling team. It was more effective when beneficiaries had direct access to Programme managers, which was difficult due to the large caseloads.

Recommendations and conclusions

Recommendations

The above makes it clear that the same strategies adopted by small projects cannot be adopted by scaled-up ODPs due to the large numbers of beneficiaries in these programmes. Therefore below are some alternative mechanisms and recommendations for ODPs to overcome these challenges.

Accommodating needs of vulnerable households

- Local assessments should include qualitative data on social dynamics in post-disaster situations – e.g. existing support systems and networks, type of vulnerabilities present – in addition to the quantitative data on housing such as numbers of houses damaged and destroyed, etc.
- Detailed assessments of individual households should include information on the presence and type of vulnerability of beneficiaries so that beneficiaries requiring additional assistance may be identified.
- Flexibility in the overall plan should be built in to accommodate the regional variations of vulnerabilities.
- Community mobilization should be conducted to set up support mechanisms to take care of the vulnerable beneficiaries who lack capacities to undertake construction of houses without external help.
- Provisions should be made to link beneficiaries with para-legal or legal services with the expertise and experience in handling issues related to proving ownership and other problems regarding accessing housing effectively.

Include gender considerations in project interventions

- Local assessments need to consider gender issues regarding housing and land ownership, such as property inheritance systems, transfer systems and ownership systems.
- Female community members need to be included in community mobilization and technical teams to take care of special needs of women-headed households.
- Technical knowledge of women needs to be improved with regard to good construction practices as they stay at home and can play an active role in the supervision of construction tradesmen.

Ensuring construction quality

- It is important to make assessments of the construction industry in terms of capacity prior to planning any ODP, including the availability of technical personnel and tradesmen, raw materials, input prices and possible trends in price increases with the added caseload from post-disaster reconstruction, as these factors have a considerable effect on construction quality.

- It is also important to carry out local-level assessments on the construction industry to take into account the location variations.
- Establish minimum housing standards with regard to house, quality and disaster-risk reduction features.
- Design assistance which is adequate to construct the houses to an acceptable standard and include some flexibility in budgets to accommodate price increases and location variations.
- Provide adequate technical assistance to beneficiaries using skilled and experienced technical staff.
- Empower beneficiaries to supervise the quality of construction by creating awareness on good construction techniques and practices.
- Conduct training for in-house technical personnel in good construction practice as it is difficult to recruit skilled technical personnel in post-disaster contexts due to high demand. Also provide community mobilization skills training for technical personnel as their education does not include the development of such skills.
- Build in some provision to provide short refresher courses for construction tradesmen such as masons, carpenters, electricians and plumbers in good construction practice and requirements of minimum standards in construction. Existing vocational training facilities may be linked to the programme to provide these trainings.
- Recognize and accommodate at least the regulatory and enforcement role played by the local authorities in ensuring housing and settlement standards, and build the capacities of these institutions by involving them in the implementation process.

Holistic integrated approach to housing

- It is good to have some provision for integrating aspects such as infrastructure, water and sanitation into housing projects as these enhance the quality of settlements in the post-disaster context.
- Integrated approaches may differ from location to location. It is most probable that there may always be some need that has not been addressed effectively, which may vary between communities. Therefore integrated approaches may need to be based on needs alone, and a 'one size fits' all solution may not be practical.
- In post-conflict situations a whole range of interventions such as livelihoods, community infrastructure, water and sanitation may be successfully implemented depending on the timing after the conflict and the capacity of the community to address these needs on their own.

Ensuring transparency and accountability

- Involve the community, particularly the beneficiaries, in the initial assessments of damage and the verification process. Community based targeting gives the beneficiaries themselves a sense of ownership which, while making it more transparent, makes it less prone to complaints.

- Use more accountable systems such as banking systems to ensure effective delivery of assistance when possible, rather than direct distribution of cash and materials which may be more prone to malpractices and corruption.
- Set up grievance mechanisms consisting of people independent from the implementation process with easy access to beneficiaries. The process should be kept simple and practical, taking into account the capacities of beneficiaries and the social dynamics of the communities. It is also important to make beneficiaries aware of the grievance process and encourage them to use the facility when issues arise.

The importance of the need for a strategic change in planning and implementing future ODPs cannot be underestimated if future ODPs are to overcome the above challenges of scaled-up ODPs. The following are some possible changes for planning and implementing ODPs.

Inclusive planning

The broad policy frameworks and guidelines for the implementation of scaled-up ODPs may need to be carried out in a centralized manner, however this should be carried out with the participation of all relevant stakeholders and regional level consultations to feed in information and experiences from different locations. The stakeholders should include institutions implementing and regulating housing under normal circumstances and other regulatory bodies related to housing in areas where these programmes apply. Similarly, all existing regulations should be reviewed so that the policies formulated are not in contradiction of the existing regulations. Although this may be common practice in any construction planning exercise, it is absolutely crucial in scaled-up ODPs. Otherwise, the 'owner' would find it difficult to work through a confusing context to get necessary clearances. Invariably one or more aspects will suffer if clarity is not present.

The overall policy and guidelines should allow flexibility to accommodate contextual variations and allow for decentralized planning at regional/district level for arriving at detailed plans. Decentralized plans and guidelines may need to be formulated at regional/district level to accommodate contextual variations and requirements often overlooked by centralized planning. It is important to incorporate the contextual variations into programme design in terms of time, cost and other resource requirements, so that the desired outcomes are achieved. While it has been proven that rectifying defects of poor programming is difficult, it also must be understood that commitments to donors and governments, especially on quantitative outputs are difficult to renegotiate to accommodate time and cost escalations. Therefore it is more efficient and effective to plan realistically at the beginning and also to allow for some contingencies for unseen changes. This process which can initially delay the start up of ODPs, can bring much value addition. It will help to make the

ODP procedures suit local circumstances which are familiar to the 'owner'. It would considerably reduce consequent surprises, increase the sustainability of the interventions and improve the quality of the completed housing and the settlements overall as seen in the above examples.

Supportive institutional structures

Good policies and procedures are not sufficient for achieving programme objectives. These have to be supported by institutional structures which are efficient and effective in ensuring effective implementation. While delivery mechanisms used for signing off and disbursing finances may be considered efficient in the narrow definition of achieving delivery, it requires much improvement to incorporate human resource aspects and to meet some of the above mentioned changes. This includes mechanisms for involving relevant stakeholders and building in-house capacities of the different stakeholders, as these situations may often face shortages in adequately skilled human resources. As mentioned many times, without this HR support the 'owner' in ODP will not be able to fulfil his/her requirements expected by the programme.

Learning from local and institutional experiences

The ODP in post-tsunami Sri Lanka has not fully utilized the local experience of past ODPs. The country has a global reputation of developing one million houses for the poor using ODA. Yet, this knowledge and experience was not utilized well in designing the ODP. The NHDA that led this did not have a responsibility in the process. Although officials of NHDA were used, they were accountable to DS or to the NGO, which were largely interested in meeting quantitative targets of the project or programme.

Coordination and collaboration

The inclusion and sharing of knowledge between the relevant stakeholders and within the organizations themselves can only result in better outcomes for the beneficiaries and less confusion for the implementers. This is often a missed opportunity as many stakeholders adopt a competitive rather than collaborative stance for scarce resources and also for beneficiaries in post-disaster reconstruction.

There is also a tendency for stakeholders to showcase programme successes, rather than being honest about mistakes and learning from them. The first step towards learning is admitting a mistake, which unfortunately many are reluctant to do.

Ensuring mechanisms to record and disseminate organizational learning would also help staff deployed to implement ODPs in post-disaster situations, even if they did not have previous experience in implementing such programmes which often happens in humanitarian agencies. There is much

to learn about how to be effective and owner centred in scaled-up ODPs, and each programme should pay high attention to learning from themselves and others. This includes sharing mistakes as well as successes and resources.

Conclusions

The importance of understanding the strengths and weaknesses of scaled-up ODPs cannot be stressed enough when considering the growing trend in the adoption of ODPs in rebuilding after large-scale disasters. Many post-disaster reconstruction evaluations published, and lesson learned exercises focus on successes and play down or are vague about weaknesses. This is usually due to the competitive nature amongst agencies for donor funding and publicity. This trend will only help to perpetuate donors and agencies making the same mistakes all over again.

Researchers specializing in one aspect of post-disaster reconstruction often publish research which is biased towards his/her speciality. This could lead implementers astray as some aspects which may have been weak are not studied. Therefore studies should attempt to present a holistic picture as far as possible, so that the successes as well as the weaknesses in ODPs are well documented.

It is also important that implementers make an honest acknowledgement of gaps in their programming. These should be shared alongside success stories for greater learning and improvement of ODPs. Only then will the lessons learned from large-scale ODP experience in post-tsunami Sri Lanka be used for paving the way for much more effective ODPs in future. This will not only help donors and agencies to actively promote ODPs but also insist on safeguards or necessary actions to ensure that ODPs achieve the quality they are supposed to achieve. It is expected that this case study will contribute in some way towards achieving the greater goal of attaining all the expected effective outcomes from ODPs.

Notes

1. According to the Joint Report of the Govt. of Sri Lanka and Development partners – December 2005, the Task Force for rescue and relief (TAFRER), law and order and logistics (TAFLOL) and Rebuilding (TAFREN) were set up under the CNO. The CNO together with these three task forces coordinated search and rescue mechanisms, facilitated the large number of international agencies and military forces who arrived to assist with the immediate relief efforts, coordinated setting up emergency shelters and the distribution of immediate relief including cooked and uncooked rations and Non Food Relief Items. Emergency repairs to the damaged rail, road, telecommunications and other infrastructure networks was another task entrusted to the CNO. Emergency medical care and arrangements to take care of the large number affected of non-nationals were also assigned to the CNO.
2. The GoSL deployed its security forces in conducting search and recovery operations in affected areas. The armed forces with the public, including

affected communities, subsequently supported by international humanitarian agencies and military forces carried out search and rescue, and initial relief activities. The displaced were housed in government buildings, places of religious worship, schools and with friends and relatives immediately after the disaster. Subsequently some of the affected were transferred to tents, while many remained in their original emergency accommodation until they were shifted to transitional accommodation.

3. The Department of Census and Statistics carried out the official detailed damage assessments by updating the data of the previous census (2001 except in the North and East) and subsequently using a modified data collection form (RF1) to assess physical damage to households and other properties, including the loss of life, injury and disability. Registration of persons affected by the tsunami was carried out in selected centralized locations such as emergency/transitional shelter camps with the participation of representatives from the local administration, including the GN and households were provided with registration numbers and identity cards, which made them eligible for rations, cash and other immediate assistance based on this registration. http://www.statistics.gov.lk/tsunami/

4. The DDHPs dealt more with housing for resettlement while the ODHPs dealt with repairs and other in-situ housing construction.

5. Practical Action's own experience shows that it cost LKR450,000 to construct a similar house using cost effective technologies, local tradesmen and labour contributions from the beneficiaries themselves almost immediately after the tsunami.

6. In a sample of 483 households supported by the American Red Cross under CfRR in Trincomalee 447 beneficiaries completed their houses by January 2008. Similarly out of a case load of 281 funded under CRRP in Jaffna 279 completed their houses by August 2008, while in Kalutara 132 out of 137 beneficiaries reached completion by July 2008. Even in Pothuvil, Ampara, which has been a challenging location for implementers 579 houses have reached substantial completion out of a total caseload of 708 by December 2008.

7. Location and size of plot, size of house, design of house, conformity to regulations, quality of material and construction, kitchen functionality, energy, water supply sanitation and infrastructure were taken as criteria to assess beneficiary satisfaction.

8. In the same survey mentioned above in Trincomalee and Batticaloa Districts it was found that 35% of the floors, 20% of roofs, 18% of doors and windows, 20% of plumbing and 20% of finishes (plastering and rendering) was found to be defective. The majority of these activities had been carried out with top-up financing, although in some instances the roof may have been constructed with the base grant.

9. For example beneficiaries in Kalutara were eligible for around LKR280,000 as a top-up as against beneficiaries in Northern Batticaloa who received around LKR650,000 as their top-up. This is due to the fact that the programme in Kalutara was implemented in 2007/8 and the lower prices of material in the area. The programme in Batticaloa North was implemented in late 2008/9 and costs were higher due to the lapse in time as well as

transport restrictions of material and labour to the area and other political factors governing material prices

10. The roof and floors are crucial to disaster risk reduction in these areas as the coastal belt in Sri Lanka is prone to gales and tropical cyclones. In addition many of the areas are low lying and prone to frequent flooding. The main defects reported with roofs had been their poor structure and connectivity to the structure of the house, which would result in roofs being damaged should there be a tropical storm or cyclone. Similarly, one of the main defects in floors was that the finished floor level was below flood level, which meant that the house itself was vulnerable to seasonal flooding which occurred annually.

11. A sample survey (conducted by the American Red Cross) of 30 households in the ODP, from densely populated communities of Kalmunaikudy, Maligaikadu and Sainthamaruthu 2&4 GN divisions revealed that the majority of the houses had problems with light and ventilation, fire gaps, adequate access roads. In addition the settlements also needed sustainable solutions for sewage disposal, due to inadequate space in the plots for septic tanks and soakage pits. Inadequate solid waste management, waste and storm water drainage were other issues observed in the community. It was also observed that in many instances street lines and building lines had been totally ignored. The ODPs had done little to improve housing or settlement quality in these communities and the community as a whole faced many health and safety hazards, including an outbreak of *Chikungunya* – a mosquito borne disease. The situation was similar in other densely populated urban/suburban areas such as Kinniya and Muttur.

12. World Bank with GoSL carried out a beneficiary audit to establish the number of eligible households who had received assistance. Although the report has so far not been made public, the donor housing group mentioned that according to findings 19 per cent of beneficiaries in Ampara district were not eligible for housing assistance under the GoSL base grant scheme. This is attributed to localized corruption by some officials engaged in the ODPs as well as arbitrary demarcation of zones for fully and partially damaged houses in some DS divisions. It has not been possible to establish the figure for many districts in the South as sufficient documentation was not made available, therefore a re-audit is planned for these areas although indicators are that the numbers are low.

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List of acronyms

CfRR	Cash for Repair and Reconstruction project
CNO	Centre for National Operations
CRRP	Community Reconstruction and Recovery Partnership project
DAD	Damage Assessment Declaration
DAP	Donor-driven (or 'donor-assisted') programme
DDHP	Donor-driven housing programme
DS	Divisional Secretaries
ERRA	Earthquake Reconstruction & Rehabilitation Authority
GoSL	Government of Sri Lanka
IFRC	International Federation of the Red Cross and Red Crescent Societies
LTTE	Liberation Tigers of Tamil Eelam
NEHRP	North Eastern Housing Rehabilitation Programme

NEHRU   North East Housing Reconstruction Unit
NHDA   National Housing Development Authority
ODHP   Owner-driven housing programme
ODP   Owner-driven programme
P-TOMS   Post-Tsunami Operation Mechanism Structure
RADA   Reconstruction and Development Agency
SWRHU   South West Housing Re-construction Unit
TAFREN   The Task Force for Rebuilding
TAP   Transitional Accommodation Project
THRU   Tsunami Housing Reconstruction Unit
VRC   Village Rehabilitation Committee

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CHAPTER 5

Pakistan: Implementing people-centred reconstruction in urban and rural areas

Usman Quzai

Reconstruction following the October 2005 earthquake in Pakistan is widely recognized amongst shelter sector actors, donor agencies and the Pakistani Government as one of the most successful examples of owner-driven reconstruction. In rural areas, this decentralized programme has resulted in high levels of reconstruction, good occupancy rates and satisfaction levels, as well as in the adaptation of indigenous housing technology, facilitating widespread and sustainable vulnerability reduction. In contrast, the Urban Development Strategy has been unable to overcome the complexities of coordinating housing construction with services and infrastructure and, in some cases, resettlement. Thus, urban dwellers did not receive the same level of efficient reconstruction response as rural counterparts. This chapter examines the rural-urban dichotomy in post-earthquake reconstruction in Pakistan. It investigates the achievements and difficulties faced in the successful rural housing reconstruction programme, and analyses the barriers to implementation of decentralized, people-centred reconstruction in urban areas.

Introduction

Post-earthquake housing reconstruction after the October 2005 disaster in Pakistan is being acclaimed globally by donor agencies and the Government of Pakistan as one of the most successful examples of owner-driven reconstruction (UNOCHA, 2007). Both the policy environment and the approach to implementation have been lauded. A closer look at the disaggregated figures for urban and rural housing, however, reveals a stark gap. While the progress on rural housing reconstruction has been impressive in terms of both physical progress and acceptance by the stakeholders, the urban sector offers a less positive spectacle on both counts. Interestingly, the parameters and technical specifications for rural housing evolved over the period of implementation, and adjustments were made to allow indigenous construction techniques. Furthermore, progress in rural areas has been remarkable in both the reinforced concrete frame and indigenous construction techniques. Such creativity and flexibility appear to be singularly absent from the urban housing reconstruction strategy, leading to a lack of progress and frustration among the affected

population. This chapter presents a curious case where, despite having established an owner-driven approach for housing reconstruction across the whole affected area, the approach has contrasting manifestations in rural and urban areas after the passage of more than three years.

This study examines the processes adopted during the relief and early recovery phases that contributed towards the adoption of an owner-driven approach in the reconstruction stage following Pakistan's 2005 earthquake. The policy, institutional and implementation practice aspects that affected this housing recovery process, positively or negatively, are identified; processes of policy formulation and implementation are compared across the urban and rural areas; and knowledge gaps which led to problems in implementation particularly in urban areas are identified.

Overview

At 8:50 a.m. on 8 October, 2005, an earthquake measuring 7.6 on the Richter scale struck northern Pakistan causing serious damage in the North West Frontier (NWFP) and in Azad Jammu and Kashmir. The affected area lies in a rugged mountainous Himalayan terrain covering roughly 30,000 sqkm of valleys and hills. Over 4,000 villages were affected, 73,000 people were killed, more than 100,000 were injured and 3.3 million people were rendered homeless. Around 600,000 houses were affected out of which 463,000 were completely destroyed, nearly 65 per cent of the hospitals in the area were destroyed or badly damaged and an estimated 10,000 school buildings were affected.

The earthquake struck the region when a harsh winter was just beginning. Trauma-ridden survivors faced multiple problems such as homelessness, exposure to the harsh winter, food insecurity, physical injuries and emotional stress. Additionally, the apparatus of the state was wrecked rendering the provincial and state governments non-functional and too paralyzed to serve the people in the aftermath of the tragedy. The earthquake led to an unprecedented response from both within and outside Pakistan. Following swift media coverage of the tragedy, an immediate response on relief took place with unprecedented support from all sections of Pakistani society, the Government of Pakistan and international partners. The Government of Pakistan announced the creation of a Federal Relief Commission, headed by a serving major general of the Pakistan Army and comprising of troops and civilian government officials. The commission was mandated to coordinate the relief activities with the national and international actors.

As close partners with the Government and people of Pakistan some 85 bilateral and multilateral donors made a real difference to the relief efforts in order to overcome the massive destruction. The scale of which is evident from the following statistics:

Table 5.1 Key impacts of the Pakistan earthquake

Indicators	Estimate	% destroyed
Persons killed	73,338	–
Injured	128,309	–
Population affected	3.5 million	–
Number of housing units damaged	600,152	76.2
Number of schools and colleges affected	7,669	66.94
Health care facilities affected	574	73.4
Road length affected	4,429 (km)	37.2
Telecommunications exchanges destroyed	251	–

Source: Government of Pakistan, 2007

Humanitarian clusters and the issue of shelter

One of the immediate challenges, especially with a view to avoiding a second wave of deaths due to cold-induced diseases, was the provision of shelter to the affected population. Under a humanitarian response review, initiated by the Inter-agency Standing Committee, the global humanitarian community had recently agreed upon the 'cluster model' for disaster response (United Nations, 2005). Pakistan was chosen as the first test case for the implementation of this approach. The humanitarian response review took note of the duplications and gaps that existed in the previous responses to humanitarian crises due to each responding agency carrying out working independently. This often led to situations where a lack of consensus over the design of humanitarian assistance created stark inequalities among the affected populations due to divergent mindsets of the myriad of humanitarian agencies. The review especially noted the weakness in coordination between the three main sets of actors – the Red Cross/Red Crescent Movement, the UN and NGOs. The cluster system sought to improve coordination by bringing maximum stakeholders together as clusters for joint information management, setting standards through consensus and ensuring transparency around aid delivery. Although the system is basically designed for the relief phase, it lays down the foundation for participatory decision making, involving not only the service providers but also the affected community. The humanitarian clusters at the federal level were mostly attended by UN agency and NGO representatives, but acted more like an open forum at the local level where people from the affected community could also come and participate in discussions. This provided a basis on which the future recovery and reconstruction strategies were formed with varying degrees of participation by different stakeholders. The culture of participation and stakeholder consultation was perhaps the most important legacy of the relief phase and lessened the efforts required to convince the government authorities (mostly military) of the value of consensus building and taking varying perspectives into account while taking decisions.

The 2005 earthquake was of a scale unprecedented in the history of Pakistan. The Government of Pakistan found its capacity to respond to be completely inadequate after the impact of the disaster started becoming visible. The UNDP Pakistan leadership approached government officials on the weekend of 8 October 2005 and offered assistance. Having no experience or plan for such an eventuality, the government had very little insight into the enormity of the challenges and possible modes of response. After some intense negotiations, the government agreed to impose a state of emergency, and allow the United Nations Disaster Assessment and Coordination (UNDAC) team to come and provide support. The UNDAC team is managed by United Nations Office for Coordination of Humanitarian Assistance (UNOCHA), and consists of stand-by professionals trained in humanitarian response coordination. The UNDAC team arrived 9 October 2005 and took charge of negotiating with the Government of Pakistan the institutional design of a coordinated humanitarian response. At the same time, the government announced 10 October 2005 the creation of a Federal Relief Commission to lead the relief work. This entity was headed by a serving major general of Pakistan Army, and had a large number of military and some civilian public-sector officials deployed to it. After intense negotiations the Economic Affairs Division, the statutory body for donor coordination for the Government of Pakistan, agreed to the cluster approach and nominated its officials as co-chairs of the various humanitarian clusters, drawn from the cadre deployed to the Federal Relief Commission. The government also announced that in addition to the distribution of shelter materials, it would provide Rs25,000 (c. US$416) to each household as a cash grant to cater for immediate shelter needs.

Immediate housing needs and response

Under the cluster approach, one cluster deals specifically with emergency shelter. The initial response comprised of the distribution of tents and ancillary non-food items to the affected. The spontaneous as well as coordinated response, especially to the shelter challenge, was overwhelming. Pakistan is the largest producer of canvas tents globally, and the full capacity of the industry was directed towards the humanitarian response. In addition to this, large consignments of tents were flown in from all over the world. These included all types of tents, ranging from polar tents from Scandinavian countries and Chinese winterised tents designed for the Karakoram mountains, on the one hand, to flimsy picnic tents made of parachute cloth, on the other. However, the narrow temporal window of opportunity available for distribution before the beginning of snow fall in late November did not allow the distributors – coming from all sections of society including the government, NGOs, private philanthropists, friends/relatives, the regulators (the Federal Relief Commission, FRC) or the cluster members – to assure the appropriateness of the tents. In short, anything that looked like a tent was procured and delivered, especially by the individual donors.

An inter-cluster taskforce was put together to carry out a rapid scoping of the situation. The mission revealed that, despite an almost universal coverage of tent distribution, no more than 20 per cent of the tents offered appropriate protection from the harshness of the looming winter. With this consideration in mind, various options were considered for bolstering the tents against winter conditions, such as the provision of heating equipment and supply of insulation materials. However, both were deemed inappropriate or inadequate by the cluster members. Heating solutions for tents were discarded because they posed serious fire hazards with potentially serious consequences. Similarly, it was not possible to procure and distribute insulation material to such a large number of affected people, in such a short period of time.

A transitional shelter strategy was thus prepared under the shelter cluster which basically comprised of two elements: mobilization of the affected communities to salvage building materials from the rubble of their destroyed houses, and distribution of corrugated galvanised iron sheets to the households along with construction tools. In effect, this was a first step towards the evolution of an owner-driven recovery strategy whereby households were to construct their own shelters under the technical advice of the members of the shelter cluster. The Federal Relief Commission also endorsed this strategy and mobilized the army troops, especially the Corps of Engineers, to distribute sheets and train people. One of the factors that supported the adoption of the transitional shelter strategy at the policy level was that the corrugated galvanised iron sheets would later be used as roofing material for permanent reconstruction.

Interestingly, one of the salient observations of the inter-cluster taskforce pertained to the issue of emergency and transitional shelters for the urban homeless and the complexities therein. Due to a number of physical constraints, chiefly the issue of space availability, the transitional shelter solution prescribed for rural areas could not be applicable to the urban areas. It also appeared that, because of the general perception of more urgency to help the rural masses in remote areas, the urban areas did not receive adequate attention. Another reason for this appears to be the fact that, because of their physical proximity to the administrative 'machinery', people in tent villages in or around urban areas had a better access to the limited number of winterised tents and scarce insulation materials being distributed. Finally, a sizable proportion of the urban population relocated their families to other places in the country for the winter months, thus lessening the physical and political pressure on the stakeholders to identify an urban transitional shelter solution. These observations are corroborated by the fact that no strategy was prepared for transitional urban settlements and the discussions in the cluster centred on rural areas throughout the relief phase.

Due to the involvement of a very large number of responding entities, including the military, national and international humanitarian organizations, individual philanthropists and affected people themselves, the exact number of shelters built will never be known. The fact, however, that no secondary

disasters such as disease outbreak or cold-related deaths took place, and the fact that there was no mass exodus of affected people to the warmer plains, suggests that the shelter coverage was quite comprehensive.

The success of the transitional shelter initiative established a number of ideas that later helped towards the adoption of an owner-driven housing re-covery strategy. It established the idea that the affected people, far from be-ing the helpless victims of a tragedy, are enterprising and industrious and can be the principle actors in reconstruction. It also demystified the 'highly technical' nature of construction technology when the affected people, with minimal guidance from engineers, using corrugated galvanised iron sheets, recycled beams and rubble from demolished houses, constructed transitional shelters that not only protected them from the vagaries of the cold weather, but also withstood the powerful aftershocks that continued jolting the area for months after the main earthquake. The NGOs also demonstrated that they are capable of providing technical support to people on making their own houses earthquake resistant. All these observations and their presentation in the media bolstered the confidence of the stakeholders in the adoption of an owner-driven approach for housing reconstruction.

Human settlement patterns and housing stock in the affected area

The affected area comprised of hilly terrain with deep riverine valleys having limited plain areas to contain large cities. There were however the medium sized towns of Muzaffarbad, Bagh and Rawalakot in Kashmir and Balakot in the NWFP and these suffered massive devastation. The rural settlements were mostly in the form of hamlets, comprising small numbers of houses along the ridges around the valleys.

Estimated extent of damage

The World Bank and Asian Development Bank launched a 'damages and needs assessment' exercise to calculate the estimated cost of reconstruction. This report was presented to a donors' conference on 19 November 2005 in Islamabad. According to this report, the total number of housing units de-stroyed and damaged was stated to be 400,153 of which around 10 per cent were estimated to be in the urban areas. The figures were subsequently refined during the early recovery phase by the assessment and inspection teams and the total figure for damaged and destroyed urban housing units was revised downwards to 28,319.

The Asian Development/World Bank report estimated that Pakistan would incur a cost of around $5.2 billion for earthquake relief, early recovery and reconstruction. Of this, it was estimated that $3.5 billion would be required for permanent reconstruction and housing constituted around 44 per cent of this total. Of the $1,552 million housing reconstruction programme esti-mated by the World Bank, $1,234 million was estimated to be required for

reconstruction, while $318 million was the estimated requirement for rehabilitation (restoration and strengthening). An additional $30 million was foreseen as the requirement for technical assistance and capacity building (Asian Development Bank/World Bank 2005). It is worth noting that the housing reconstruction estimate was based on the cost of a two-room detached basic house. This was far below the minimum space requirement for most of the households. According to one estimate, the total housing reconstruction cost incurred so far is above $3 billion, including the homeowners' own contribution. (Maggie Stephenson, pers. comm)

Institutional arrangement for reconstruction planning

The Government of Pakistan established the Earthquake Reconstruction and Rehabilitation Authority (ERRA) in November 2005 at the federal level with counterparts in the affected provinces: the Provincial Earthquake Reconstruction and Rehabilitation Authority (PERRA) for NWFP and the State Earthquake Reconstruction and Rehabilitation Authority (SERRA) for Kashmir. At the district level, District Reconstruction Units (DRU) were established. The mandate of this structure was the coordination, facilitation, oversight and quality control of reconstruction. ERRA created an organizational structure comprising, chiefly, of a planning wing, an implementation wing and a monitoring and evaluation (M&E) wing.

The planning wing initiated work on the compilation of a number of sector strategies and established technical working groups to provide technical support to these strategies. Most of the humanitarian clusters subsumed themselves into these groups and consultation with partners, primarily from civil-society organizations and UN agencies, was carried out in the process of strategy development.

This rather centralized arrangement was viewed by some quarters as being in contravention with the constitution of the country, which is federal in nature and devolves the responsibility of disaster response to the federating units (Government of Pakistan, 2009a). The affected area was in the NWFP and Kashmir (officially called 'Azad Government of the State of Jammu and Kashmir' and theoretically an independent state holding 'close' ties with Pakistan). It was argued by a section of civil society as well as some parliamentarians that the Government of Pakistan should only have a standard setting and regulatory role, while the actual recovery management should be left to the administration of the affected regions. It was counter-argued by ERRA, as well as the large lending institutions, that the provincial/regional governments did not have the capacity to implement such a large reconstruction programme. The Kashmir government was especially cited as an example whose public sector suffered a huge blow due to large-scale death, injury or emotional trauma to its workers, especially in the capital Muzaffarabad.

The initial discussions reflected that ERRA would like to implement and regulate reconstruction directly, using the District Reconstruction Units (DRUs)

as its field-based implementation arms. Because of the political and legal sensitivities, the extra tier of provincial and state-level bodies was agreed upon by the time ERRA became fully operational in May 2006.

This political balancing act led to the creation of a complex governance structure in which an ERRA council was created at the federal level, headed by the prime minister and bringing together senior representatives from the legislature and executive branch of the federal and regional governments, as well as some representation from civil society. Similar SERRA and PERRA councils were created at the Kashmir and NWFP levels. These bodies were supposed to hold ERRA and its regional counterparts accountable through periodic meetings, providing strategic guidance and oversight.

At the district level District Reconstruction Advisory Committees (DRAC) were created as governing bodies of the DRUs, with the power to approve projects. The DRAC was headed by the district *Nazim* (mayor) in NWFP, where a local self-government system had been in place since 2001. In the case of Kashmir, the senior district administrative official, the deputy commissioner, chaired the committee. Representatives from district government departments and some NGOs formed the DRAC members.

This model of decentralized governance however, showed itself more effective in theory than in practice. SERRA, PERRA and DRAC had no financial powers. At most, these forums could recommend modifications to the design of public sector infrastructure projects. The disbursement and drawing powers to authorize payments for reconstruction subsidy remained centralized in ERRA. Of the ERRA wings mentioned previously, the M&E wing established its own structures at the central, regional and district level, hiring people as directors at the central level for each sector to monitor the progress on each strategy. Approval by the M&E wing was the necessary and sufficient condition for release of funds across most sectors.

The housing strategy

ERRA formulated thirteen sectoral and three thematic strategies covering the principal sectors affected by the disaster. Of these, the housing strategy was one of the earliest compiled, and accounted for the largest area of investment in the reconstruction budget. The World Bank and some other lending agencies featured prominently in the formulation of this strategy as the prospective investors. The total price tag for recovery was estimated to be $5.2 billion by the World Bank and Asian Development Bank (Asian Development Bank and World Bank, 2005). This included $1,029 spent on relief, $205 million distributed as death and injury compensation and $301 million for transitional early recovery activities as a prelude to reconstruction (World Bank, 2009). The World Bank committed $870 million to the Government of Pakistan, of which $220 million were earmarked for housing recovery alone. Thus housing formed a sizable largest chunk of ERRA's

overall reconstruction budget, amounting to around 34 per cent of the total (Government of Pakistan 2009b).

From the very beginning there appeared to be a consensus on adopting an owner-driven strategy for housing, though there were serious initial differences on the choice of technology, implementation mechanisms, and prescribed designs. The World Bank was initially insistent on allowing only certain designs based on reinforced concrete elements. This view was based on the argument that the affected people deserved the 'safest' (therefore most modern) technology and also because it would be easier to train engineers in assessing and inspecting a relatively narrower range of designs. Other prominent participants in this process included UN-Habitat, the National Society for Earthquake Technology (NSET) from Nepal and the National Engineering Services of Pakistan (NESPAK) – a government controlled consulting firm. Among these, UN-Habitat and NSET argued that incorrectly constructed concrete buildings can be more lethal in the case of a disaster, as illustrated during the earthquake. Training local masons in proper usage of 'modern' technology, through crash courses, would offer arduous challenges. They also argued that, despite the seemingly uniform landscape the region includes diverse localities in terms of environment, availability of materials and local skill levels and types etc. Therefore they argued that research should be undertaken into incorporating risk-reduction elements into traditional construction methods. After a long process of negotiations, and personal mediation between the top leadership of ERRA, it was agreed to concentrate on ensuring the incorporation of basic risk-resilience elements into houses, rather than on adherence to specific designs.

It was at this stage that a policy decision was taken to separate the rural and urban housing strategies. While 'rural housing' was treated as a separate and independent strategy, urban housing was treated as a part of ERRA's urban development strategy that covered town planning, restoration of municipal services, hazard zoning etc., in addition to housing. The areas lying within the municipal limits of the affected towns were treated as 'urban'. This convenient definition of urban areas was derived from the Local Government Ordinance of Pakistan, drafted in 2001 for the introduction of local self government at the district level, and was not specifically aimed at the management of large scale post-disaster reconstruction. The rationale provided for the distinction between the rural and urban housing reconstruction was the complex and inter-related challenges of town planning, provision of urban services and infrastructure, and relocation of population from the hazardous areas – as well as the complexity of tenure related issues (Government of Pakistan, 2007a). Even in retrospect, this policy of bringing the devastated towns to an orderly shape appears to be based on a genuine – though possibly misinformed – desire on the part of the authorities to actualize the ERRA motto of 'build back better'. The discussions do not suggest any pressures from vested interests aiming to seize control of people's land for commercial purposes. This is a welcome contrast to some of the 2004 Tsunami affected areas where, some have argued,

the 'hazard zone' policy was used as a ploy to clear prime land of local fisher folk and allocate it to the commercial tourism industry (for example, Klein, 2008).

It should however be noted that the discussion here is strictly about the issue of individual land titles and reconstruction of privately-owned houses only. The political economy of awarding contracts for public sector infrastructure is entirely a different issue and has its own peculiarities and complications. The urban housing reconstruction was contingent upon the development of municipal infrastructure which would invariably be constructed through engaging contractors. The lack of efficiency and transparency in that realm would be likely, in addition to other factors, to have negative implications for owner-driven housing recovery.

Due to capacity constraints, as well as trying to grapple with the numerically large challenge of rural housing, most of the humanitarian community (including UN-Habitat) concentrated on rural housing reconstruction. The potential for the involvement of UN-Habitat and other such technical agencies in urban reconstruction was also not utilized because of a lack of donors' interest in this sector. It was evident that the large number of technical experts needed to undertake the massive housing reconstruction task would be hard to find in the country and it was perhaps deemed appropriate to deploy the scarce human resources where the challenge was most daunting, at least numerically and spatially.

In parallel, the urban development section of ERRA was never adequately staffed and did not have the capacity to solicit or meaningfully utilize any external technical expertise offered. An urban planning expert, supported by the United States Office for Foreign Disaster Assistance (OFDA) was the sole notable help, seconded to ERRA for a brief period to assist its urban development section. The impact of this added capacity on the urban reconstruction work of ERRA is hard to gauge, as the urban development strategy was published in July 2007, more than a year after the expert's departure.

Rural housing reconstruction

Categories of houses

The rural housing strategy was oriented towards owner-driven reconstruction (ODR) with phased conditional grants to the affected households.

As mentioned above, the international aid community, including the International Financial Institutions (IFIs) and the UN, drafted the policy advice to the government as a part of the initial World Bank-Asian Development Bank damages and needs assessment report (Asian Development Bank and World Bank, 2005) and the UN early recovery framework (United Nations, 2005) that were presented at a donors' conference in Islamabad on 19 November, 2005. Both these documents, accepted and presented to the donors' conference by the Government of Pakistan, prescribed a number of guiding principles.

Although the wording varied between the World Bank-Asian Development Bank and UN documents the principles were similar in spirit. Salient among these principles were: subsidiary, building on existing local knowledge and capacities, and restoring the livelihoods of affected people. Although the phrase 'owner driven' was not used, it was implied in most of the guiding principles, especially those underlining the importance of local knowledge and capacities, the stress on restoring the livelihoods of affected people, and providing the advocates of people-centred approaches with a basis to initiate dialogue with the government and the donors. The advocates of owner-driven approaches used the opening provided by these guiding principles to make the case to decision makers for the institutionalization of an owner-driven approach, as the most appropriate approach to actualize the principles.

It was perhaps the sheer caseload of the housing reconstruction, coupled with the advocacy of humanitarian partners, as well as the massive success of the owner-driven transitional shelter initiatives during the relief phase, that convinced the authorities to take the strategic decision of making the housing recovery an owner-driven process.

The unique temporal dimension of the disaster also played a role in allowing the prolonged negotiation towards reaching a consensus on an owner-driven approach. ERRA was created in November 2005 while the affected area was still snow bound and relief was in full swing. The main relief operation was officially closed at the end of April 2006. It was around the same time that the ERRA rural housing strategy was published. This effectively meant the physical impossibility of permanent reconstruction until at least six months after the earthquake, which prevented the building up of political pressure on the authorities to make hasty and non-participatory decisions. Thus, the situation provided an opportunity for the proponents of participatory approaches, especially the UN agencies and civil-society organizations, to enter into a prolonged process of advocacy and negotiations with the authorities to press for adoption of an owner-driven approach.

Indeed, the prolonged relief period was very well utilized by the advocates of owner-driven approaches. To cite an example, UNDP Pakistan in the course of its transitional project introduced a component in which the Nepalese experts from the National Society for Earthquake Technology (NSET) were contracted to train engineers, masons and self-builders in earthquake resistant construction techniques. The initiative was in full swing by January 2006. In addition to training a large number of people through workshops, the experts provided hands-on advice to the people building transitional shelters with corrugated galvanised iron sheets provided by UNDP and material salvaged from the rubble. Some of these transitional shelters are so sturdy that, after minor modifications, people have started using them as permanent dwellings. The senior leaders from all stakeholders were shown these shelters during their visits to the affected areas, and these examples contributed towards strengthening the case for mainstreaming an owner-driven approach.

In various early meetings with the humanitarian community, the Deputy Chairman (and the *de facto* leader) of ERRA, Lieutenant General Nadeem Ahmed, would assert that he would not like any 'islands of excellence' to emerge amidst a sea of misery. He would elaborate that this meant that, unless the outside agencies had the resources to build houses for every single affected household, they would not be allowed to construct houses for a select group of the affected population. His views were perhaps also influenced by evidence from other post-disaster reconstruction programmes, to which the senior leadership of ERRA were exposed to from time to time as a part of advocacy activities by the humanitarian community supporting a people-centred approach.

One of the goals of the strategy was to ensure adherence to ERRA's vision of 'build back better'. For housing, this meant ensuring the inculcation of elements of disaster-risk reduction in the reconstructed housing, with a particular emphasis on earthquake resistant construction techniques. The rural housing strategy was adopted and published by ERRA in April 2006 (Government of Pakistan, 2006).

The strategy aimed to ensure uniformity of assistance to the households regardless of their pre-disaster condition. This meant that the amount of grant would not differ between concrete and adobe houses. Two categories, however, were defined on the basis of the magnitude and nature of damage. These were *destroyed houses or houses with structural damage beyond economic repair* and *structurally damaged houses within economic repair.*

For both categories, ERRA initially distributed Rs25,000 ($416) per household which was considered part of the reconstruction subsidy. In the case of fully destroyed houses, a total amount of Rs175,000 ($2,916) was sanctioned per house including the initial grant. The balance of Rs150,000 ($2,600) would be paid in three instalments: Rs75,000 ($1,250) for mobilization; Rs25,000 ($416) upon completion to plinth level, Rs50,000 ($834) upon completion of the walls. The release of instalments would be contingent upon a successful inspection of the constructed structure to the specified standards.

In the case of partially destroyed houses, a cash grant of Rs50,000 (in addition to the already disbursed Rs25,000 during the relief phase) would be paid in one tranche for restoration/retrofitting. An exception was made for inhabitants of the Leepa and Neelum valleys, where ERRA agreed to permit repair of existing traditional multi-storey timber frame houses, yet categorize them as completely destroyed and certify full financial assistance, in the interest of conservation, sustainability and significant cultural value (Maggie Stephenson, pers. comm).

Rural housing reconstruction: assessment and inspection model

The process of technical approval for multiple construction phases, under seismically resistant standards, was quite labour intensive. It warranted involvement of a very large number of technical extension and inspection workers to carry out multiple house-to-house visits to assess the damage, provide technical

advice, inspect the progress and quality of reconstruction and approve disbursement of tranches of grants. It also warranted formulation and dissemination of seismically resistant construction standards to the general public, training of construction workers and putting in place a system to redress grievances. An additional challenge was to cater for inflationary pressure on construction materials and ensure a smooth and affordable supply chain.

Geographical distribution of rural housing reconstruction

The major donor for housing reconstruction was The World Bank, which was instrumental in outlining the standard of construction and the assessment and inspection model. After a series of negotiations, the rural housing caseload was mostly divided among two overall supervising entities, the Pakistan Army and the Pakistan Poverty Alleviation Fund (PPAF) – a national NGO involved in mostly World Bank funded community development projects. The work of both organizations was governed by ERRA's rural housing strategy and was reflected in the cumulative progress report on housing. Essentially, the same assessment and inspection model was to be followed by both.

The decision to award part of the caseload – around 100,000 houses – to the PPAF was based on the consideration that PPAF, through its partners, was already active in some areas where its partners had created sizable social capital through their pre-disaster work on community-based development. The PPAF partners were also stated to have demonstrated technical capacity in the form of the large number of engineers on their payroll, primarily hired for implementing community physical infrastructure development schemes. A certain familiarity also existed between the PPAF and the World Bank because of their old partnership.

The Pakistan Army was joined by UN-Habitat and the Swiss Agency for Development Corporation (SDC) as the principal technical advisors. Under this arrangement, expressions of interest were sought by ERRA from various potential service providers to work as partner organizations for the provision of technical assistance to the affected households for reconstruction. The smallest geographical area to be covered by one partner was the smallest administrative entity – the Union Council, with a population ranging between 100 and 500 households. This effectively meant that each Union Council had only one partner organization working in it. A number of national and international NGOs joined this arrangement as partner organizations. The Union Councils without a partner organization were to be covered by army teams. The Pakistan Poverty Alleviation Fund (PPAF) engaged its long-term partner NGOs on similar lines. The partner organizations were selected on the basis of demonstrated capacity in terms of technical personnel, experience in social mobilization, demonstration of capacity to manage sizable financial resources and preferably, prior presence in the area with development or relief work. The presence of NGOs in Kashmir was rather limited prior to the earthquake due to it being a security-sensitive area. The international organizations came

to Kashmir only after the disaster and the clause related to prior presence was interpreted rather liberally to allow continuation of work by the organizations which had developed a rapport with the local population during the relief phase.

Extensive training of trainers workshops were held for the personnel of partner organizations moderated by trainers from two international partners, Emergency Architects (France) and the National Society for Earthquake Technology (NSET, Nepal), and a national NGO, Strengthening Participatory Organizations (SPO). The two international organizations prepared, tested and implemented training of trainers modules in construction techniques, aimed at training the staff of partner organizations in earthquake resistant construction techniques. Strengthening Participatory Organizations (SPO) was mandated with training the staff of partner organizations in social mobilization techniques. In 2007, another national NGO, the Rural Support Programme Network (RSPN) was also engaged for training in social mobilization. Personnel from all the assessment and inspection teams from partner organizations, the army and PPAF partners under went a series of these training workshops. Thus, their workshop curriculum included not only the engineering related aspects but also the philosophy and techniques of community mobilization. By the last quarter of 2008, more than 700,000 sessions of training had been held.

By the first quarter of 2009, some 346,000 households had constructed their houses to lintel level, out of a total updated caseload of 463,000 totally destroyed houses. The remaining caseload continues to be followed up by UN-Habitat administered technical support teams which help people resolve the problems which stop the disbursement of the subsequent tranches of their reconstruction grants.

Extension and communication strategy

ERRA, with support from its partners, worked on housing designs with an emphasis on ensuring the presence and quality of specific seismic resistant elements. The designs were widely published in the form of posters, booklets, community-based training workshops, movies and even FM radio programmes. According to the latest figures from the field, only around 4.5 per cent of the houses completed to lintel level are not yet compliant to the specified standards, and UN Habitat is in the process of providing targeted technical guidance to these households to help them achieve compliance. The high level of compliance testifies to the effectiveness of the training and awareness campaigns.

Another success of internal communication and advocacy was in the form of approval for traditional wooden housing, locally known as *dhajji* construction. ERRA's partners demonstrated that traditional designs can be improved to make them earthquake resistant. The fact that 105,206 (Maggie Stephenson, pers. comm.) completed houses were constructed in local *dhajji dewari* timber

frame construction testifies that a genuinely felt local need was successfully advocated and mainstreamed.

Issues of land tenure

A number of complications related to the payment of housing subsidies arose due to issues related to land tenure. One of the issues was whether the owner or the tenant should receive the compensation in case of rented space. In many cases, the earthen houses had actually been constructed by the tenants after securing the land on rent, mostly on a verbal arrangement. This was resolved through a policy directive included in the final rural housing strategy (of April 2006), making the tenants eligible for the grant subject to the production of a 'no objection certificate' from the landowner. The spot checks during field visits reveal two categories of aberration in addressing the tenants' concerns. In certain cases, where the tenants actually belonged to the local tribes but had failed to obtain a no objection certificate, they simply encroached on the forest land near the village and built their house without receiving any compensation from ERRA. In a small number of cases, the tenants have gone into litigation against the landlords and the cases are sub-judice and neither side has received the construction subsidy.

The other complication relates to landless people. There were two main reasons for landlessness. One group of people were refugees from Indian administered Kashmir who had escaped the violence there and were settled by Pakistan in specially constructed housing complexes on government owned land. The other major category was people whose land had been lost in earthquake related landslides. ERRA issued a rural landless policy under which such households would be issued an additional grant of Rs75,000 ($1,250) each to purchase land elsewhere.

In addition to payment of cash grants to the rural landless, the government also suggested locations, sometimes far from their places of origin, where they could buy land at rates commensurate with the grant. The rural residential land market is not very dynamic in the affected areas and so far, there have been no reports of people having to undergo extra hardship to obtain land. In fact, the process has just been concluded and the real implications of the initiatives will be easier to analyse after some time. It is also noteworthy that most of the rural landless belonged to the most marginalized sections of society and their previous dwellings were also on the marginal lands. The new locations are deemed to be at least safer in terms of disaster hazards, if as deprived in terms of social services as the previous ones.

The total caseload for the landless category was calculated at 1,780 households. UN-Habitat assisted ERRA in establishing specific offices for assisting the landless throughout the affected area. According to information shared by ERRA in its annual review 2008, all of this caseload has been cleared (Government of Pakistan, 2008).

Urban housing reconstruction

After the earthquake, the Government of Japan sponsored a geotechnical investigation, especially of the urban areas, to determine the suitability of the sites for permanent reconstruction. This exercise demarcated various spatial zones according to the strength of the soil and geological patterns underneath. This zoning was further detailed through subsequent mapping by a Pakistani engineering firm contracted by ERRA.

Informed by this, ERRA embarked upon the compilation of its urban development strategy which, after undergoing a number of revisions, was finalized and published on 30 July 2007 (Government of Pakistan, 2007b). The strategy has three main priorities: 1) the need for integrated urban development, linking social services to housing; 2) adherence to ERRA's creed of 'build back better' initiating a better forward-looking town plan; and 3) owner-driven reconstruction. The level of housing reconstruction subsidy and its disbursement mechanisms are stated to be the same as in rural housing, except that the whole grant is transferred in one tranche. The task of ensuring seismically resistant construction has been left to the municipal authorities. Also, no training or information programme catering to the distinct need of urban housing reconstruction was ever initiated.

Relocation challenges

The reconstruction of urban areas devastated in the earthquake offered distinct challenges in all the four affected urban centres. Balakot town, located in the Mansehra district of NWFP was totally destroyed. Being on the convergence of three fault lines, the whole town was declared as a 'red zone' i.e. unfit for the construction of heavy structures. Another site, Bakarial, some 20 km away, was selected as 'new Balakot' and all the homeowners in old Balakot were promised land in the new location. Before the earthquake, Balakot drew most of its income from a thriving domestic tourism industry as a transit point for the people visiting the scenic valleys situated upstream of the town. The new site is off the route of the tourist spots and the locals feared a complete loss of livelihood as a result of relocation. The landowners of Bakarial on the other hand, did not want to part with the land. After a long round of negotiations led by ERRA, the land was acquired at Bakarial after determining and paying monetary compensation to the current landowners. Site planning work is still in progress. To ensure a degree of continuity in the tourism industry, the plan is to turn old Balakot into a daytime town/amusement park with light steel structures for shops and offices only. The site planning and development on the site of old Balakot has not yet commenced and apprehension exists among the affected people about the future of this land and their livelihoods.

The three urban centres in Kashmir, Muzaffarabad, Bagh and Rawalakot were also mapped and some areas were declared as 'hazardous land', where no heavy structure would be allowed. Relocation on the largest scale was estimated to

originate from Muzaffarabad, from where around 6,000 households were affected because of a number of reasons including: falling in the 'hazard zone', coming in the way of improved infrastructure such as wider roads and having lost land due to landslides. A site a few kilometres outside Muzaffarabad town has been selected and land development work is to be initiated. It is stated by ERRA in its urban development strategy as well as various subsequent press briefings and public meetings that the land development will be undertaken by the government while the same owner-driven process will be adopted for housing reconstruction as adopted elsewhere in the affected area.

Complications of tenure

The issues of tenure in urban areas were more complex than in rural areas. In many localities, people lived in multi-storey buildings with different owners on different floors. Many people had rented accommodation. Many affected people from urban areas had to relocate immediately after the disaster. Following the earthquake, the relatively better off went off to live with their relatives or in rented accommodation in various cities of Pakistan for the winter months. A few families squatted in vacant government flats in Islamabad and quite a few set up formal or informal camps in the few available open spaces in the affected towns such as parks, playgrounds and stadiums. An additional impediment to shelter recovery in the urban areas was the overwhelming amounts of rubble lying around, or standing, in the form of precariously damaged buildings. The removal of it was well beyond the physical and financial capacity of the owners.

Another contrast between urban and rural areas was that while in rural areas people could erect their transitional shelters in fields, forest or wasteland and live there until their houses were reconstructed, urban centres had extremely limited space for any such arrangements.

By the middle of 2006, the affected people, especially in Kashmir, had started street demonstrations to pressurize the government to expedite reconstruction work in general and to resolve the issue of urban housing in particular. On a few occasions, the local authorities had to use force to disperse the crowds. The municipal authorities, finding themselves powerless, would refer the issue to ERRA, which would promise to expedite the compilation of master plans. The protests from the local population were also more geared towards making abstract demands for accessing their rights and did not put forward alternative solutions.

The urban development strategy, finally published by the end of July 2007, did little to ameliorate the agony of the affected people. To date, no comprehensive and accepted strategy has been evolved to address the issue of multi-storey dwellings. The process of preparation of master plans for the urban areas was almost exclusively carried out by the engineers and bureaucrats from the public sector. The absence of a mechanism for public hearings, stakeholder

participation and peer review raises questions on the acceptance and practicability of the master plan.

No significant advocacy or lobbying campaign was launched by any section of civil society to press for the development of an appropriate solution for the urban areas. The limited and sporadic coverage of the issue by the national and local press, as well as the small number of protest demonstrations in the towns, consisted more of bemoaning the plight of the affected rather than any practical and solid proposals. Even these campaigns were aimed more at decrying the delays in the finalization of the master plans than in serious engagement with their implications for the affected. Perhaps because of their heavy involvement as partner organizations in the rural housing reconstruction programme, the NGO part of civil society remained largely silent or oblivious to the issue.

Urban housing reconstruction subsidy

In 2008, ERRA started paying housing reconstruction subsidies to urban households, on the basis of 'one roof – one grant'. This grant was available only to houses outside the 'hazard zones'. The grant was conditional on conformity to the Pakistan building code applicable to the area. It needs to be noted here that a building code exists for most parts of the country and was updated for the affected area after the earthquake and published in 2006. The management and quality control of this grant was entrusted to the municipal authorities that have very limited capacity for the task. The municipal authorities in Kashmir were never strong enough to enforce the existing building by-laws, as is evident from the congested and haphazard construction from pre-disaster times. The earthquake drastically increased their work burden, but no efforts were made to increase their strength by deploying additional technical personnel or provision of additional intellectual and physical resources. By the last quarter of 2008, in Muzaffarabad alone, the grant had been administered to around 8,500 fully destroyed and nearly 6,000 partially damaged houses without any indication of the status and quality of house reconstructed (Zahid Amin, pers. comm.).

The increasing irritation among the people over delays in the finalization of master plans and the prevailing uncertainty led the government to allow people to reconstruct, outside the 'hazard zone' after obtaining a no objection certificate from the municipal authorities. The issuance of a no objection certificate is conditional on submission of structural designs adhering to the building code.

Urban transitional housing

As mentioned above, the transitional urban shelter issue has its own peculiarity due to the space constraints. Many urban households remained for more than two years in tented dwellings established on the few open spaces

available. Others were living in rented space in the few less damaged or re-built houses. Many had shifted most of their families to other parts of Pakistan until the resolution of the issues. The no objection certificate system for urban housing reconstruction excluded the hazard zones and areas affected due to the master plan. In early 2006, the Government of Saudi Arabia had promised the Government of Pakistan to provide it with prefabricated housing units to house these people either in-situ or on specified sites. This promise materialized only in mid-2008 and the prefabricated two-room shelters were distributed to some 8,000 households in the urban centres, principally in Muzaffarabad and Balakot areas. People are allowed to set up these light steel shelters even in the hazard zone until the permanent housing solutions become fully operational. This clearly is a departure from the transitional shelter strategy that covered mainly the rural areas during the early recovery period. As opposed to the almost singularly owner-driven approach for rural areas, these prefabricated shelters provided in the urban areas have no element of user participation in their design or construction. It is perhaps somewhat early to give an authoritative judgement on how this will affect the owner-driven housing reconstruction, but some issues are quite obvious even at this point in time. Putting the transitional shelter on the urban lot of land owned by the affected family leaves them no space on which to construct their house, even if they could financially afford to do so. The authorities have not come up with a solution to this crucial issue and a certain degree of ad hoc-ism seems to be prevailing. The civil society organizations have also been overwhelmed with humanitarian problems elsewhere in the country, due to the war against religious extremists and the resulting exodus of millions of people from these areas. In the absence of any meaningful political pressure, the steel structures are likely to remain there, providing a contractor-driven shanty town alternative to an owner-driven permanent settlement.

Conclusion

Revisiting the initial discussion point of this chapter, which sought to identify the critical factors that would lead to the success or failure of an owner-driven programme, the Pakistan case offers some insights.

It is empirically evident that the rural housing strategy progressed more smoothly than the urban housing recovery, despite both having an owner-driven focus. The summary below draws on the discussion above, and aims to summarize and capture some of those factors which are likely to be applicable to other contexts.

Involvement of homeowners from the very outset of response, the relief and, particularly, transitional shelter stage turned out to be a vital factor. Despite the almost universal scepticism of 'technical experts' about the capacity of locals, the community mobilization process involved during the early recovery period, in the construction of transitional shelters, set in place a

momentum that eventually led to a full adaptation of the owner-driven approach, particularly in rural housing.

Availability of space for setting up transitional shelter for the family to live in while endeavouring to construct a permanent house is a critical factor for ensuring an efficient community owned process. In the case of urban areas, space constraint as well as the intrinsically multi-sectoral nature of town construction hampered the process. While the housing reconstruction was conceptualized as an owner-driven process, its initiation and progress remains contingent upon other parallel processes of zoning, laying of physical infrastructure, relocation due to various reasons etc., which are deemed as contractor-driven by nature. Delays in processing of these contracts and the varied mindsets of firms carrying out these tasks lead to frustrations and impediments.

There is a need to learn from the owner-driven initiatives for human settlements which abound in developing countries in non-disaster settings that may offer an insight into many issues of site planning, transitional shelters and relocation faced by the planners of urban housing reconstruction in a post-disaster setting.

A 'rural bias' seemed to be prevalent among the humanitarian agencies working on shelter issues, where most of the debate about transitional shelter and reconstruction issues appears to be centred on the rural settings. The narrative above points out that much more complex issues related especially to the land scarcity, tenure related complexity and cost differential between rural and urban construction warrant research into finding distinct solutions to the unique challenges posed by the urban setting.

The resolution of the issue of land tenure is important for all settings, but is perhaps more difficult in urban settings, especially when population per square metre is rather dense. This is the case with many urban settlements in the earthquake affected area, where around 36 people live (in many storeys) on a plot of land that would have 7 to 8 people in a rural, single storey house.

In most developing countries, the rural areas have no government entity that regulates housing construction. The urban areas have municipal departments that are mandated to regulate the construction activity through the enforcement of building laws. Paradoxically, in the case of Pakistan, while a huge institutional edifice for training, inspection and regulation of housing reconstruction was created for rural areas, no effort was made to strengthen and upgrade the already existing municipal authorities in the urban areas. This neglect has, and is likely to lead to the recreation of the hazard that caused the destruction in the first place.

While in the case of the rural housing strategy, continued stakeholder consultation became an established norm, the process of urban master planning remained a rather exclusive and somewhat secretive exercise with no provision for involving the citizens or civil society. This is rather paradoxical because the urban landscape, arguably, requires a more collective vision about its shape,

governance and future than the rural areas where the physical inter-household spaces tend to be larger and the municipal services are less likely to be installed in a manner that have to be shared by all the inhabitants.

After an agonizing wait for three years, people affected by 'hazardous land' and some other categories in the urban areas have received prefabricated shelters. They have, in most cases, put them on their plots of land. In such settings where there is a premium on land, this poses questions for permanent reconstruction and fears for the springing up of shanty towns becoming real.

The rural housing strategy was adjusted midway to allow for indigenous construction materials such as *dhajji*. In the urban areas however, the trend is most likely to be towards 'modern' concrete houses. The cost of concrete construction per square foot has more than trebled in the last three years. This poses a theoretical challenge of balancing out a 'near-to-free-market' owner-driven approach and pricing control through market distortion.

Keeping in mind the more fluid nature of the property market in urban centres, as well as the higher cost of 'modern' construction prevalent in cities, the promotion of owner-driven housing reconstruction may require two distinct sets of financial instruments for rural and urban areas. It has been argued above that because of interconnectedness of a multitude of recovery challenges in urban settings, the temporal frame, as well as the financial size of undertaking, is most likely to be higher than in rural areas. One could devise some sort of 'reconstruction loan' strategy to facilitate owner-driven urban reconstruction. If, from an equity or humanitarian perspective, any subsidy is deemed necessary, it may be designed as subsidizing the interest on the loan rather than in the form of direct cash transfers.

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List of acronyms

NWFP	North West Frontier
ERRA	Earthquake Reconstruction and Rehabilitation Authority
PERRA	Provincial Earthquake Reconstruction and Rehabilitation Authority
SERRA	State Earthquake Reconstruction and Rehabilitation Authority
DRU	District Reconstruction Units
M&E	Monitoring and Evaluation
DRAC	District Reconstruction Advisory Committees
PPAF	Pakistan Poverty Alleviation Fund
SPO	Strengthening Participatory Organizations

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CHAPTER 6

Indonesia: Understanding agency policy in a national context

Jo da Silva and Victoria Batchelor

Following the devastation of the tsunami of 2004 in Aceh, compounded by a second major earthquake in March 2005, the government initially stated that Aceh's reconstruction would be 'a people-centered and participative process.' Over 100 local and international agencies came to participate. This chapter examines the pressures on government in developing and maintaining this approach; and the barriers and opportunities faced in delivering and scaling-up their programmes. Limitations in local capacity and availability of materials proved to be major barriers, and competition between agencies rather than coordination meant that effort was duplicated in tackling barriers individually. The opportunity to 'build back better' and catalyse recovery from 30 years of conflict as well as the tsunami was over-shadowed by pressure to build quickly. Ultimately most agencies opted for contractor-procured housing, but those which succeeded best were geographically focused, and combined community engagement with construction expertise through partnerships.

Introduction

The tsunami on 26 December 2004 caused widespread devastation in Aceh and this was compounded by a second major earthquake on 28 March 2005. In total 167,000 people were reported dead or missing, 500,000 people were made homeless, 120,000 houses were destroyed or severely damaged and 25 per cent of the population lost their livelihood. This generated an unprecedented humanitarian response and more than 100 agencies contributed to the reconstruction process over the next four years. Affected communities identified shelter, the need for assistance to return to their villages and re-build their homes as a key priority. The government stated that the reconstruction of Aceh would be 'a people-centered and participative process.' In recognition of the lack of capacity in local government it established Badan Rehabilitasi dan Rekonstruksi (BRR) in Banda Aceh to oversee implementation and between 2005 and 2008 over 125,000 'permanent' houses were built. This was achieved through a very large number of agencies building relatively modest housing programmes through community-based participatory processes. However,

they largely acted in isolation rather than introducing strategic institutional and policy changes to facilitate rapid replication of high quality solutions.

Agencies faced multiple challenges in delivering and scaling-up their programmes. Few had prior experience in this sector and climbed a steep learning curve as they recognized the complexities of construction and the need for technical expertise. Limitations in local capacity and availability of materials proved to be major barriers, which were not addressed strategically by BRR, and competition between agencies rather than coordination meant that effort was duplicated in tackling these issues individually. The opportunity afforded by the scale of reconstruction and amount of funding available to 'build back better' and catalyse recovery from 30 years of conflict as well as the tsunami was over-shadowed by pressure to build quickly. Ultimately most agencies sought to improve construction quality and scale-up their programmes through direct implementation or contractor-build approaches rather than self- or community-build programmes. Those that were most successful were geographically focused, and combined community engagement with construction expertise through partnerships with the private sector or specialist NGOs.

Context

Pre-disaster situation

Nanggröe Aceh Darussalam (Aceh) is located on the northern tip of the Indonesian island of Sumatra. It is geographically remote, being over 2,500 km by road from Jakarta, and the province has a long history of political independence. The population is predominantly Muslim and *sharia* (Islamic) law was formally introduced in 2003. The centre of Aceh is mountainous and therefore most of the population lives in a narrow strip of flat, fertile land along the coastline dependant on fishing and agriculture, or working in the port cities and towns (see Figure 6.1). Although Aceh has substantial natural resources, including oil, natural gas, timber and oil-palm, majorities of these were under state or corporate ownership and provided little benefit to the local population. Port cities such as Banda Aceh, Meulaboh, Calang and Lhokseumawe were the economic driving force of the region and comparatively little development had taken place in rural areas. While Aceh's GDP per capita in 2003 was one of the highest in Indonesia (at almost US$1,100) 48 per cent of the population had no access to clean water, 36 per cent of children under the age of five were undernourished and 38 per cent of the population had no access to health facilities (Oxfam International, 2005).

Aceh has a history of fierce resistance to control by outsiders including Dutch colonists and the Indonesian government. The most recent conflict began in 1976 when the Free Aceh Movement (GAM) was established and made a declaration of Acehenese independence. This was followed by almost 30 years of conflict with the Indonesian government and a range of long-standing issues including allocation of natural resource revenues and human
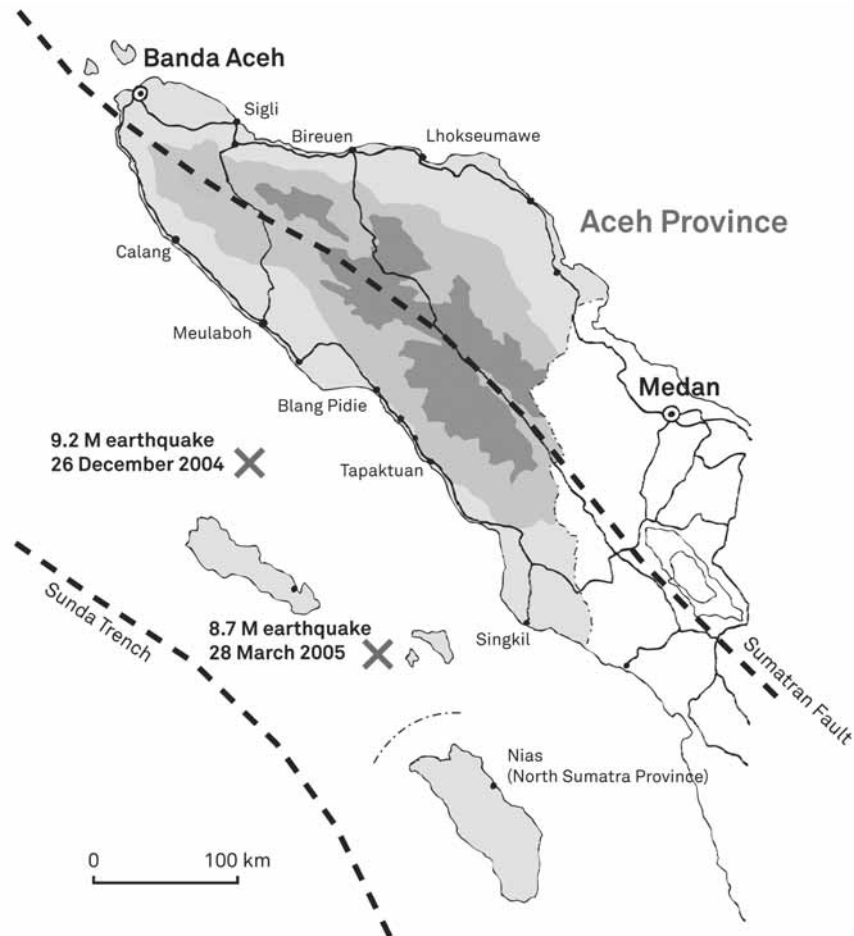
Figure 6.1 Map of Aceh and Nias

rights abuses all contributed to its continuation. Several efforts were made to bring peace to Aceh, the most recent being the 2002 peace agreement which failed to hold. Since 1999 over 300,000 people had been displaced by the conflict and in May 2003 the government declared a state of emergency with over 40,000 soldiers stationed in the province (Hedman, 2005). The ongoing conflict and government restrictions meant that few humanitarian agencies were operating in Aceh prior to the tsunami.

Conflict, high levels of corruption and historic underinvestment in the province had also resulted in weak local government and low levels of public confidence in government at both national and local levels. The main point of authority recognized by communities was the *Kepala Desa* or *Geucik* (head of the village) who typically organizes community meetings and projects, pro-

vides guidance and leadership and represents the community in negotiations with local authorities. Among rural communities there was also a tradition of *gotong royong*, or mutual assistance, where communities work together to undertake maintenance of communal facilities such as *tambaks* (fish ponds) or *sawah* (paddies), repair roads or drainage channels or any other task which the community decides is important.

Although Aceh has a history of geological hazards (earthquakes, volcanoes and tsunami) as well as exposure to hydro-meteorological hazards (floods, storms and landslides) disaster preparedness was not part of institutional structures and the Acehnese population was poorly prepared for a disaster situation. Although smaller earthquakes are frequent in Aceh and Nias, weak building regulation meant that most structures were not built to withstand larger earthquakes. The local government did not have a disaster management plan and critical infrastructure had not been identified or built and maintained to enable it to continue operating post-disaster. The National Coordinating Agency for Natural Disaster and Refugee Relief (BAKORNAS PBP) had developed an informal disaster management structure with representatives at district and sub-district level. However they had no contingency plans and no clear coordination structures for national and international actors (Scheper, 2006).

Impact of the disaster

The earthquake and tsunami on 26 December 2004 caused widespread devastation as waves of up to 17 m destroyed 800 km of coastline along the north and west of Aceh province and this was further compounded by the 28 March 2005 earthquake in Nias. In total 167,000 people were reported dead or missing after the tsunami and more than 500,000 were displaced. In Nias, a further 900 people died and 13,500 households were displaced in the 28 March 2005 earthquake. The tsunami also destroyed, or severely damaged 120,000 houses, 100,000 wells, more than 2,000 schools, 8 hospitals and 114 health facilities (BRR and International Partners, 2005b). Eighty per cent of all land documents and all cadastral maps were destroyed. 25,000 families needed relocating because their land was destroyed or because they did not own land before the tsunami (Oxfam International, 2006).

The number of people displaced by the tsunami was similar to that in Sri Lanka. However, the real difference was in the number of fatalities (approximately five times as many in Aceh), and the longer-term effect of loss of professional expertise and government capacity on the reconstruction programme. Local government was almost completely incapacitated for the first six months of the response and national government was largely ineffective as a result of the conflict. When combined with the loss of professional expertise within an underdeveloped local building industry the scale of reconstruction required was well beyond local capacity.

In economic terms the total impact of the tsunami was 41.4 trillion Indonesian Rupiah ($4.45 billon) or 97 per cent of Aceh's GDP. Sixty-six per cent of this was damage to public or private property (with housing being the most affected sector) while 34 per cent was loss of public assets or revenue within the economy (BAPPENAS and International Partners, 2005b). In total 600,000 people or 25 per cent of the population in Aceh lost their livelihood as a result of the tsunami and this included 300,000 farmers, 130,000 fishermen and 170,000 small-business owners (Oxfam International, 2006). The tsunami destroyed 60,000 ha of *tambaks* (fish ponds) and 60,000 ha of agricultural land, *sawah* (paddies) or *kebun* (plantations), along the coast (BRR and International Partners, 2005b), thus destroying the two main livelihood activities in these areas.

Relief and reconstruction efforts were hampered by the geographical spread of affected areas, (800 km of coastline and several island communities) and significant damage to transportation infrastructure. Although the length of affected coastline in Aceh was comparable to that in Sri Lanka, arterial transport routes in Aceh largely followed the coast and thus were severely damaged by the tsunami (see Figure 6.2). BRR estimated that 120 major bridges, 14 out of 19 seaports, 8 out of 10 airports and 3,000 km of road were severely damaged or destroyed (BRR and International Partners, 2005b). With infrastructure in ruins material supply chains were largely not operational and access to remote communities was severely compromised. The destruction of infrastructure meant that local sourcing of materials became a priority. However, local timber could not be guaranteed to come from sustainable sources and local manufacturing could not keep up with demand.
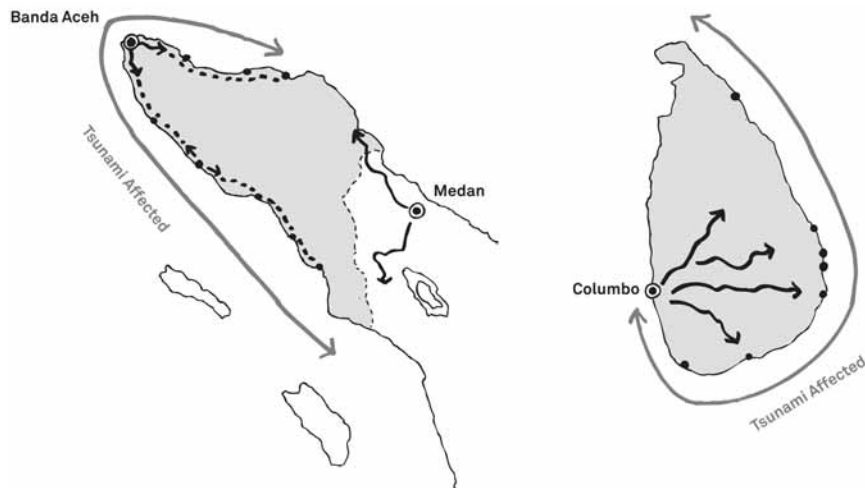
Figure 6.2 Map of Aceh and Sri Lanka showing length of tsunami-affected coastline and transportation routes

On 28 December 2004 the Free Aceh Movement (GAM) declared a cease-fire to allow aid to reach affected communities and they began peace talks with the Indonesian government in February 2005. Many agencies experienced difficulties operating in this environment as national staff came under pressure from both parties. This hampered their freedom of movement and jeopardized their impartially, particularly in remote areas. The situation improved once the memorandum of understanding was signed between the Government of Indonesia and GAM on 15 August 2005, although concerns remained throughout over inequity of assistance to tsunami and conflict affected communities.

Programme structure and framework

Coordination and governance

The scale of impact was significant whether measured in terms of loss of life, property, institutional capacity or livelihoods, and a large and coordinated response was required by both national and international agencies. In the first three months after the tsunami the Indonesian government attempted to coordinate the relief and reconstruction effort from Jakarta through the National Coordinating Agency for Natural Disaster and Refugee Relief (BAKORNAS PBP). However, as BAKORNAS was inadequately prepared to coordinate a disaster response, the emergency phase of the relief operation was largely ad hoc with international agencies initiating and coordinating their own efforts (Scheper, 2006). The National Planning Agency (BAPPENAS) was appointed to coordinate longer-term recovery and reconstruction and they quickly put in place two strategic elements in the reconstruction process. The first was the *Master Plan for the Rehabilitation and Reconstruction of Aceh and Nias* (the 'master plan' or 'blueprint') set in law on the 15 April 2005 (BAPPENAS, 2005a). The second was the establishment of the Rehabilitation and Reconstruction Agency (BRR) to coordinate the implementation of the master plan in recognition of the lack of capacity in local government.

With BRR established in Banda Aceh from April 2005, authority for coordination and decision-making was returned to provincial level. The agency had a four year mandate with the intention that they would hand back control to local government by April 2009 and its activities included planning, approval, matching needs to resources, disbursement of funds, and monitoring and evaluation (BRR and International Partners, 2005a). Slow progress in reconstruction activities led to the expansion of BRR's mandate at the end of 2005 to include implementation and completely take over reconstruction activities from line ministries in Aceh and Nias. It subsequently mushroomed to become a local 'super ministry' acting as quasi-government for Aceh and Nias. In July 2006 BRR began a process of decentralization through the establishment of several district offices. This supported the capacity building of local government, in preparation for eventual handover, and began the process of

returning decision-making power to the traditional district and sub-district authorities.

The UN had a parallel, and no less complicated, coordination structure, with UNHCR and UNOCHA initially responsible for the coordination of shelter and UN-Habitat taking on this responsibility from April 2005. The transfer of power from UNHCR to UN-Habitat, and the lack of institutional framework provided in subsequent disasters by the shelter cluster, meant that roles and responsibilities were unclear and separate and overlapping government and UN-led coordination groups operated in Banda Aceh, Medan, Meulaboh and Jakarta. Many agencies became confused as to the relevance of coordination to their individual programmes and did whatever they thought best in the interim with widely varying results. Both BRR and UN-Habitat suffered from a conflict of interest between coordination and implementation throughout their operations as implementation placed them in competition with other agencies for local contractors, labour and materials and helped fuel an environment of competition rather than cooperation in the initial stages of the response.

Regulatory framework

In the immediate aftermath of the tsunami BAPPENAS and International Partners conducted a rapid damage and loss assessment and issued *Indonesia: Notes on Reconstruction* on 19 January 2005 (BAPPENAS and International Partners, 2005c). This document established that the reconstruction of Aceh would be 'a people-centered and participative process' and this principle was included in the master plan in April 2005 (BAPPENAS, 2005a) and subsequently fed into BRR policy. An assessment by International Organization for Migration (IOM) in February 2005 (IOM, 2005) indicated that shelter was a key priority for internally displaced persons (IDPs) and that communities wished to return to their villages as soon as possible. Thus the policy framework and the needs of the affected communities set the scene for an owner-driven reconstruction process.

Confusion arose and created problems because there was no clear policy as to what 'a people-centred and participative process' would actually mean in terms of shelter assistance and a multitude of different options evolved. The government built 784 timber 'barracks' (collective centres) in the first two months after the tsunami (WWF and Greenomics Indonesia, 2005) to provide transitional shelter for affected households. Other agencies began by distributing shelter, non-food items or providing 'semi-permanent' housing which could be upgraded by households at a later date. Further confusion was caused by an announcement from the mayor of Aceh on 28 February 2005 that a 2 km buffer zone would be introduced and people would not be able to reconstruct next to the sea. This caused many people to return to their villages to reclaim their land, start clearing debris and start reconstructing their villages

for fear of being relocated. However, within a month this policy was reversed as the practicalities of imposing such a restriction became clear.

With the establishment of BRR in April 2005 a regulatory framework began to take shape. About six months after the tsunami, BRR maintained that all beneficiaries were adequately housed in barracks, transitional shelter or host families. They announced that each affected household would be eligible for a 'type 36' permanent house of 36 sqm and issued pre-tsunami drawings and specifications of this design. This 'one size fits all' policy imposed what appeared to be a prescriptive requirement on agencies to provide 'permanent' (reinforced concrete and masonry) housing. This meant that agencies which had constructed 'semi-permanent' (timber or half-timbered) houses were faced with having to upgrade or replace housing, as these were no longer deemed adequate. Also more strategic options to provide assistance through skills development, establishing information or resource centres, or setting up manufacturing plants was overlooked.

In July 2005 UNHIC published the *Shelter Data Pack* (UNHIC, 2005) which included guidance on participatory techniques to encourage the involvement of communities in the reconstruction process; community land mapping, action planning and settlement planning as well as stating who was eligible to receive assistance and the level of assistance to be provided. However, it omitted other key issues such as guidance on seismic resilient design and reference to national or international standards and good practice. To address the problem of land ownership certification, the Indonesian government, in partnership with the World Bank, established the Reconstruction of Land Administration Systems in Aceh and Nias (RALAS) programme in August 2005. This involved a process of 'community-driven adjudication' and land titling through the National Land Administration Agency (BPN).

Non-existent, or inappropriate, local and national regulation, and the time taken to develop appropriate policies by BRR, left a policy vacuum for implementing agencies as they struggled to provide 'permanent' housing without an adequate definition of what that would mean. Multiple guidelines and standards were developed and many agencies made their own decisions regarding appropriate regulatory standards, and developed solutions largely in isolation from other agencies. Some agencies used the 'sphere standards' (Sphere Project, 2004) as minimum standards for their permanent housing, however, these are intended to provide 'minimum standards for shelter and settlement in post-disaster response' and there was confusion about their applicability to permanent housing. The *Pinheiro Principles* (COHRE, 2005) also provides standards for housing, land and property rights for displaced populations but there was little evidence of their application in Aceh.

The Guiding Principles on Internal Displacement (UNOCHA, 1998), otherwise known as 'Deng's Principles', identify rights and guarantees for the protection and assistance of displaced populations both during their displacement as well as during return or resettlement. However, although an Indonesian version of these existed pre-tsunami, and there were government/NGO/UN

projects using these in other areas of Indonesia, there was little evidence of their application in Aceh. Indeed, due to the pre-existing population displaced by the conflict in Aceh, the use of the term 'IDP' to define tsunami survivors became politically sensitive and government officials and international humanitarian organizations sometimes referred to the displaced population as 'homeless' (Couldrey and Morris, 2005).

The needs of renters and squatters were initially overlooked and eighteen months after the tsunami this group represented over a third of the population still living in barracks (UN, 2008). In June 2006, as a result of advocacy by various agencies, BRR issued new regulations which stated that renters and squatters would receive cash grants. However, delays in implementation combined with inflation of 40 per cent meant the cash grant was not sufficient (Oxfam International, 2006). Frustration led to major demonstrations outside BRR's head office in Banda Aceh and finally, in February 2007, a policy of free land and housing for renters and squatters was announced (UN, 2008). BRR developed Labuy, near Banda Aceh, as a resettlement site specifically for this group and also provided assistance to 1,000–2,000 renters elsewhere who bought land but required help to build a house.

Housing programmes: Types of owner-driven reconstruction

Under pressure from donors, affected communities and BRR to provide 'permanent' housing more than 100 agencies engaged in housing construction, many for the first time (Dercon and Kusumawijaya, 2007). This reflected the over-riding demand from the affected population for permanent housing made possible due to the amount of funding available and resulted in intense competition between agencies over which communities to assist and the procurement of materials and labour. The 'one size fits all' requirement for housing meant that other forms of assistance, which the humanitarian community might have been better placed to provide, such as transitional shelter, cash assistance or skills training, were neglected. Many organizations started building without a clear plan, and built unsuitable housing, experienced significant delays or had to abandon programmes as the challenges became apparent.

Many agencies initially defaulted to self- or community-build programmes on the assumption that participation in reconstruction meant self-building. However, as the reconstruction programme progressed, and agencies tried to scale-up their programmes, more and more shifted to contractor-build or direct implementation programmes, while still respecting the principles of 'owner-driven' reconstruction by including participatory processes. Communities were involved, to varying degrees, in the selection of eligible households, cadastral mapping and verification, spatial planning, design of housing, construction and monitoring of implementation. Provided the community was at the centre of decision making throughout the process, then other forms of partnership and procurement, including direct implementation and contractor build, proved to be equally valid in terms of generating a sense of

ownership, ensuring occupancy and beneficiary satisfaction. These processes are elaborated below.

Self- or community-build programmes

In self-build programmes the implementing agency acted as a facilitator; providing cash transfers, materials, training and technical expertise to enable households to design and construct their new houses and settlements, the principle being to provide assistance only with what people cannot do themselves. Many agencies adopted this strategy initially without considering alternatives, as they assumed the population would have sufficient construction capabilities and underestimated the lack of materials and skills available locally. They struggled with poor quality construction and ever-lengthening building programmes which required a large number of facilitators to provide training, site supervision and quality control. However this was not always practicable and in many cases quality of construction suffered. This became a key issue as quality of workmanship and materials are crucial to achieving seismic resilience.

In some programmes cash was provided directly to eligible households or communities and they were then responsible for the purchase of materials or labour locally. This provided temporary livelihoods during construction, developed local capacity in the longer term and supported local suppliers of materials or components. However, with building materials in short supply, locally sourced materials were often of variable quality, dubious origins and for sale at highly inflated prices and this reduced the effectiveness of cash transfers. Other programmes overcame these difficulties through providing materials to communities, which were purchased from national or international suppliers. This guaranteed higher quality materials but missed the benefits to the local economy through supporting local suppliers.

The main advantage of self-build programmes in Aceh was that they catalysed the early recovery process, as self-builders felt a sense of ownership and purpose from the moment they laid the foundations. Thus, they were able to overcome the effects of trauma and rebuild the rest of their lives and livelihoods much sooner than had they remained passive receivers of assistance in barracks or tents. Self- or community-build programmes placed families and communities at the centre of the reconstruction process allowing them to take control of their situation and directly influence the design and construction of their houses and settlements. Modifications to house designs, especially the incorporation of extensions or alternative finishes or fittings, were easier to incorporate into self-build programmes, as they allowed a degree of flexibility not possible in larger contractor-build schemes.

Despite their advantages, self- and community-build programmes were heavily criticized for being both slow to start and slow during construction. A lot of time was needed at the outset to mobilize communities and reach consensus decisions on house designs and village planning. Self-building

households also took time during construction as they balanced the requirements of house construction and livelihood recovery.

Contractor-build programmes

As reconstruction progressed, the lack of building skills within the communities and the pressure to build quickly meant most agencies gradually shifted towards using local or national contractors. In this instance the agency effectively took on the role of developer, acting on behalf of the communities (the clients) to develop a design, appoint a contractor and oversee delivery. Several agencies who used contractors continued to involve the communities in physical planning, design or monitoring the quality of construction. One of the most successful programmes coupled contractor-build housing with training for communities in how to maintain, adapt and extend their completed housing in a hazard-resilient manner.

The main advantage of contractor-build programmes was the speed of construction and, therefore, completion of finished housing. Beneficiaries could also balance their involvement in housing reconstruction with other activities such as livelihood recovery. Contractor-build programmes often gave the agency greater control over quality and made it easier to account for disbursement. They also required less construction capacity within the organization as the agency was responsible for managing contracts but not construction management. Although adopting a contractor-build approach can improve quality control, it is highly dependent on the specific contractor. Many agencies tried to favour Acehnese contractors as implementing partners in an effort to support local industry and build capacity. This proved challenging due to the lack of skilled labour, expertise and contracting ability locally, and agencies with larger programmes favoured experienced national contractors from Medan or Jakarta. In several instances sub-contracting and corruption also reduced quality.

Unless specific mechanisms were put in place to involve communities in the construction process, contractor-build programmes tended to lose beneficiary engagement and develop problems of imported designs, labour and materials leading to lower occupancy rates through lack of a sense of ownership. Individual household adaptation during the build programme would have caused delays and increased costs and so repetition of standard designs was common. Additionally, beneficiaries didn't gain skills in self-building and were therefore ill-prepared to maintain, adapt or extend their new houses.

Direct implementation

Several agencies chose direct implementation, providing materials, hiring skilled labour and managing the construction process themselves, effectively acting as a main contractor. Often this was because they had difficulties with corruption and contractor performance and they were forced to terminate

contracts. Many communities preferred this method of implementation over contractor-build as they had greater trust in humanitarian agencies than in contractors. They could directly express their needs and complaints to the implementing agency and it was easier to maintain engagement throughout the process.

Agencies which adopted direct implementation had to either build up a team of national and international consultants with technical expertise in the built environment, undertake procurement and finance within their own organization or partner with specialist NGOs or the private sector. Generally agencies found that assembling construction teams and building capacity within agencies proved challenging within the timescales of post-disaster reconstruction. They faced difficulties recruiting staff due to the lack of local expertise, and the time required to identify and recruit international staff who were frequently then only available for six month assignments. Competition between agencies also contributed to high staff turnover. Those agencies which had previously employed, or were able to attract key staff with previous humanitarian experience as well as technical expertise, were much better placed to respond effectively. Alternatively, partnering with specialist NGOs or the private sector, enabled an agency to manage the programme while utilizing the specialist knowledge and existing capacity of partner organizations. While working with specialist NGOs (such as Habitat for Humanity International and CHF International) proved successful, the lack of NGOs with specialist expertise in large-scale housing construction meant that this was not a common approach. Similarly the lack of local built environment professionals or contractors meant that agencies choosing to partner with the private sector had to look to national or even international engineering firms.

The process of owner-driven reconstruction

In Aceh, the combination of community-level social structures and a local tradition of self-organization, meant that communities were highly capable of adopting owner-driven programmes and many agencies built on this capacity. Most agencies found that owner-driven reconstruction required engagement with communities at several levels and the most successful programmes engaged with communities at household, neighbourhood and settlement level, providing each with an appropriate level of decision-making authority. The best programmes combined community engagement with technical expertise and supported the community through skills training programmes or by employing skilled labourers or contractors. Although many different processes for owner-driven reconstruction were developed in Aceh they shared a number of common elements:

Initial orientation

The initial stages of housing programmes involved several meetings to gather information and gain approval to work in the community from BRR, the *Camat* (local sub-district government), the *Geucik or Kepala Desa* (head of the village) and the village council. Once agreement had been reached to work with a particular community, agencies needed to engage with the entire community to decide whether to rebuild their settlement in-situ or relocate to another area, and this was a key decision in ensuring the future sustainability of the entire community.

Where whole settlements had been destroyed, or become unsuitable for reconstruction, communities had to balance the requirement to be close to their livelihoods (farming and fishing) with the need to reduce their vulnerability to coastal flooding by moving further inland. In general, affected communities preferred to remain in-situ as this enabled them to utilize their existing social networks, re-establish livelihoods and access healthcare and education. Approximately 25,000 households needed relocating because their land was destroyed or because they did not own land before the tsunami (Oxfam International, 2006). However, many other permanent houses were reconstructed on land that was subject to hazards, thus leaving households vulnerable to risks in the longer term.

Beneficiary identification

Beneficiary identification and verification was a key tool in community engagement, and required the participation of the whole community, as they collectively made decisions regarding who was and was not eligible to receive assistance. If this process was seen to be equitable and impartial, communities developed a sense of ownership over the programme and became engaged in the reconstruction process. If not it created conflict, delayed or stopped the programme and alienated sections of the community.

Lists of eligible households provided by the *Kepala Desa* or BRR were verified with each community and eligibility criteria were discussed and agreed to ensure equity and minimize conflict. In some programmes a community committee was established to conduct damage assessments and compile beneficiary lists and this both built capacity within the community and distanced the implementing agency from the selection process. Through this simple transfer of power it was clear, from the very initial stages that the community was in control of the process, with the implementing agency there to provide assistance only. The resulting lists of eligible households were publicized locally and the community given an opportunity to challenge claimants. This process often had to be repeated several times before final lists were agreed upon but it helped to reassure communities that it was transparent and equitable.

Despite the efforts of implementing agencies, beneficiary identification and verification remained prone to corruption. In one case the head of the

village sold family ID cards to outsiders making them eligible to receive housing assistance at the expense of the rest of the village (ACARP, 2007). In other cases, households received multiple houses by playing off one agency against another; or relatives returned from other areas of Indonesia to lay claims to land or titles. Widows were eligible to inherit property under both *Sharia* (Islamic) and *adat* (customary) law; however, agencies expressed concern that this procedure was not followed in practice (Oxfam International, 2006). Orphans were also eligible for inheritance and, consequently, new permanent houses. However, problems arose over the status of guardians and situations where there was more than one sibling. Mobile *Sharia* court teams were set up to protect the rights of women and orphans, who could otherwise end up losing land they were entitled to.

Community-level planning

Once the community had decided whether or not to relocate, and had identified beneficiaries, two different levels of engagement were required; mapping, action planning, and settlement planning required engaging the entire community, while house design and construction required engaging at the household or neighbourhood level.

As part of the RALAS land certification programme affected communities undertook community land mapping and 'community-driven adjudication' of land titles. This included preparing inventories of land owners (and heirs) and marking the boundaries of land parcels. Once the community had reached agreement on land ownership and plot boundaries, agencies provided technical assistance in the form of digital mapping and the BPN issued land ownership certification. All communities were involved in a community-driven planning process, as stipulated by BRR policy. However, although BRR set out the principles of village planning in the *Shelter Data Pack* (UNHIC, 2005) they did not publish their *Village Planning Guidelines* until June 2006 (BRR, 2006).

Many locations had become unsuitable, or extremely difficult, for the reconstruction of housing, and standing water, mass graves (particularly around Banda Aceh and Meulaboh) or areas with a high risk of flooding complicated the settlement planning process. Participatory processes created an opportunity to develop a shared understanding of the site constraints, engage in discussions regarding risk-reduction strategies, negotiate adjustments to land boundaries, and determine zoning for livelihood, commercial or public activities. This included identifying preferred locations for schools and health centres, shops, market places, village roads and locations and routing for services including drainage and solid waste collection and disposal. In many cases the location of communal buildings and infrastructure required the community to identify suitable land and this was often communal land or donated by individuals.

House design and plot layout

In many programmes individual households had significant involvement in the house design and spatial organization within their plot. Most agencies employed architects to provide technical assistance and develop and refine the 36 sqm standard house type proposed by BRR. They often developed several designs (with variations in layout, treatment of elevations and key details to reflect local traditions and aesthetics) and households were then able to choose their preferred option. Some agencies implemented prototype house constructions and/or pilot projects to engage beneficiaries in the process and enable informed discussions regarding layouts and the nature of reconstruction. One challenge of engaging beneficiaries in the design and construction process was that expectations began to rise as more and more housing projects were completed. What had previously been judged as a 'good quality' solution came into question again as beneficiaries became aware of projects and proposals in other areas. This led to further rounds of consultation and delays in the reconstruction programme.

In new settlement sites, whether provided by BRR or the community, plot sizes were generally standardized. However, on existing sites plot sizes varied significantly and sometimes were too small to accommodate a standard individual 36 sqm house. In turn, this required adaptation of the standard house type. Detailed physical planning was needed for each plot to incorporate the footprint of the house itself and the water and sanitation systems. Typically, agencies provided toilets and wells with the plots. The household then had the option to connect to piped water supplies as they became available.

Construction

In self- or community-build programmes beneficiaries were directly involved in the construction of their new houses, while agencies provided assistance in the form of cash, materials or labour as required. Assistance was often provided to households in stages, depending on the successful completion of the previous stage, with the agency providing training and support as required as well as monitoring the quality of construction. One agency adopted an owner-driven approach to implementation in a contractor-build programme by making the community responsible for monitoring the construction process. This had the advantage of increasing construction skills within the community and giving them control while still allowing them to continue rebuilding the rest of their lives and livelihoods.

The traditional method of construction was to hire a *tukang* (local skilled labourer) to manage the purchase of materials and the supply of unskilled labourers as required. In an owner-driven programme supported by cash disbursements each household could chose whether to employ a *tukang* and a small team, just employ labour as required and complete some sections themselves (often painting and interior finishes) or self-build the entire house. Each

option had benefits in terms of cost, time and quality of construction and it was up to each household to decide based on their individual requirements. These types of decisions are extremely household specific, vary depending on individual assets, finances and priorities and are extremely difficult to incorporate into large-scale contractor or agency built construction programmes.

Scaling-up owner-driven housing programmes

Whichever method of implementation was chosen, most agencies experienced challenges in attempting to scale-up a successful owner-driven reconstruction programme, and several different approaches were taken. The conceptual framework presented in Figure 6.3 and discussed below, was developed by the authors to describe the range of approaches.
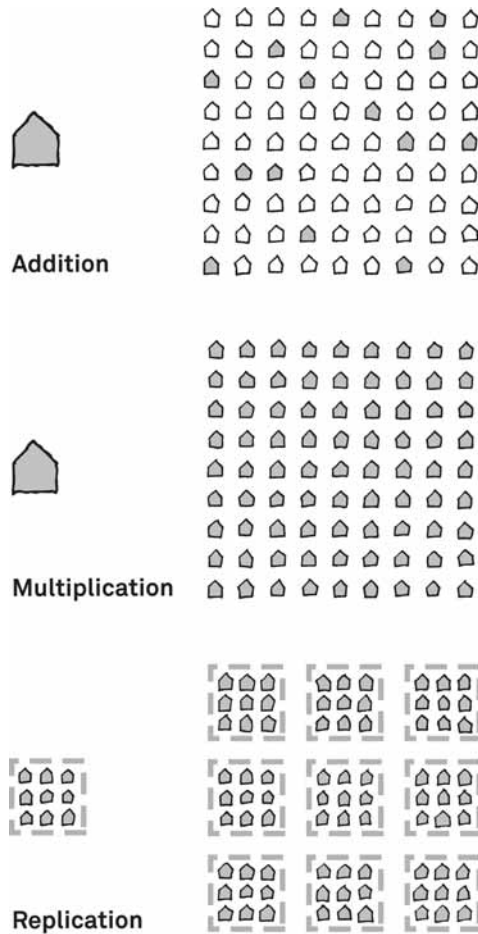
Figure 6.3 Strategies for scaling-up: Addition, multiplication and replication

Addition: One household at a time

Some agencies chose to work with individual households, often where they had a mandate to support specific groups. In this instance one prototype house, built by (or for) one family was replicated in many different locations, working each time only with one household. The advantage of this method of scaling-up was that it did not require lengthy agreement processes with several households or the whole community. Thus it could be replicated quickly, fulfilling housing quotas and satisfying donors.

However, working in numerous locations proved impossible to manage and often led to a drop in quality. The process of working with individual households, each time on a one-off basis, meant that there was no scale advantage to this type of replication. Scaling-up in this way led to many instances of several agencies operating in one community; encouraging competition between agencies and eroding community cohesion as beneficiaries vied with each other to secure assistance or played one agency off against another. Reconstruction on a household, rather than at community level, also led to many houses being reconstructed in unsuitable, hazardous locations, when community-level settlement planning could have led to relocation within the community or relocation of the entire community to a new location.

Multiplication: From one household to a hundred

In contractor-build or direct implementation programmes agencies often chose to scale-up from a pilot project of one house, or cluster of houses, to a hundred or more houses at a time. This allowed for greater efficiency of production and speed of delivery and helped to ensure equitable provision and quality of construction. However, although the completed housing looks the same in the one-house pilot project and the hundred-house contract the process of construction is completely different as engaging with one household is radically different from engaging with a hundred.

Frequently beneficiary engagement was lost in this type of scaling-up as appropriate methods of engagement had not been developed for this scale. There were exceptions, however, and some agencies developed mechanisms for engaging with communities in large construction programmes. One agency developed a 'kit-of-parts' approach, where families were offered a standard layout with a choice of materials for the walls and frame and the option to raise the houses on a plinth or stilts. This meant that several options could be assembled to suit the requirements of the family and the site, thus providing flexibility while still retaining economies of scale (see Figure 6.4).
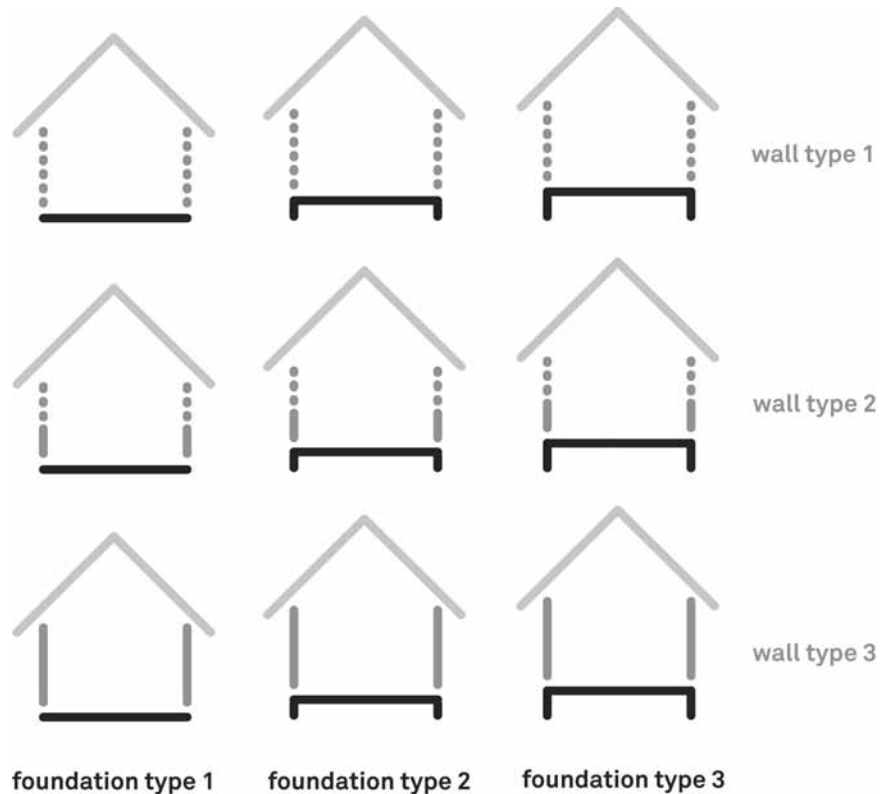
Figure 6.4 A 'kit-of-parts' approach allowed flexibility within a standardized design

Replication: From one cluster to many clusters

Most agencies found that scaling-up was most successfully achieved by replicating a community-based pilot project of around 10 to 20 houses (a cluster), rather than multiplying reconstruction of individual houses. This built on the traditional grass-root systems of neighbourhood organization and *gotong royong* ('community self-help'), minimized the potential for individual corruption and opportunism, included vulnerable groups, strengthened social networks and meant that individual households retained control over the decision-making process.

In scaling-up a cluster-based housing programme it is the 'owner-driven' process that is replicated (the process of constructing 10 clusters of households is the same as for one cluster) and this is the reason for the success of these types of programmes. It is applicable to any method of implementation (self, contractor or direct implementation) but it was used most frequently in Aceh in self-build programmes. The disadvantage of cluster-based replication

was that it required a lengthy participation process, was slow to start and required a lot of support from facilitators.

Impact of scaling-up

Whichever method of scaling-up was adopted the process was resource intensive and therefore not particularly cost effective. Most agencies only managed to scale-up their operations from a couple of hundred to a couple of thousand houses per year, reaching a peak in the third year. This is a relatively low number when compared to the 120,000 houses required. Over 100 agencies were involved in construction but they largely operated in isolation and none of the approaches described above created larger-scale institutional change to facilitate rapid replication of high quality solutions. This would have required BRR, with the support of the humanitarian sector, to adopt a more strategic approach to reconstruction which recognized the scale of construction required in the context of both local and national capacity, and the window of opportunity to introduce planning processes and improve the quality of construction so as to reduce future disaster risk – particularly flooding and earthquake. This is perhaps a reflection on the lack of construction expertise within UN agencies and major donors as well as the decision makers in the government.

The opportunity for NGOs, as representatives of civil society, to inform the strategic plan was missed and their comparative advantage might have been to derive quality based performance specifications which could have been used as the basis to develop designs and to establish and strengthen local manufacturing capability and skills. NGO programmes that managed to scale-up to several thousand houses were often more geographically focused, which simplified logistics and contributed to them being able to establish effective relationships with local government (at district and sub-district level) and build on existing systems of community organization. Instead of engaging directly in implementation and building construction capacity within their organization they tended to place responsibility for construction with communities or established partnerships with specialist NGOs or the private sector to construct houses.

Programme outcomes

Quantitative

In the immediate aftermath of the tsunami, considerable sums of money were raised through international appeals. This created a unique scenario, with too much, rather than too little money available, and led to competition among donors and implementing agencies to identify ways in which monies could be effectively spent. The scale of reconstruction resulted in rapid inflation in the price of materials and labour, Oxfam estimated 40 per cent in 2005 (Oxfam

International, 2006). Economies of scale were not understood at either agency or strategic level, and thus strategic interventions to support local manufacturing or import materials on a large scale were largely overlooked.

The large amount of funding available and the high level of media coverage meant that there was incredible pressure on implementing agencies to build quickly. The success of housing programmes in Aceh was measured in terms of the number of houses constructed. This obsession with quantitative outcomes, irrespective of quality, meant that agencies were under extreme pressure to scale-up their housing programmes. When combined with lack of construction experience within agencies this led to the establishment of unrealistic deadlines as agencies competed to secure villages and struggled to meet construction targets. In reality it took four years to meet BRR's target of 125,000 permanent houses (www.e-aceh-nias.org accessed on 5 January 2009). The pace of construction followed a typical 'S-curve' (see Figure 6.5) with an initial period of mobilization, accelerating to reach peak production at the end of the second year and tailing-off after the third year, by which time demand had been substantially met.

Many agencies were criticized for being slow to start construction (only 16,200 permanent houses were constructed in the first year (BRR and International Partners, 2005b) as agencies began mobilization; recruiting staff, establishing supply chains, working with communities and identifying land for construction. However, this initial phase enabled agencies to rapidly scale-up their programmes in the following two years with peak production at around
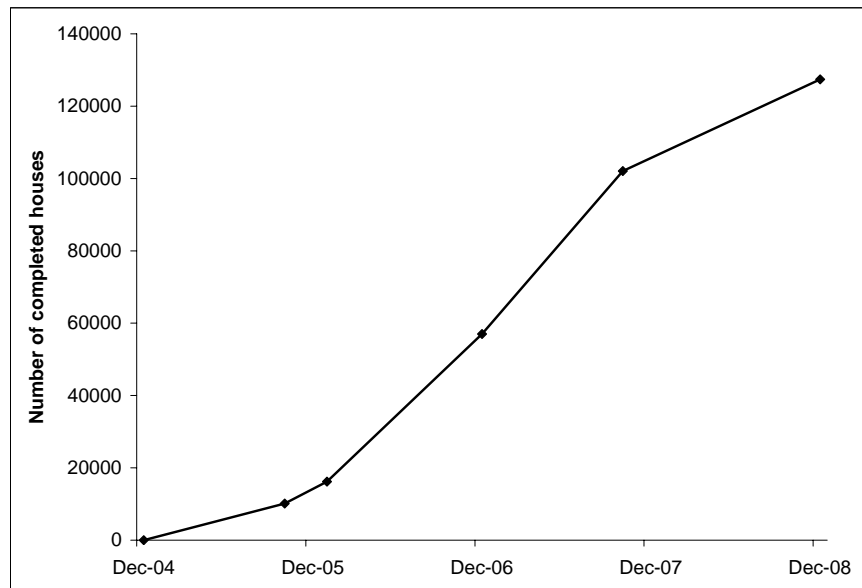
Figure 6.5 The pace of construction followed a typical 'S-curve'
Source: BRR and International Partners 2005a, 2005b, 2006 and www.e-aceh-nias.org

40,000 houses per annum by 2005 and 2006. This compares to around 200,000 houses constructed in the UK in 2004/05 with a well established housing industry (ODPM, 2005). By the end of 2007 the programmes of many agencies were coming to an end with the completion of houses in relocation sites and remote communities, or where problems had been encountered completion carried over into 2008.

Qualitative

The wider objectives of reconstruction in terms of rebuilding communities, improving access to infrastructure, generating livelihoods, or reducing vulnerability were not articulated in BRR policy but were essential considerations in evaluating the quality of housing programmes. Agencies made their own decisions on an appropriate budget for housing construction, typically $5,000 to $10,000 excluding logistics and staff costs, and this contributed to the significant variations in quality of houses between programmes. In turn this led to conflict between and within communities as households shopped around for the best option.

BRR measured numbers of houses completed and occupancy to measure progress and household satisfaction and many beneficiaries were highly satisfied with their completed housing. However, at the end of 2007 BRR estimated that occupancy rates of completed houses were around 60–70 per cent, with lower levels of occupancy occurring as a result of poor quality construction or delays in the provision of services (water, sanitation, power) by third parties. In some cases, although initially houses were thought to be unoccupied further investigation established 'technical occupancy'; there was satisfaction with the house and it was welcomed as an asset but the owner was choosing to live elsewhere. Some families preferred to live together in one house leaving the other vacant as, having lost family members and become used to living in multiple-occupancy accommodation in the barracks, they were unwilling to live alone. In some cases the owners were children who had lost their parents and were living with friends or relatives. Others did not want to move back as they had still to come to terms with the 'ghosts' and memories of family who died.

Once the completed houses had been handed over many households very quickly began to invest in extensions or improvements. These included installing new windows, building extensions or even an additional storey, and creating gardens. While self-built extensions and improvements to completed houses showed a high degree of ownership they risked compromising the seismic resilience of the core house through creating asymmetry or introducing additional openings. Some agencies attempted to combat this through community training in maintenance, repair and extensions. These programmes were effective but were not widely adopted and thus the poor quality of ongoing maintenance and extensions continued to prove problematic in terms of the durability of the completed housing.

Most agencies adopted a unisectoral approach to shelter provision and did not integrate their activities with livelihood or water and sanitation (WATSAN) programmes. Initially, many agencies undertook the provision of permanent housing in a similar manner to the provision of emergency shelter; focusing on the house, on the understanding that WATSAN, infrastructure and services would be provided by others. BRR was responsible for the provision of water and electricity supplies and had a memorandum of understanding with the electricity and water boards to provide a free connection to tsunami houses. However, limited institutional capacity and funding availability meant that infrastructure was seldom in place when houses were first occupied and often it took several months for connections to be made. Most agencies introduced much improved sanitation systems by providing on-site septic tanks for the treatment of grey and black water. Unfortunately the specific requirements of providing sanitation in areas with high water tables were not initially understood and many sanitation systems had to be replaced and upgraded.

In spite of the frequency of seismic activity in Aceh, emphasis was placed initially on reducing the impact of a future tsunami by relocating communities away from the coast and the provision of early warning systems. However, this was largely driven by the fear of the local population, rather than by an understanding of the actual risks involved. Gradually, seismic resilience became a key concern, but many agencies did not incorporate seismic resilience into their structural design and this was further aggravated by poor quality construction on site. Responding to the demands of communities to reconstruct in their pre-tsunami locations, many settlements were relocated in areas vulnerable to flooding. Thus, on both counts, while satisfying the immediate requirements of the community, reconstruction has left them vulnerable to future hazards. Site specific risk-reduction strategies had to be applied, such as building houses on stilts, when a more strategic or site-wide approach to mitigation might have been more effective.

Many agencies expressed concerns that the reconstruction process risked entrenching and exacerbating pre-tsunami inequalities and vulnerabilities. While existing legal mechanisms were in place to protect the rights of women and children, the needs of renters and squatters were not fully addressed for two years after the tsunami when BRR announced a policy of free land and housing for renters and squatters. Aceh is culturally homogenous, unlike Sri Lanka, and this meant that marginalization of ethnic groups was rare. However, like Sri Lanka agencies needed to deal with the needs of conflict affected or displaced communities, and those with a high number of GAM returnees. These groups were a concern for many agencies as they were ineligible for post-tsunami assistance and this created local tensions and inequalities within communities.

Significant inequalities were also evident on a regional level as the reconstruction programme tended to centre around the main port cities such as Banda Aceh, Meulaboh, Calang and Lokseumaweh, at the expense of rural villages and island communities. The situation was quite different on the

west and east coasts; with destroyed infrastructure making the west coast almost completely inaccessible by land and the east coast troubled by security concerns and returning GAM members. The port cities were relatively well developed, with well educated and organized communities who could easily implement an owner-driven reconstruction process. In contrast many rural communities lacked basic education thus required far greater assistance in order to participate in owner-driven processes. In turn this placed far greater requirements on the implementing agencies in terms of number of facilitators and quality of training programmes developed.

In common with Sri Lanka, livelihood opportunities were often not taken into account when relocating settlements, although the community-driven planning process advocated by BRR did promote the inclusion of livelihood facilities within settlement plans. BRR policy focused on the reconstruction of permanent housing rather than longer-term recovery of the region, on the assumption that housing was the main priority of affected households. However, many households in rural communities lived in 'semi-permanent' timber or half-timber houses prior to the tsunami and in some cases households would have preferred assistance with livelihood recovery rather than a new 'permanent' house. One agency developed 'shop-houses' in urban areas, in response to beneficiary consultation, however, this approach was not widespread and caused problems with other communities over what seemed like an inequitable solution.

Although large-scale construction training programmes could have employed a significant number of the 600,000 newly unemployed, most lacked the required skills and increasingly labour was imported, thus missing the opportunity to leave a legacy in terms of improved skills or capacity within the affected population. Some agencies developed programmes for the production of bricks or building components such as timber roof trusses, however, these were infrequent and not part of a larger strategic livelihoods approach. One of the strengths of owner-driven reconstruction programmes in Aceh was that they reinforced community-level organization and developed skills at a local level. In one owner-driven process the community developed skills in small-scale finance, bookkeeping, procurement and literacy through training programmes that assisted them to manage the construction process.

Key considerations in scaling-up owner-driven reconstruction programmes

Success in terms of the number of houses constructed in Aceh was achieved through a very large number of agencies building relatively modest housing programmes through community-based participatory processes. However, they largely acted in isolation rather than introducing strategic institutional and policy changes to facilitate rapid replication of high quality solutions. The principle of owner-driven construction was established early on in the BAPENAS master plan and this ultimately influenced most agencies and programmes whether

self- or community-build, contractor-build or direct implementation. Although at the outset most agencies defaulted to self- or community-build, the other approaches also successfully incorporated community engagement through, for example, participation in beneficiary selection, cadastral mapping, house designs, and spatial planning. This created a high degree of ownership and beneficiary satisfaction but required very significant time and resources making it difficult for individual agencies to scale-up significantly.

There was enormous pressure in Aceh – as in most post-disaster situations – to commence and complete reconstruction quickly. This resulted in the strategic planning process, where risks and opportunities are identified, objectives agreed and appropriate policy put in place, being overlooked or curtailed. The transfer of responsibility from BAPENAS to BRR, and the time taken by these organizations to establish themselves, contributed to the lack of strategic planning and the absence of a clear regulatory and policy framework within which agencies could contribute. The scale of the task and limitations in local capacity was not fully appreciated leading to false expectations based on unrealistic timescales. Although there was no shortage either of funding or of organizations willing to contribute to reconstruction, the limiting factor in delivery and scaling-up proved to be availability of materials and shortage of construction skills. This should perhaps have been obvious due to the legacy of the conflict combined with the scale of devastation but was not well understood or addressed strategically in terms of bulk importing of materials, manufacturing building components, artisan training or resource centres. A further constraint was the capacity of local government to identify and certify land, and the public works department's ability to undertake the necessary engineering works to develop new sites.

Scaling-up owner-driven reconstruction is not simply about building more houses as quickly as possible but about empowering communities, local government and the construction industry to be able to build at scale and to sufficient quality. Quality of housing needs to be understood from the communities' perspective, but the quality of the overall programme also depends on the extent to which livelihood opportunity, disaster-risk reduction, and improved access to essential services (water, sanitation and power) are addressed. In Aceh, the opportunity to 'build back better', introduce planning processes and promote safe building practices which mitigate the significant risk of future disasters – particularly earthquakes and flooding – was not recognized until reconstruction was well underway.

The legacy of owner-driven programmes should be the development of local skills, capacity and institutional frameworks to support recovery and long-term sustainable development. Humanitarian and development agencies can catalyse this process in a wide variety of ways, building on their ability to engage with and represent the interests of affected communities, particularly the most vulnerable. However, this needs to be matched by an informed understanding of planning, design and construction processes, which is more typically found within the private sector. Only a few agencies (whether

NGOs, UN or donors) have specific expertise in this area. The most success-ful owner-driven reconstruction programmes combined expertise in commu-nity engagement with technical expertise either by employing national and international consultants or through partnerships with the private sector or specialist NGOs.

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List of acronyms

BAKORNAS PBP	National Coordinating Board for Disaster Management (*Badan Koordinasi Nasional Penanggulangan Bencana dan Penanganan Pengungsi)*
BAPPENAS	National Development Planning Board (*Badan Perencanaan Pembangunan Nasional)*
BPN	National Land Agency (*Badan Pertanahan Nasional*)
BRR	Agency for the Rehabilitation and Reconstruction of Aceh-Nias (*Badan Rehabilitasi dan Rekonstruksi NAD-Nias*)
GAM	Free Aceh Movement (*Gerakan Aceh Merdek*)
IDP	Internally Displaced Person

IOM   International Organization for Migration
RALAS   Restoration of Aceh Land Administration System
WATSAN   Water and Sanitation

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CHAPTER 7

India: From a culture of housing to a philosophy of reconstruction

Jennifer Duyne Barenstein and Sushma Iyengar

Gujarat's participatory reconstruction programme following its 2001 earthquake produced high satisfaction rates locally, and has been lauded as a success both nationally and internationally. Following an earlier major disaster, the Marashtra earthquake in 1993, centrally provided housing was less successful on both quantitative and qualitative indicators. Nevertheless, in subsequent disasters, the Gujarat experience has been largely ignored, with contractor procurement taking precedence over owner-driven approaches. The central argument of this chapter is that prevailing approaches to reconstruction need to be understood in the context of elite and popular views of housing culture; of the broader relationship between the individual or locality and the state; and that these are both reflected and constructed through social housing. The chapter provides a historical review of this broader context, to analyse the potential for adoption of participatory reconstruction policies in India. It also discusses a possible strategy for achieving an owner-driven policy framework and the issues such a policy framework should address.

Introduction

India is a country regularly visited by natural disasters causing major losses of lives, livelihoods and properties. Government and civil society thus have a long record of providing support to disaster-affected communities through different kinds of assistance. In addition, for over three decades the Government of India has been implementing, across states, large-scale social housing programmes targeting the poorest of the poor, these have a significant influence on how housing needs are addressed after major disasters.

Only one programme, namely the housing reconstruction in Gujarat, after the earthquake of 2001, became famous nationally and internationally as 'owner driven'. This chapter examines the housing reconstruction experience of Gujarat in its broader context by relating it to housing processes in 'normal' times, government supported social housing programmes, housing assistance after small and recurrent disasters, and large-scale housing reconstruction programmes following a number of major disasters.

As will be discussed, public awareness about the negative outcomes of contractor-driven reconstruction following the earthquake in Maharashtra after the 1993 earthquake strongly influenced the housing reconstruction approach adopted by Gujarat. However, lessons from the overall positive experience with owner-driven reconstruction in Gujarat could neither be replicated in the reconstruction programmes of the Indian Ocean tsunami of 2004, nor after the Jammu and Kashmir earthquake of 2005.

Based on these experiences, we argue that a better understanding of the meaning and value of owner-driven reconstruction needs to be promoted among all actors involved in housing, and that a national owner-driven housing reconstruction policy has to be developed in normal times to ensure that people have control over their home building process in post-disaster reconstruction programmes, as well as social housing construction processes. The chapter concludes by discussing a strategy that could possibly lead to an owner-driven policy framework and the issues such a policy framework should address.

Defining owner-driven reconstruction

The term 'owner-driven reconstruction' (ODR) was used for the first time within the framework of post-earthquake reconstruction in Gujarat, to describe the policy approach adopted by the Government of Gujarat. The approach however is not new and has much in common with what some authors call an 'aided self-help approach' (Barakat, 2003). Aided self-help approaches have also been extensively used to provide housing assistance to the urban poor, particularly in Latin America. ODR thus refers here to a reconstruction approach that enables home owners to rebuild their houses themselves (by hiring the necessary skilled labour), through a guided combination of financial and technical assistance, and a regulatory framework that would ensure access to good quality and affordable construction materials. A similar approach was also proposed after the tsunami in Sri Lanka and Thailand, and after the earthquakes in Pakistan and Peru, because firstly it had proved to be potentially the fastest, most cost effective and empowering approach; secondly because in all cases the World Bank as a funding agency had a strong influence on the government's reconstruction policy and significantly; and thirdly because of the difficulties in managing large-scale contractor or agency-driven reconstruction efforts, in difficult or conflict ridden terrain.

Owner-driven reconstruction may be considered the most natural, empowering and dignifying approach towards reconstruction. It encourages people to do what they normally do – build their own homes. However, the approach has to be cradled in a range of support mechanisms which ensures that they rebuild effectively, and better. Owner-driven reconstruction also entails some risks that need to be fully understood and taken into account. For example, after a major disaster the local building industry may be disrupted and the procurement of labour and construction materials may be stressed with

excessive demand, and subject to inflation. Similarly, without adequate technical guidance and supervision people may not be able to build hazard-resistant houses, and the most vulnerable (e.g. poor, widows, orphans and old-aged people) may find it difficult to manage the construction on their own.

The key to successful owner-driven reconstruction lies in providing an enabling environment. Cash provision has to be accompanied by the state regulating and/or subsidizing prices of key building materials, strengthening access to good quality construction materials, ensuring support to the most vulnerable, mitigating hazard risks by developing relevant technical guidelines and facilitating technical support and training. While being an extremely decentralized and citizen-centric approach to mass-scale reconstruction, it demands firm post-disaster governance by the state. It thus requires not only a capable government but also good cooperation between government and civil-society organizations, both of which considerably enhance the potential for people to take greater control of their reconstruction process.

It must be recognized that post-disaster reconstruction policy choices are conditioned and governed by pre-existing social housing policy frameworks and the path taken by social housing programmes by the state, civil society and people themselves.

Shifting paradigms in housing construction in India: From 'vulnerable' self-built housing to 'safe' contractor-driven housing

In the late-eighties, development discourse and civil society action in India began to transit from a welfare approach to one which rested on empowerment of the vulnerable as the primary mobilizing principle. By the early nineties, the state began to actively infuse its policy frameworks with this new development paradigm, which at least recognized the centrality of ownership and empowerment of those who were the prime 'targets' of development – the disadvantaged. Through a series of developmental initiatives in the mid-nineties – be it the water harvesting movement, the self-help programmes, or the policy amendment to strengthen decentralized, local institutions of self-governance (village *Panchayats*, and municipalities), rural communities in particular, began to manage their developmental implementation in more proactive ways, across large parts of India. There was a growing shift in people asserting their control and ownership over decisions impacting their development. For example, approaches to water conservation in different states of India has demonstrated how, the integration of sustainable traditional practices, with contemporary knowledge systems has led to upgraded, locally owned and managed solutions. Over the years, this approach has been mandated, and legitimized through policy mechanisms and schemes.

However, approaches to social housing and post-disaster reconstruction have moved along a different axis; they have not only *not* moved with the empowerment trajectory that the other developmental sectors had begun adopting for the past decade and a half, but actually travelled a reverse path.

Social housing programmes have transited from being primarily an owner-driven activity – people build themselves, or get themselves houses built – to becoming a contractor-driven process. Social housing programmes in the mid-eighties saw a reversal of the empowerment paradigm. Contrary to the emerging development trends of that time, the initiation of India's flagship social housing programme, the *Indira Awas Yojana* (IAY) legitimized the process of contractor-driven housing for the rural poor. While it enhanced the number of people who accessed housing and land tenure, it also introduced contractors into the arena of housing for the poor, and more importantly introduced the concept of *pucca* houses (strong or 'mature' houses), and *kachcha* (weak or 'raw' houses). The Hindi word *kachcha* generally has a negative connotation and inversely, its opposite – *pucca* holds positive connotations. The terms *kachcha* and *pucca* are far from neutral – with *kachcha* being associated with poverty and backwardness and *pucca* with progress and modernity. The words *kachcha* and *pucca* are officially used by the Government of India to differentiate between houses built with industrially produced construction materials, on the one hand, and vernacular houses built with locally available construction materials, on the other. Of particular importance for this classification are the roofing materials. All houses with thatched roofs are considered *kachcha*, those with tiled roofs as *semi-kachcha* and only those with concrete flat roofs as *pucca*. Thus, housing typologies came to constitute the basis for identifying the poor, to ensure better targeting of integrated rural development programmes. However, the logic of identifying poor through housing typologies was neatly toppled – if the poorest of the poor have *kachcha* (weak houses) – the poor would be incapable of making stronger *pucca* houses themselves; these would have to be made for them. Their abilities were defined to be constrained and good, only for *kachcha* construction – or what is often erroneously labelled as 'non-engineered' structures. Through the eighties and nineties, a whole range of locally sourced material – mud, bamboo, clay roof tiles, thatch etc. – which is traditionally associated with '*kachcha* construction' was banished from social housing programmes. With this, a set of local building skills, and knowledge systems was also de-legitimised, and the opportunity to upgrade local typologies was completely lost. While more than 90 per cent of housing by the poor continued to be primarily owner driven, social housing programmes in the country did not recognize the ability and rights of the poor to control decisions regarding their home construction. Ironically then, from a completely 'owner-driven' activity the state subsidized housing activity for the poor, and it became contractor driven and quite literally agency driven (with the District Rural Development Agency anchoring the social housing programmes). Thus began the dilution of owner-control over home building processes, in state sponsored rural housing programmes. The regime of introducing subsidies (with no expected equity from the homeowner), and with it, state regulation on building norms, material, etc. got rigidly structured. And the programme failed to balance the real need for regulating and upgrading quality while enabling homeowners to build by themselves.

Gradually, problems and failures within IAY mounted. The lack of owner-control, inappropriate designs and habitats, influx of contractors, use of low quality material in badly engineered structures, led to poor achievement of targets, and low occupancy of completed structures – compelling a rethink on the approach to social housing. Taking a full circle, the IAY norms in 2004 reinstated the primacy of the homeowner, and mandated a completely owner-driven process, with the state playing an enabling role. The document states that:

> The beneficiaries should be involved in the construction of the house. To this end, the beneficiaries may make their own arrangements for procurement of construction material, engage skilled workmen and also contribute family labour. The beneficiaries will have complete freedom as to the manner of construction of the house. Zilla Parishads/DRDAs can help the beneficiaries in acquiring raw material on control rates, if they so desire or request the Zilla Parishads/DRDAs in this regard. This will result in economy in cost, ensure quality of construction, lead to greater satisfaction and acceptance of the house by the beneficiary. The responsibility for the proper construction of the house will thus be on the beneficiaries themselves. A Committee may be formed, if so desired, to coordinate the work. The Committee shall be sensitised to incorporate hazard-resistant features in the design of the houses. (Government of India, 2004: 6)

However, while the intent is clearly owner-driven, its interpretation on the ground, by different states varies. They are governed by mindsets and frameworks, which have been well conditioned by the social housing history of the past two decades. A less acknowledged but critical part of the problem lies in the inadequate legitimacy and investment made for upgrading local material, technologies and skills. With local materials not deemed 'fit' to be mandated under schemes like IAY, the potential to strengthen, upgrade, reduce risk, and adapt local material such as mud, and bamboo have never been explored. Left with the choice of using material and skills, which would require mainstream masonry and engineering, the intent of making IAY truly owner-driven, and hazard safe has yet to fructify fully, even though the outcomes have been more encouraging than they were earlier.

Thus the difficulties in 'providing' contractor-driven housing to the poor led to the reaffirmation of 'owner-driven' housing approaches in social housing policy. However, a more fundamentally symbiotic relationship between owner-driven strategies with upgraded indigenous building material, skills, and knowledge system, has yet to be accepted, or legitimized. That '*kachcha*' can be made '*pucca*' is not yet an acceptable proposition, with the pejorative connotations of *kachcha* having conditioned people's own responses to the vernacular.

Housing assistance after 'small' disasters

With the exception of the 2004 tsunami in Tamil Nadu, Kerala, Andhra Pradesh, and the Andaman and Nicobar islands, which were part of an international disaster and hence received very high media coverage, by and large, housing damage in 'smaller' climatic disasters – floods and cyclones – has not evoked a long-term reconstruction response from states. This is so, despite the fact that these have been characterized by some very large-scale destruction, damage, and short-term displacement – such as the Orissa Super Cyclone of 1998, and the Bihar Floods of 2007 – and some smaller ones, as in Uttar Pradesh, Gujarat (Anand and Surat), Maharashtra, and frequent floods in Barmer, Rajasthan. As compared to these, geophysical disasters such as earthquakes have had a prominent focus on reconstruction – as in Latur, Gujarat, Jammu and Kashmir, and attracted funds, strategies and higher media attention nationally and internationally. There has been a tendency to recognize climatic calamities, which are more regular in nature as 'small' disasters; and geophysical calamities which are less frequent but larger in their regional impact, as 'large' disasters. However, there needs to be a more scientific classification of 'small' and 'large' disasters.

Interestingly, the poorer regions and states of India have been more prone to climatic disasters. These are also more populous, and prone to regular occurrences of floods and cyclones. States such as Orissa, Bihar, Uttar Pradesh, Assam, Andhra Pradesh, have not initiated large, structured reconstruction programmes post-climatic calamities. However, geophysical calamities have attracted reconstruction programmes, funds, and different strategies. It is interesting that Gujarat, which essayed a comprehensive owner-driven reconstruction programme after the earthquake in 2001, did not pursue a similar strategy after central and south Gujarat were ravaged with floods in 2003/4. Housing losses caused by the floods were compensated with a one-off cash assistance, which was governed by the relief code. Assistance under the relief fund, enabled the affected to partially restore the damaged house, or reinstate the pre-disaster housing condition, with its structural vulnerabilities. The general tendency therefore has been to respond to climatic disasters by evoking the relief code and to provide basic cash assistance within the framework of the calamity relief fund. It appears that in case of climatic disasters people are not expected to 'build back better', and are therefore expected to build themselves. Ironically it is the geophysical calamities such as earthquakes, where the state has gone beyond the relief code, developed long-term reconstruction packages and provided 'better' houses, but without expecting or trusting the affected population to build themselves. This was best demonstrated in one of the first large-scale reconstruction programmes, which was undertaken after the 1993 Latur earthquake in Maharashtra.

Housing reconstruction after the Latur earthquake of 1993: Opting for a contractor-driven approach

Maharashtra's historical Marathwada region, located at about 500 km east of Mumbai, was hit by a massive earthquake of the magnitude of 6.4 on the Richter scale on 30 September 1993. The earthquake killed nearly 9,000 people and over 16,000 reported injuries. It affected over 2,500 villages of which 1,191 are located in the districts of Latur and Osmanabad. Fifty-two villages consisting of a total of 27,000 houses were completely destroyed (GOM, 2005).

Maharastra's reconstruction policy

The earthquake caught government and communities totally unprepared, for the region was not believed to be seismically active (Parasuraman, 1995). Yet, only a few days after the quake, the Government of Maharashtra announced that all devastated villages would be rebuilt on safer sites. Resettlement was thus emphasized from the very beginning. By December 1993, the government had developed the Maharashtra Emergency Earthquake Rehabilitation Programme (MEERP), a comprehensive rehabilitation plan, which was the first of its kind in India. The Plan was conceived and executed with the help of a soft loan from the World Bank and was also supported by UNDP, several bilateral donor agencies, and NGOs. The MEERP proposed a comprehensive approach towards resettlement and rehabilitation, emphasizing the construction of permanent houses in relocation sites (GOM, 2005). The quake-affected villages were divided in three damage categories: relocation and full reconstruction of about 28,000 houses was suggested for the 52 most heavily damaged 'category A' villages; reconstruction in-situ through financial assistance in 'category B' villages; and repair and seismic retrofitting of about 190,000 damaged houses in 'category C' villages. The new houses to be provided were again divided into three categories: landless and marginal landholders (owning up to one hectare of land) would be given houses with a carpet area of 250 sqft; households owning between one and seven hectares of land would get houses of 400 sqft, whereas large farmers (owning more than seven hectares of land) would get houses of 750 sqft. This policy implied that wealthier people would benefit significantly more than poor households regardless of their own endowments and individual requirements.

As already mentioned, Maharashtra's reconstruction programme strongly emphasized relocation. There is a growing consensus among development agencies and social scientists that resettlement is a painful and socio-economically risky process which people generally do not undergo voluntarily. In Maharashtra, however, villagers did not oppose resettlement. Moreover, the 22 less severely damaged category B villages refused housing assistance in-situ demanding to be relocated, instead. According to Vatsa (2001), these earthquake victims had lost faith in their traditional building capacity and thus preferred to move to modern and seismically safe villages.

Jigyasu (2001) maintains that people's preference for relocation and modern houses was influenced by the negative attitude towards traditional housing by the junior engineers who surveyed the earthquake damaged villages. The acceptance to relocate could also have been governed by the fact that people were compelled to take decisions about their future too soon after the quake, at a time when they were still deeply traumatized. Another reason why villagers from less severely affected villages also opted for relocation may be related to the fact that international NGOs were more interested in building new villages in relocated sites than in supporting communities to rebuild their own houses by themselves. By offering modern 'ready-made' houses to people who, according to the government policy, were entitled to a financial compensation of only Rs62,000 to rebuild their houses in-situ, NGOs created an artificial demand for relocation. Maharashtra reconstruction policy thus led to massive resettlements and to the replacement of traditional, compact settlements of stone masonry houses, by grid patterned, endless rows of concrete houses occupying up to 10 times more land than the original villages (ibid., 2002).

The role of NGOs

Most NGOs involved in reconstruction after the earthquake in Maharashtra, came from outside the state. Several Indian NGOs challenged the government's top-down reconstruction approach which was based on resettling people in urban-like settlements, and which failed to take into account vernacular housing designs and spatial arrangements. This led to some amendments in the policy, in that a participatory planning element was added to the reconstruction process. This policy shift enabled some NGOs to engage the communities in a more participatory planning process in their reconstruction. As a result, some of the houses and villages that were built at a later stage incorporated some sustainable vernacular features. Nevertheless, they were built with industrial materials by outside contractors. The participatory process thus remained limited to a certain amount of consultation at the design stage, but did not allow local masons and artisans to participate in construction (Salazar, 2002b).

In contrast to national NGOs active in promoting participatory planning within the framework of the state policy, some 25 large, internationally funded NGOs and private corporations preferred to 'adopt' entire villages for reconstruction work within the government's notion of public-private partnership. By promising 'modern' houses and villages in relocated sites, they were also able to persuade less severely affected communities to relocate. No agency involved in the Latur relied upon local technologies by promoting and upgrading the use of locally available materials such as stone, and by integrating the local building industry. Community participation, if such participation took place at all, was limited to a few village meetings aimed at communities approving the house designs and settlement layouts. The fact that reinforced

concrete was the only building technology that was largely adopted, is an indication of the extent to which local masons and artisans were marginalized from the reconstruction process (Salazar, 1999).

Reconstruction outcomes

The earthquake-affected Marathwada region was revisited by Salazar and Jigyasu in 2001. Both found the outcome of the reconstruction programme followed by Maharashtra to be problematic and observed a set of increased vulnerabilities within local communities.

The housing quality was generally found to be poor. Salazar attributes quality problems to the inappropriateness of concrete in extremely hot temperatures, which made the process of curing difficult to control. In addition, water shortages led to severe shortcuts with curing taking place for only a few days, instead of the required three weeks. This caused severe cracking and water infiltrations, leading to a rapid decay of the houses. Local communities did not have the capital and the skills to repair and maintain these buildings with the result that they were beginning to be abandoned. Salazar (2002a) estimated that at the time of his last research in Latur in 2001, only 50 per cent of the houses were inhabited. In some cases, people started building new houses near the dilapidated agency-built houses, using salvaged materials, corrugated metal sheets, stones and bamboo. These materials were also used to make extensions such as additional rooms to NGO-supplied core units, external kitchens and compound walls.

Resettlement proved to be unsustainable. Due to the villagers' inability to pursue their livelihoods and to adjust their lifestyles to the urban-like settlements and house designs, many people abandoned the relocated villages and moved back to their old villages. There, they started to rebuild their old houses following their traditional building technologies, without employing any earthquake resistant features. Not only was the opportunity missed to improve resilience by enhancing local building capacity, but the excessive reliance on industrial building materials led to a tremendous waste of financial and material resources; the approach led to a high environmental impact and the loss of valuable agricultural land. The negative impact of a contractor-driven approach was not lost on the Government of Maharashtra, which went on to initiate a second phase of retrofitting through an owner-driven programme. The case of Maharashtra confirms some of the serious drawbacks and risks of post-disaster resettlement, in particular contractor-driven reconstruction.

Housing reconstruction after the 2001 earthquake in Gujarat: An owner-driven strategy

On 26 January 2001 Gujarat was hit by a devastating earthquake of the magnitude 7.6 on the Richter scale. The disaster was about 30 times larger than

the Maharashtra quake and the worst that India had experienced in the last 50 years. Nearly 20,000 people lost their lives, 167,000 were injured, and over 1 million were rendered homeless. The earthquake affected 21 of Gujarat's 25 districts and 7,633 out of 18,356 villages. In total 450 villages were completely flattened, 344,000 houses were destroyed and there were 888,000 reported damages. Over 90 per cent of the deaths and an estimated 85 per cent of the asset losses occurred in Kutch, one of the state's poorest and most vulnerable districts (UNDP, 2001; WB/ADB, 2001).

Gujarat's reconstruction policy

Less than two weeks after the earthquake, the State Government established the Gujarat State Disaster Management Authority (GSDMA), which announced its rehabilitation policy only a few days later. The Gujarat Emergency Earthquake Reconstruction Programme (GEERP), to be funded by the World Bank, proposed relocation of the most affected villages, assistance for the in-situ reconstruction of severely affected villages, assistance for repair and in-situ reconstruction in less damaged areas, and assistance for the reconstruction of houses and buildings in urban areas.

The proposed policy was almost identical to the one followed by the Government of Maharashtra, after the earthquake of 1993. However, whereas in Maharashtra, there appeared to be a relatively high societal consensus over the proposed reconstruction policy, this was not the case in Gujarat where the idea of relocation met with stiff public resistance. The Maharashtra experience was still fresh in the memory of professionals and civil society organizations, and had a considerable impact on public awareness. Civil society organizations had more experience and were thus better prepared to influence reconstruction policies. A systematic public consultation carried out in 468 villages by the NGO network Kutch Nav Nirman Abhiyan (known and hereafter referred to as Abhiyan) revealed that over 90 per cent of the villagers rejected the idea of relocation. Faced with a clear referendum against relocation and in favour of in-situ, the Government abandoned its relocation plan; instead, it adopted an 'owner-driven' reconstruction approach, as opposed to the 'contractor-driven' approach that was followed in Maharashtra (GSDMA, 2005). Its reconstruction policy consisted of offering financial assistance (INR 40,000–90,000 depending on the extent of damage and size of the previous house), technical assistance and subsidized construction materials to all those who preferred to undertake reconstruction on their own, with state support, and opted out of the full scale 'adoption' choice provided by external agencies. With this option, 72 per cent of the affected people opted for financial compensation from the state, and chose to reconstruct their houses on their own (Abhiyan, 2005).

The role of NGOs

In order to analyse the role of civil society and NGOs after the 2001 earthquake in Gujarat it is necessary to make a clear distinction between local and international actors. Gujarat is the home state of Mahatma Gandhi whose life and work has inspired many of its vibrant local NGOs and civil society organizations. Among them figures Abhiyan, a collaborative network of developmental organizations that was founded in response to the devastating cyclone of May 1998, with the aim of enhancing communities' capacities to rehabilitate themselves. Abhiyan played a pivotal role in supporting the policy-making process, as it got translated on the ground. It facilitated a dialogue between the government and communities through a massive information and consultation campaign. This allowed people to express their opinion in favour of or against relocation and contractor-driven reconstruction options. During reconstruction, Abhiyan and several other local NGOs, focused on supporting the state policy in creating an enabling environment for risk mitigation, with people rebuilding themselves.

It must be noted here that owner-driven reconstruction by itself does not necessarily lead to a sustainable built environment or to resilient communities. The application of local knowledge and building technologies may be constrained by a number of factors – e.g. by inadequate building capacity, lack of information, and access to building codes and guidelines. In collaboration with GSDMA, Abhiyan initiated a unique mechanism called *Setus* ('the bridge'), which served as a chain of information/knowledge facilitation hubs in clusters of affected villages. The *Setus* ensured that people would be informed about their entitlements and options through information campaigns and rural information centres. Abhiyan also collaborated with the government in organizing training campaigns for masons and homeowners. It trained retired masons as 'advocates' for safety, and posted them in villages to supervise reconstruction at community level. Further, Abhiyan set up demonstration camps to inform people about different technological options, including upgraded stabilized earth building technologies, which were low cost, eco-friendly, and above all built upon indigenous knowledge. And as a first, for building policy, the use of alternative building materials was regulated through guidelines that were endorsed by the government (GSDMA, 2005).

While some local NGOs supported self-help construction programmes through additional construction materials, training and technical assistance to communities who opted for financial compensation; for most NGOs, their role as enabler was rather patronizing and led them to persuade communities to adopt their house designs and building technologies, rather than build upon sustainable local practices and traditions. Interestingly while there was a shift in the reconstruction paradigm from Maharashta to Gujarat, and the state policy moved from contractor-driven to owner-driven, most international NGOs, in fact, proved to be less comfortable with owner-driven reconstruction, and went ahead with the same village adoption and contractor-driven

approach they had followed eight years earlier in Maharashtra. Several International NGOs and private corporations persuaded villagers to relocate and built exactly the same Maharashtra-type grid-patterned settlements with large, medium and small houses for different land-holding categories of people. This also became possible because, though the government prioritized an owner-driven policy, it still offered communities the option of entering into an agreement with NGOs to rebuild their houses. This led to about 24 per cent of the affected population to renounce the financial compensation offered by the government and opt for either agency built houses, or receiving partial support from NGOs while also accessing partial assistance from the government.

Reconstruction outcomes

In 2004, three years after the earthquake, we conducted research with the aim of assessing citizens' perspectives on different reconstruction approaches. By that time, reconstruction in rural areas had been completed and in most cases people had moved to their new houses at least one year previously. As shown in Table 7.1, for the purpose of the study, we made a distinction between five reconstruction approaches that were pursued by different agencies after the earthquake of 2001. The outcome of these different approaches and citizens' perspectives were evaluated qualitatively through observation, focus groups and semi-structured interviews, with stratified samples of men and women, and quantitatively through a survey covering 434 households which represents 5 per cent of the households in 16 villages (Duyne Barenstein, 2006a).

Our multi-sited research in Gujarat, showed that owner-driven reconstruction, supported by the government and also by some local NGOs, was the fastest and, according to local citizens, the most satisfactory approach. In villages where people benefited from this type of support, everyone felt that their housing situation was significantly better than before the earthquake. With regard to size, location, quality of material, and quality of construction, 95 per cent of the households were fully satisfied. This approach proved to be an effective way of mitigating some of the risks of owner-driven reconstruction as pursued by the government, namely the risk of the special needs of the most vulnerable people being neglected.

The government's owner-driven approach without any additional NGO support was almost equally popular, with 93.3 per cent of households reporting to be satisfied with their post-earthquake housing situation. Ironically, satisfaction was highest among those who obtained the minimum compensation of INR40,000, which was given to rebuild dwellings classified as 'fully damaged huts'. Before the earthquake, their housing situation was generally poor so that even the minimum compensation allowed for an improvement. People's positive judgment about the quality of their new houses was confirmed by our detailed observations, which indicated that the quality of construction was generally good and that the houses were seismically safe. High construction quality was also found by the National Council for Cement and Building

Table 7.1 Satisfaction with different reconstruction approaches in % (N = 434)

	ODR	ODR with NGO top up	Participatory reconstruction	Contractor driven in-situ	Contractor driven with relocation
Financial support per housing unit (in INR)	40,000–90,000	40,000+25,000	47,000	85,000	124,000 (average)
Overall satisfaction with quality of housing	93.3	100	90.8	71.6	22.8
Satisfaction with…					
House location	99	95	96	95	64.5
House size	90	95	85	89	51
Quality of materials	94	95	93	64	38.5
Construction quality	95	95	93	69	3.5
Average	94.50	95.00	91.75	79.25	39.37

Source: Household survey, December 2004–February 2005

Material (NCCBM) that was appointed by the GSDMA as a third party quality audit. By December 2002 the NCCBM had inspected nearly 100,000 houses and found a rate of conformity with the governmental building codes of over 95 per cent (Abhiyan, 2005: 50) Citizens' clear preference for owner-driven reconstruction was also confirmed by a survey carried out by Abhiyan, which found that only 39 per cent of the people who obtained a house from an NGO would opt for this solution in the case of a future calamity. On the other hand, 91 per cent of the people who opted for financial compensation would again choose the same option (ibid.).

Our research also covered three villages that benefited from what we defined as a participatory housing reconstruction approach. The approach gave people an active role in the construction of their houses, and a say in choosing the materials and determining the design and location of the house. The case refers to one of the few agencies that relied on local building skills by promoting improved stone masonry. This resulted in houses that did not differ significantly from those reconstructed by the people themselves, under the owner-driven approach. The overall satisfaction with the participatory housing approach averaged 90.8 per cent. The reason why the houses built under this approach were less appreciated than self-built houses is that they were comparatively smaller, and people believed that, with the same amount of money they could have built larger houses themselves.

The level of satisfaction decreased significantly when houses were built by contractors. Only 71.8 per cent of the people who received a house built by a contractor *in-situ* were generally satisfied and only 64 per cent expressed satisfaction with the quality of construction materials. The agency replaced local materials such as stone masonry walls and tiled roofs with flat concrete roofed houses, which are poorly suited to the local climate. Contractors' profit-oriented approach was also held responsible by many people for the low

quality of construction, which manifested itself through the same problems as found in Maharashtra.

The least popular approach pursued in Gujarat was the most expensive, namely contractor-driven reconstruction in a relocated site. Only 22.8 per cent of people who had received an NGO house built under this approach, were satisfied and only 3.5 per cent considered the quality of construction to be adequate. People also complained about the lack of participation, the elite's control over decision making and project benefits, discrimination in favour of local elites and the disruption of family networks caused by the relocation. Where people had the option of rebuilding their old houses, they refused to move to the new villages. It is ironic that the project that enjoyed the lowest level of appreciation among its beneficiaries was the most expensive one, with housing units costing around three times more than owner-built houses.

Gujarat's reconstruction experience proved that people have the capacity to build houses that are more likely to respond to their needs than houses provided by external agencies if adequate financial and technical support and other enabling conditions (e.g. good supervision, massive training of local masons and access to subsidized construction materials) are provided. People who managed reconstruction by themselves, with well managed support from the state, were able to move back to their houses earlier than those who depended on NGOs. This shows that owner-driven reconstruction was not only the most cost effective but also the faster reconstruction strategy.

Citizens' satisfaction is a critical indicator for assessing the degree of success of reconstruction. Yet, there are other important issues that need to be considered, such as the reconstructed built environment's resilience, and the social and environmental impact of different reconstruction approaches. From these points of view, we found several drawbacks in some of the agency-driven approaches. First of all, it became apparent that self-built houses often made extensive use of salvaged and locally available construction materials, which was not the case with agency-led, contractor-managed reconstruction. Most agencies (NGOs and private companies) promoted the use of reinforced concrete, a construction material with a high ecological footprint. Another environmental problem related to the use of concrete is the high demand for water, for the process of curing, which is particularly problematic in semi-arid zones such as Kutch, where over 85 per cent of the reconstruction took place. In many places the water demand for construction competed with domestic and agricultural requirements leading to social conflicts. The quality of construction suffered due to the lack of water, as curing was hardly ever done with sufficient care. By compelling communities to move to newly built relocation sites, damaged villages were simply abandoned, which is undesirable, not only from a psychological point of view, but also from environmental and landscaping perspectives.

NGOs and private agencies, by and large, showed little or no interest in proactively, supporting the repair of partially damaged houses. It is estimated that over 38 per cent of the houses built by NGOs replaced houses that would

have been reparable (Abhiyan, 2005). In Gujarat we found that agency-led, contractor-managed reconstruction led to a massive increase in the number of houses. Our survey in 16 villages revealed that the increase in the number of housing stock was an average of 59 per cent, which is considered high in general. It was, however, particularly high in contractor built villages, where the number of houses increased by 83 per cent. When relating the village population to the number of houses, we found that only an increase of 5 per cent of the houses could possibly be justified, in terms of a pre-quake backlog. The new houses were not equally distributed among community members. Influential households inevitably succeeded in getting more houses. This was one of the factors behind the low occupancy rate, as well as the social tensions and conflicts in these villages.

From a socio-cultural point of view, it was shown that contractor-driven reconstruction led to several other negative impacts. Houses and settlements sponsored by some large agencies, and built by contractors, strongly deviated from the local housing culture, and were perceived as incompatible with local livelihoods. This is another factor that explains the low occupancy rate in some villages; many people rejected these houses and ended up building their own. However, as they had officially received housing assistance from an NGO, they were not entitled to financial assistance from the government and did not receive any technical guidance.

To conclude, the case of Gujarat shows that in terms of the overall reconstruction policy and practices there was a significant improvement since the Maharashtra earthquake. Increased awareness of the risks associated with relocation and with contractor-driven reconstruction led the government to adopt an owner-driven reconstruction policy. The positive outcome in terms of citizens' satisfaction, cost and time effectiveness and the quality of construction proved that owner-driven reconstruction is a viable and appropriate approach for rural India. However, whereas local stakeholders had clearly learned a lesson from the reconstruction experience of a previous disaster, this was not necessarily the case with large international NGOs which went ahead with the same approach, and committed the same mistakes as was seen in Maharashtra, eight years earlier.

Housing reconstruction in Tamil Nadu after the 2004 tsunami: An agency driven approach

On 26 December 2004 a severe earthquake measuring 8.9 on the Richter scale hit northern Sumatra. The quake resulted in one of the most powerful tsunamis of recorded history. In India the tsunami killed over 12,000 people, and approximately 5,800 persons remain missing (GOTN, 2005). The tsunami lashed over 2,260 km of India's coastline with waves of three to ten meters high penetrating the inland up to 3 km deep. Nearly 80 per cent of the human and material losses were concentrated in the State of Tamil Nadu. The vast majority of the tsunami victims belong to the coastal fishing communities.

Tamil Nadu's reconstruction policy

Soon after the disaster, the government estimated that over 130,000 new houses were needed for people made homeless by the tsunami. These figures were not the result of an accurate damage assessment (ADB et al., 2005). In fact, the first reconstruction policy issued by the government in January 2005 envisaged permanent relocation of all coastal communities, which implied the need for new houses for all affected people. Another factor that contributed to giving little importance to a housing damage assessment was the assumption that 87 per cent of the coastal people were living in *kachcha* (semi-permanent houses) and that reconstruction would be an opportunity to upgrade these people's housing condition (ibid.). Most tsunami related reconstruction project documents follow these categories. Besides the fact that these documents provide no qualitative details about pre-disaster housing culture and building practices, they erroneously translate *kachcha* as 'temporary', erroneously connoting that a majority of the people on the Tamil Nadu coast were living in 'temporary shelters' prior to the tsunami. Our appraisal of 12 villages in Nagapattinam district revealed that this was not the case (Duyne Barenstein, 2006b). Though housing conditions were not homogenous, we found that a significant proportion of households had owned comfortable and beautiful houses, which were well adapted to the local climatic conditions and were environmentally sustainable.

Pejorative attitudes towards vernacular housing explain why, immediately after the tsunami, the government of Tamil Nadu announced that it would replace all damaged *kachcha* houses with *pucca* houses. It also shows that the government understood post-tsunami reconstruction as an opportunity to up-grade *kachcha* into *pucca* houses – by itself a justified strategy if it implied upgrading vulnerable housing structures, to hazard safe, appropriate housing. However, the problem lies not in the rationale to upgrade, but in the understanding that governs it – which is that all *kachcha* or vernacular houses are vulnerable and structurally unsafe, while all 'engineered' *pucca* structures, which cost approximately 30 times higher than the cost of a *kachcha* house (ADB et al., 2005), are safe and appropriate.

According to the government's initial reconstruction policy – as described in the project document of the World Bank funded *Tsunami Emergency Reconstruction Programme* (TERP) – housing reconstruction was to be either supported through financial assistance from the government or to be ensured through public-private partnerships. Contrary to the central Government of India, which officially declared that international humanitarian aid was not required for post-tsunami recovery, the State Government of Tamil Nadu invited NGOs, voluntary organizations, public and private sector enterprises, national and international charity organizations to adopt particular villages for their reconstruction programme. Though the government issued detailed guidelines and building codes, the organizations were free in choosing their own architects and reconstruction approach (GOTN, 2005). Thus, a fully agency-driven reconstruction programme was initiated in Tamil Nadu.

Tamil Nadu's initial policy proposed that new villages should be built at a minimal distance of 500 m from the coast. This led to immediate tensions on the ground and to stiff public resistance. Fierce opposition and the difficulties to find land for relocation led the government to amend its policy. The revised policy retained the essence of the previous one in terms of public-private partnerships but modified the relocation issue. Relocation remained mandatory only for people residing within 200 m of the high tide line but optional for those at a distance of between 200 m and 500 m. Those beyond 500 m would be entitled to housing assistance in-situ. By allowing communities to remain in their original villages, it would have been necessary to reconsider the number of new houses required as not all had been completely damaged by the tsunami. This however was never done. The abundance of funds for reconstruction, a rehabilitation policy which was loaded in favour of relocation, agencies' vested interest to build as many houses as possible, combined with prejudices towards vernacular housing, and the fishing communities' own feeling of being entitled to free houses, led to the continued assumption that the number of required houses was to be based on the number of families living in coastal villages, affected by the tsunami.

Tamil Nadu's initial reconstruction policy appeared to have much in common with that of Gujarat. However, whereas in Gujarat communities could chose between financial assistance for constructing themselves, and agency-driven reconstruction, this option was not there in Tamil Nadu. Once the government realized that there were sufficient non-governmental agencies and funds to ensure housing reconstruction, it restricted its role to making provisions for land, and withdrew from offering financial assistance for housing. The task of reconstruction was handed over to the NGOs.

The role of NGOs

The Indian Ocean tsunami led to unprecedented global solidarity, generated massive private donations, and brought hundreds of volunteers and civil society organizations to the affected areas. In Tamil Nadu, efforts were concentrated primarily around the small coastal district of Nagapattinam, and the small coastal town with the same name, which accounted for over 50 per cent of the human losses.

A large number of international, national, and local organizations mobilized resources to respond to this coastal calamity. The experience of the Gujarat earthquake, and learning from its reconstruction approach were fairly fresh. And though the regional contexts were vastly different – one, a drought prone arid area, another a flood prone coastal region – it would be assumed that the scale of required reconstruction, combined with the governance abilities of the state, would have led Tamil Nadu to adopt an owner-driven policy for reconstruction. Considering that only a small stretch of the coast was affected by the tsunami, and that the economy of the interior area was intact so that there was no scarcity of locally available, appropriate building materials, this would

have been the most effective and empowering approach towards supporting communities.

An owner-led strategy both for temporary shelter reconstruction and long-term housing was also advocated by a district NGO coordination mechanism – Nagapttinam NGO coordination resource centre (NCRC), which was set up in Nagapattinam within the first week of the calamity. This coordination system, set up by the district administration and local organizations, with support from Abhiyan, (which was one of the first Indian civil society organizations to come to Nagappatinam) coordinated the massive external aid, built a strong consensus for owner-driven reconstruction and strongly advocated for an owner-driven approach also with regard to temporary shelters. However, while the district administration appeared to be convinced of this approach, a high-level political decision ordered a quick top-down 'delivery' of highly inappropriate shelter sheds to temporarily accommodate those rendered homeless by the tsunami. NCRC's efforts to influence the government policy and local agencies' approaches towards permanent reconstruction were equally unsuccessful. In fact, due to the unprecedented scale of private donations, all tsunami affected villages in Tamil Nadu ended-up being 'put up for adoption' as it were, by NGOs and private corporations. In December 2005, the government reported that 43 agencies were in charge of the construction of 17,461 houses in 80 villages (GOTN, 2005). All of them opted for contractor-driven reconstruction and in most cases community participation was minimal.

There were many factors that contributed to this reconstruction programme not being as equitable, sustainable and empowering as it could have been. This was clearly an oversubscribed disaster. The need to support gradually outstripped the original and actual need for support. International NGOs uncritically challenged their reconstruction funds through local agencies expecting from them little else than the construction of as many houses as possible. With money to spend, and promises to build as many houses as demanded by local communities, without intervening in their internal affairs, it was not too difficult for the organizations to persuade the strong, traditional *panchayats* to support top-down, construction of houses by contractors. The fact that the state stepped back from directly financing the reconstruction meant that the reconstruction process was largely left to a motley group of organizations with varying abilities, notions of equity, and sustainability. In a state, which has had a long history of state-citizen relationships being largely demand-driven and matched by populist agendas, the reconstruction approach adopted by Tamil Nadu is consistent with this history. With the policy options loaded in favour of relocation, the demand for retaining the old house (with access to the coast), and also accessing a 'safe' new house became a clear possibility. The affected coastal families could get it too because agencies had the resources to oblige and the government did not have to pay for this inequitable framework. The state had effectively mingled populism with commercial interests and opportunities – rather than primarily focusing on undertaking a sustain-

able and empowering approach to reconstruction. The state had thus, perhaps fallen back on its well orchestrated strategy of 'people demand and state deliver'. However here, it contracted the 'delivery' to NGOs.

Reconstruction outcomes in Tamil Nadu

This section is based on research conducted in 12 villages in Tamil Nadu's most severely affected Nagapattinam district between October 2005 and March 2008. Tamil Nadu's reconstruction was entirely contractor driven. Accordingly, it was not possible to analyse the reconstruction outcome in relation to different approaches. In addition, our qualitative research revealed a number of issues that could not have been captured through household surveys.

We discovered that reconstruction in Tamil Nadu led to a massive demolition of undamaged houses. Preserving as much as possible of the pre-disaster built environment is important from a psychological, socio-cultural, economic, and environmental point of view. This however, was neither protected by the government nor recognized by the agencies involved in reconstruction – and, in many cases not even by the community leaders themselves. The promise of getting new houses led several communities to ask for relocation, with the hope of local people ultimately being able to own two houses. However, while agencies were eager to spend their funds on building new houses, finding land for relocation turned out to be very difficult. Agencies thus started pushing for reconstruction in-situ, which was possible only by demolishing the existing housing stock. In a survey we carried out in summer 2006 in two villages in Nagapattinam district, we found that out of 1,500 houses NGOs were planning to build over 780 were going to replace good quality, undamaged or reparable houses. Though the communities had found a plot for relocation, its small size provided space only for about 40 houses. Those were distributed among the most influential people, who, because they owned the best houses in the old villages, were not prepared to give these up for the sake of getting a new house. Although the key reason for reconstruction in-situ was the difficulty of finding land for a new village, the NGO in question referred to anti-relocation discourses to legitimize its policy and to the Sphere Standards to justify the demolition of undamaged, vernacular houses (Duyne Barenstein and Pittet, 2007).

The study showed how not only vernacular houses were demolished to allow the building of new houses, but some agencies went as far as to demolish houses built by other agencies, promising villagers even better houses. In one village, we found that a NGO demolished 110 undamaged concrete houses which had been built by the fishery department a few years earlier within the framework of a social housing scheme, and which had already been upgraded after the tsunami by another NGO. In some cases, not all house owners voluntarily surrendered their houses, but they were often forced to do so by their local leaders. Villagers who tried to resist this process were put under tremendous pressure by being ex-communicated from their communities. They were

thus not allowed to go fishing, were cut off from services such as water supply and electricity, and the rest of the community was not allowed to interact with them. Such repressive measures were possible in fishing communities where the *panchayat* (informal leaders) were very powerful (Anath Pur, 2007; Trachsel, 2008; Vincentnathan, 1996).

The reconstruction methods have indicated a severe depletion of the natural habitat. Coastal villages in Tamil Nadu are traditionally immersed within the thick vegetation of a large variety of bushes and trees. This shade-providing vegetation protects people from the scorching heat and is of vital importance in a very hot climate. Trees further supply local communities with important livelihood resources such as fuel, fruits, vegetables and fodder. The importance of paying sufficient attention to the natural habitat during reconstruction has been underlined by international environmental organizations such as International Union for Conservation of Nature (IUCN) and the World Wildlife Fund (WWF). The government of Tamil Nadu and a number of NGOs initiated several coastal forestry projects. These, however, were dominated by exogenous species, such as *cajurina*, and the projects did not protect communities' own indigenous tree varieties that had not been affected by the tsunami and which had an inestimable value for their livelihoods and well-being. In several villages, the contractors employed by NGOs for housing reconstruction refused to start any reconstruction work before the ground was completely cleared from pre-tsunami houses, trees and other vegetation. In some villages people estimated that 800–1,200 trees were cut down in the process of building the new village, which consisted of endless rows of concrete houses without any vegetation. Naimi-Gasser (2008) found that the absence of trees in post-tsunami villages had negative consequences on coastal communities' livelihoods, social life and health situation and was considered by villagers the most dramatic consequence of contractor-driven reconstruction.

The houses built by contractors are also inadequate from a socio-cultural point of view. Fishing communities in Tamil Nadu have a strong housing culture that reflects their specific way of life and religious beliefs. Among the critical issues are the cardinal orientation of the main entrance, the length of each wall, and the number of doors and windows. Fishers' houses generally consist of only 2–3 rooms: a large veranda at the front leads to the main room. If the family can afford it, the house also has a small prayer room. By far the most important room is the veranda. During the day this semi-open room is where people spend their leisure time and entertain their guests. At night, when straw mats are rolled out on the floor, the veranda is transformed into a sleeping area. The inner room is mainly used to store the family's belongings and as a sleeping area during the monsoon season. Besides containing a small shrine, the prayer room, too, is used for storage purposes. In most cases the kitchen constitutes a separate dwelling that is invariably located in the south-eastern corner of the homestead plot. Fishers like bright colours. The doors, walls and floors of their houses tend to be painted with beautiful geometric patterns depicting flowers or animals.

The fishing communities' housing culture was not taken into account by any of the agencies which, following the government guidelines, invariably built one-size-fits-all concrete, flat roof, matchbox type houses sometimes even smaller than the 320 sqft (approx. 30 sqm) size prescribed by the government. As per government regulation, all homestead plots have a size of 235–250 sqft, (22–23 sqm) which means that though the houses are far too small for the average family, there is no space for extensions.

The case of Tamil Nadu clearly shows that learning from one disaster experience to another does not get adequately committed to institutional memory, neither within well established NGOs and development agencies nor within states. An owner-driven reconstruction approach and methodology as an essential principle for empowering affected communities has not been fully internalized by governments and civil society organizations. When a state chooses – as Tamil Nadu did – to outsource the entire reconstruction of houses to NGOs, the outcomes are not people-centric, even though the output may well fit the 'building codes' for hazard safe structures.

Towards institutionalizing owner-driven housing reconstruction

A review of housing (re-)construction approaches and experiences in India has shown that in particular within the framework of social housing programmes and small and recurrent disasters, India has a long history of supporting people with cash to rebuild their houses. However, cash-based housing assistance has not necessarily led to empowering people whose choices remain constrained by institutionalized value systems that demean their traditional knowledge and skills. Cash grants handed out without any technical guidance after recurrent disasters are not sufficient to empower people to rebuild houses that are dignified and meet minimum standards of comfort and safety. Within the framework of a social housing project there is a clear contradiction between the amount of money allotted for building a house and the technical specifications to be followed. This is why we would not call such approaches owner-driven, but simply cash approaches.

Only after the earthquake in Gujarat was financial assistance for housing reconstruction enabled through a series of measures which empowered people to build houses that met their requirements by giving them choice, and technical support that legitimized, and at the same time improved, local building practices and skills. The fact that despite the positive outcome of the Gujarat approach it was not replicated in Tamil Nadu and Kashmir, demonstrates that unless owner-driven reconstruction is institutionalized through a policy framework that clearly explains the meaning and implications of ODR and guides decision makers and implementing agencies through the process, the benefits of ODR are unlikely to determine the reconstruction approach following future disasters.

Between Latur, Tamil Nadu and Gujarat, India has seen a range of approaches from contractor-led to owner-driven, agency-driven and cash-provision in

Kashmir. Across these regions, the basic issues and needs of the poor when faced with loss of lives, livelihoods and homes, have largely been the same; people's resilience, and ability to innovate and recover have been strikingly similar, their traditional wisdom in housing typologies uniformly rich. And yet state policy choices and frameworks have been varied widely.

Reconstruction efforts in India, after every disaster, have witnessed a steady increase in state responses, as well as in the range of stakeholders supporting reconstruction. However, it would not be incorrect to point out, that this increase in sophistication and support to reconstruction has often been inversely proportionate to people's control and ownership of the rebuilding of their homes. There is an oversubscription to the myth that cost, speed and safety necessitates increased state and civil society control, and that, left to people themselves, all three parameters would be compromised. Despite the intention to be people-centric, the tendency has been to adopt reconstruction policies, which are perceived as easier to 'manage'. Thus, even when owner-driven approaches are chosen, as was the case in post-tsunami Sri Lanka for instance, it has been adopted as a default option when other strategies have become difficult to manage. For the owner-driven approach to be effective, an awareness and acknowledgement of the merits of owner-led reconstruction is essential. At the core of an effective ODR lies the state and civil society's trust in people's abilities to control their shelter reconstruction. It calls for recognition that reconstruction is an opportunity for the development and empowerment of disadvantaged and marginal communities who are invariably the biggest victims of disasters and displacement.

After a devastating calamity, which destroys shelters and buildings, the first impulses of people themselves, state and civil society, are often governed by a need to reject local building science, skills, and wisdom and to adopt external technologies. These impulses may be either perpetuated or strengthened, through technical guidelines and reconstruction frameworks, or they may be dispelled through the judicious use of science and technology to strengthen local knowledge systems, and building skills. This would enhance people's potential to take greater control of their reconstruction with heightened awareness. However the concern of technical guidelines in general has been to ensure hazard safe structures and much less to ensure sustainable building behaviour, and to activate the local economy. Institutionalizing ODR is an opportunity not only to legitimize and upgrade technical regimes, but also to create sustainable economic relations, to improve socio-cultural practices, and forms of local self-governance.

It is important to recognize the continuum between a pre-disaster context and post-disaster response. Post-disaster approaches are generally a product of pre-disaster policies and mindsets. Pre-disaster governance conditions determine policy choices and implementation. It is therefore necessary to look at the pre-crisis context and find pointers and links for developing the potential for a sustainable post-disaster rehabilitation response. While instituting an effective post-disaster ODR policy framework, it is therefore critical to address

issues arising from the existing approach/policy frameworks and financial regimes of regular social housing programmes. Mainstreaming and ensuring ODR in the ongoing social housing schemes and programmes would create an enabling environment for adopting an owner-driven approach in disasters despite the pressure to 'contract' out the reconstruction programme.

Conclusion

In India, out of a housing stock of 180 million, approximately 135 million is produced by people themselves without any external assistance. This also means that people have skills and resources, which can become the basis of ODR. And yet there is reluctance to adopt an ODR framework by governments. The historical context of polity and culture of governance within different regions have tended to define the readiness or reluctance for an ODR approach.

When one considers the fact that the value of investment in the first two years of reconstruction in Latur, Maharashtra, was roughly the same as 65 years of 'organic' housing and habitat development by people themselves, or the fact that in Bhuj, Kutch, almost 200 years of unregulated and organic processes were largely replaced in approximately two years of reconstruction, then it is easier to appreciate that ODR is a matter of sophistication for development – especially in terms of governance. Such sophistication evolves over a period of time and cannot be achieved during crises. Previous experiences have shown that it requires the right balance between rights and responsibilities of the people and roles and expectations of the state. Contrary to pure cash-based approaches, ODR requires that homeowners and the state both take responsibility in a mutually reinforcing and accountable manner. An overall environment where realistic time and quality targets are set within the overall context of local habitat practices clearly needs to be created, limiting the dependence on contractor-driven methods or providing cash alone, to declare quick completion of disaster rehabilitation efforts.

Owner-driven processes need to be intrinsically linked with existing and desired local building culture and vocabulary and institutions. In this regard, it is necessary to activate relevant constituencies such as those that are centred on indigenous and appropriate technologies, retrofitting of existing buildings, conservation of heritage structures and even insurance and financing. These constituencies could be in the form of professional bodies and experts as well as local markets. This linkage ensures that a range of options are not just offered but are developed with the owners.

Policy-making is not a singular process. The process of evolving an appropriate owner-led policy framework must first look into several sub-systems, such as; supply of material, capacity building, enforcement, land regimes, financial mechanisms, indigenous-building knowledge systems, and partnership models, to work towards a policy framework which acknowledges the centrality of the state-citizen relationship, the primacy of the affected citizen's

decision-making role, and the role of the state as the key enabler, while ensuring safety, equity and diversity of design and technologies.

Over the past decade, India's strategies, policies and reconstruction governance have evolved. And yet state reconstruction policies have not consistently moved towards the strengthening of the government's role as enabler, rather than provider in reconstruction programmes. There is a need to develop a more uniform and context-specific understanding of the enabling *functions* of the state during reconstruction programmes, as against its more familiar role of provider. And to better define *how* the state can become the engine for creating the momentum and environment for owner-led reconstruction action. Similarly, civil society action has to be better informed, enabled, and perhaps regulated through policy mechanisms, for it to contribute more effectively to an owner-driven reconstruction process. Civil society inspired 'people's participation' processes must evolve to support state sponsored owner-led rehabilitation and reconstruction.

If it is acknowledged that the state has a key role in ensuring an effective ODR policy, then there is clearly a need for a policy framework which enables state governments to support affected communities, local leadership and governance bodies, to own the process of reconstruction, even though the context, history and nature of disaster and vulnerabilities may vary from region to region.

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PART III

Lessons from the Project Level

Decentralizing (re)construction: Agriculture cooperatives as a vehicle for reconstruction in Colombia

Gonzalo Lizarralde

A seven-year recession in the economy and increased violence caused by a 40 year-plus armed conflict had already overstretched the Colombian government before an earthquake hit the coffee growing region in 1999. Faced with a difficult situation, a Colombian organization not specialised in housing, with no expertise in development projects and with little experience in post-disaster reconstruction, developed an ambitious project of rural reconstruction. In total, over 16,000 individually customized projects of housing, infrastructure, income generation and community services were completed in less than 18 months. Taking advantage of a decentralized approach to design, management and construction of individual projects, thousands of families worked on their own initiatives resorting to their own formal and informal networks. This chapter analyses the project management strategies which were the foundation of this success.

The traditional (concentrated) approach to housing delivery

Organizations (both governmental and non-governmental alike) that assume the role of construction project initiators often respond to the overwhelming challenges of housing construction or reconstruction by transferring to one or a few contractors the responsibilities for planning, designing, managing and building the project. The contractor is often a profit-making construction company, a non-for-profit organization (acting either as a builder or as a construction manager in charge of coordinating subcontractors or self-help teams) or a restricted team of professionals (outsourced or sometimes selected from within the organization that initiates the project). The contractor then collects, translates and ultimately uses the available information in order to produce a housing solution that responds to the identified needs. All of this happens in a sector (the construction industry) that is widely known for:

1. High levels of uncertainty and risks (Bee and Drew, 2005; El Sayegh, 2008; Han et al., 2008; Langford and Male, 2001; Ngowi et al., 2005).

2. Difficulties in adopting proper communication means (Hossain, 2009).
3. Inherent problems of access to reliable and useful information (Leslie and McKay 1995; Robert et al., 2006; Davidson, 2004; Nie et al, 2005).

In *Rebuilding After Disasters: From Emergency to Sustainability* (Lizarralde et al., 2009) I referred to this attempt as 'a concentrated decision-making process' to remind readers that decisions made under this approach are based on the information collected by one or a few organizations. I also compared it with a decentralized individually-driven approach which is the specific subject of this chapter and which should not be confused with political decentralization to housing provision as applied by the neo-liberal policies of the eighties (as discussed by Wisner, 2001).

Too often the traditional concentrated approach to housing delivery seeks to design a unique housing model that responds, as well as it is reasonably possible, to the problems that have been identified, considering the limited information that is available and constrained budgets. Once this model is identified, contractors or project teams proceed to build it repetitively so it can be offered to as many beneficiaries (or disaster-affected residents) as resources allow. This exercise often implies repeating the model at large, based on the argument that economies of scale are obtained this way. Three problems often arise:

Firstly, repeating the model at large requires obtaining large portions of land. However, large portions of land are often scarce and expensive in city centres and in well located areas where jobs, services, infrastructure and transportation are available. The consequence is that low-cost housing projects are often built in peripheral or in low-demand areas, in which land has a lower impact over the overall budget (usually land that is less attractive for residential development). Keeping in mind that residents value access to jobs, services, health and education, the ultimate consequence is that they dislike the housing units provided – to the point that sometimes they do not even occupy them – even if they are provided 'for free' (Lizarralde and Boucher, 2004).

Secondly, the organization or team responsible for the project must consider, evaluate and balance great amounts of information that is difficult to obtain and to interpret and which – on top of that – is highly dynamic. This includes data about economic investment and management options, land prices, complex cultural desires, unexpected social attitudes, controversial traditional values, day-to-day behaviours, political limitations, administrative needs, logistical considerations, fuzzy legal procedures, inter-related infrastructure costs, recycling needs, maintenance costs, environmental considerations and political pressure among others (Lizarralde et al., 2009). Recent research has proven that this information is too large and dynamic to compute by a limited number of actors and thus it is almost impossible to obtain the housing solution that would fulfil all needs and expectations (innovative exceptions include some cases in which a core structure is built and it is later completed and finished by individual interventions).

Thirdly, a concentrated approach to the use of resources often translates in a concentrated distribution of economic benefits derived from the investment. Therefore, a restricted number of builders, professionals and advisors benefit from the investment made (through profits obtained by the contracts signed). These organizations and professionals often belong to the formal sector (see the distinction between the formal and informal sector in Kumaraswamy et al., 2007; and Keivani and Werna, 2001) – they are hired after validating that they are legally registered organizations with a clear track of contracts and tax records.

There is nothing wrong with formal builders and contractors making money per se, except that sometimes there are secondary effects of the concentrated distribution of benefits: First, the formal builders (contractors), professionals and advisors are rarely based in the economic sector and geographic region to which the investment is aimed. Finally, low-cost housing is targeted at low-income families who often belong to impoverished and vulnerable communities located in slums or informal settlements. Concentrated investment thus rarely reaches organizations and companies that are part of the impoverished and vulnerable communities supposed to be aided; in other words, the investment does not easily reach the economy of slums and informal settlements. This leads to the second shortcoming of concentrated investment: It rarely benefits the informal sector, which is the economic engine of most impoverished and vulnerable communities. Lizarralde and Root (2008) showed how informal companies (i.e. small and medium enterprises that are not legally recognized by professional associations and public entities) already play a fundamental role in the construction of informal settlements. The activities of these organizations are crucial for the local economy of slums and impoverished areas. Ignoring them contradicts the very essence of the objective of improving conditions for the vulnerable and poor. If anything, informal construction companies and networks need to be supported in order to enter the 'formal' economy; they benefit neither by being neglected nor ignored.

The negative consequences of the concentrated approach to housing construction or reconstruction have been largely documented in the literature – in Pakistan (Afshar, 1991), in South Africa (Lizarralde and Massyn, 2008), in India (Jigyasu, 2009; Bosher, 2009), in Sri Lanka (Duyne Barenstein, 2009), and internationally (Choguill, 1996). It is thus necessary to examine alternative project management approaches capable of reducing the three negative effects described above. The rural reconstruction project conducted after the 1999 earthquake in Colombia serves as an example of an alternative project management approach based on the reduction and transfer of project risks.

Rural reconstruction in Colombia

Rural residents knew that only they were responsible for their own house. They assumed it and they did it, instead of us taking the responsibility of providing the houses. This model guaranteed the total satisfaction of the

> user because they built what they needed and what they wanted. We created the platform but they are the ones who should be praised for this process. The rural resident, unlike the city inhabitant, lives in a hostile milieu; he knows how to confront these kinds of situations. We had confidence in these people and we supported them. (Jose Fernando Botero, officer of FORECAFE, interview 18 June 2000)

On 25 January 1999, an earthquake with a magnitude of 6.0 on the Richter scale struck the west region of Colombia, an agricultural region of intersected mountains where the important coffee industry takes place. The earthquake, merging with historic structural, social and economic vulnerabilities caused over 800 deaths, destroyed 1,856 rural houses and damaged 4,552 rural houses and many more urban units. Losses in the productive sector corresponded to around 4.2 per cent of the regional GDP as more than one thousand buildings for coffee related micro-industries were destroyed and 2,190 were partially damaged (Lizarralde, 2004).

Historical segregation of social classes in Colombia has been often associated with unequal distribution of wealth and land which, coupled with social and political indifference towards rural poverty, has mostly affected Colombian peasants. Consequently, rural residents rarely have access to banking services and health care. The lack of presence of the state in rural areas and lack of interest in substantial land reform had contributed to the difficulties of a struggling rural economy that is mostly based on small-scale agriculture, fishing and cattle. By 1999, increasing violence had not only amplified segregation and poverty but had also greatly affected the economy of the region.

In the earthquake, social factors merged with physical vulnerabilities such as lack of proper maintenance of houses and uncontrolled informal construction on steep hills and unstable land (Robledo et al., 1999). Lack of maintenance of roofs resulted in the collapse of heavy materials such as clay tiles which are widely used in vernacular housing. Besides, most of the affected structures were built before 1984, when the building codes introduced comprehensive seismic–resistant standards. In total 48 rural schools collapsed and 86 educational facilities were badly affected.

However, it was not all about lack of choice, rural workers also had some important pre-existing strengths. In fact, for many years guild associations and Colombian cooperatives had fulfilled the lack of presence of the state, providing support to the rural community in the form of family welfare and services. Compared to poor urban citizens, rural residents had high levels of land tenure and skills to work in construction which, as discussed later, were to prove extremely useful in the reconstruction process.

Perhaps the most important strength of the Colombian peasants were their capacity to organize around the development of their most valued economic activity: the coffee industry. This capacity for organization permitted, decades before the earthquake, the creation of an important rural guild: the Coffee Growers' Federation which organizes a complex network referred to here as the Coffee Growers Organizations (CGOs).

Programme structure

The general project management approach

A few days after the disaster, and concerned about the potentially dangerous effects of the earthquake to the national economy, the presidency of Mr. Andres Pastrana launched an ambitious reconstruction programme that included the creation of a new body called FOREC. It had the exclusive mandate of managing the resources available for reconstruction and for outsourcing individual projects. The FOREC fund (that amounted to US$720 million) was created with a loan from the World Bank (equivalent to 40 per cent of the fund), a loan from the Inter-American Development Bank (equivalent to 10 per cent of the fund), private donations (1 per cent) and resources from the National Budget and new taxes (~50 per cent).

For executing the projects, FOREC conducted a call for proposals that resulted in the selection of 32 NGOs, each one of them responsible for the reconstruction of a village or a sector of a major city (FOREC, 1999). According to Luis Carlos Villegas, President of the FOREC counsel, the adoption of such an institutional model had the following objectives (Lizarralde, 2001):

- eliminate intermediate officers (and therefore intermediate procedures);
- guarantee the transparency of the decisions;
- reinforce democratic systems and social organization;
- prevent improvisation;
- consolidate opportunities for 'peaceful social participation'.

To meet urban reconstruction, one NGO was assigned in charge of each municipality (i.e., the NGO *'Fenavip'* was assigned the municipality of Calarca, *'Camara Junior'* the municipality of Finlandia, *'Antioquia presente'* the municipality of La Tebaida, and so on). In the case of large cities such as Pereira and Armenia, each NGO was responsible of a specific area (equivalent to a borough or large neighbourhood). The urban reconstruction project was therefore a first (if timid) attempt to decentralize the whole reconstruction project. However, it was characterized by very little involvement from municipalities and local authorities (this in part was to prevent corruption) and the transfer of large contracts of housing development to construction companies (contractors).

A project of temporary housing was not initially considered by FOREC. Instead, a few weeks after the disaster, a series of individual interventions of permanent reconstruction started to be developed by FOREC through the selected NGOs. However, early on, it was observed that there was an important increase in the number of spontaneous shelters and shacks. The concern was that people, as a way to meet the demand for shelter, were forming instant slums on ill-adapted sites. Initially, NGOs and the municipalities looked after the temporary settlements in a rather disorganized manner. Illegal occupation of vacant lots and public spaces in the city of Armenia became a serious concern for FOREC. Finally it was decided – one year after the disaster – to consolidate the management of temporary settlements into a single project

with the double mandate of developing and organizing spontaneous temporary shelters and building new temporary units. The management of the more than 6,000 temporary housing units was ultimately assigned to the publicly-owned National University of Bogotá (NUB). For the University, the disaster was an ideal 'laboratory' for the application of research conducted by its Centre for Disaster Prevention.

Knowing that the coffee growers had been badly affected by the disaster, and recognizing the additional difficulties of reconstructing in the rural areas, the fund called upon the help of the coffee growers guild (Federación Nacional de Cafeteros de Colombia, 1999b). This was a natural response due to the fact that, considering their importance in the national economy, the CGOs both influence and are influenced by the National Government and the CGOs had the following mission: 'To represent the interests of the coffee growers through the democratic and participative organization of the members of the guild. The CGOs aim to favour the development of the local coffee industry through the improvement of efficiency and international competitiveness, procuring at the same time the integral development of the coffee grower, his/her family and the region.' (Federación Nacional de Cafeteros de Colombia, 2002b)

Under the supervision of the Colombian Government, and financed through a tax on coffee exports, the CGOs protect coffee producers by buying and reselling their produce on the international market. This mechanism guarantees a regular income to the coffee growers throughout the year. The CGOs develop programmes of social assistance, research, promotion, infrastructure, loans and market studies. They also control the quality of the product, defending the interest of 300,000 small-scale independent workers (ibid.).

The CGOs had experience in a number of areas that ensured they could attend to the peasant communities' needs (Lizarralde, 2001), this included: 1) supporting and gaining credibility from the community; 2) infrastructure spread throughout the rural areas; 3) administrative and financial capacity coupled with organizational infrastructure; 4) local know-how; 5) availability of own resources; 6) independent decision making; and 7) commercial and political contacts at both the national and international levels. Besides, the CGOs' hierarchy of organizations at different levels: national, departmental and local (municipal) constituted a well arranged network of institutions with different levels of influence (see Figure 8.1). In fact, farmers and coffee growers (usually organized as family businesses) are represented in local committees (often one per municipality or town). Local committees are represented in regional committees (departments); which are represented in the National Coffee Growers' Federation (in the headquarters in Bogotá). The Federation CEO is accountable to an executive committee and a National Coffee Growers' Committee which is accountable to the National Coffee Growers' Congress that includes important representatives of the government and the presidency.

National Coffee Growers' Congress

National Coffee Growers' Committee

Coffee Growers' Executive Committee

Coffee Growers' Federation CEO

Coffee Growers' Federation (national headquarters)

Coffee Growers' regional committees

Coffee Growers' local committees

Coffee Growers (members and families)

Figure 8.1 Institutional structure of the CGOs
The CGOs are composed of a series of committees at different levels of influence (from the family unit to the National Congress).

The emergency phase

In fact, before being mandated by the FOREC as the only organization in charge of rural areas, the CGOs took measures to mitigate the effects of the earthquake during the emergency phase. However, considering that the CGOs were not disaster-assistance organizations, they were not in a position to assume all the required roles of rehabilitation and reconstruction. Their initial activities were oriented towards helping distribute external aid, reactivating the industry, re-establishing conditions for the collection of the season's harvest, and preventing migration to main urban areas. The CGOs coordinated national and international organizations and resources to guarantee assistance for the peasant coffee workers (Federación Nacional de Cafeteros de Colombia, 2002a).

The more relevant activities targeted for the emergency phase were the provision of tents, materials for temporary shelters, food distribution, temporary infrastructure and a census of residents (ibid.).

The pre-established international relations of the CGOs (including their offices in New York and some cities in Europe) were crucial for the development of the immediate initiatives after the disaster. The CGOs acquired, through negotiation with the German Government, 700 tents to lend to coffee growers' families. The provision of tents was complemented with technical assistance

to put them up and construction workers were hired to assist residents in the process of installation. Through community participation initiatives, the CGOs established links between external institutions and residents. Such is the case of the distribution and installation of the special emergency plastics donated by OFDA (American Government's Office for Disaster Assistance) for the construction of temporary shelters. In this programme, that benefited 150 small-scale farmers, residents contributed with their labour and supplementary materials while contractors were hired to bring technical support to victims in the installation of the plastics.

Shelter was not the only concern of the emergency phase that lasted between three and six months (depending on the area). In fact, during the first month, local committees of the CGOs contributed together with UMATA and ICBF (Colombian institutions committed to social aid programmes), to the distribution of 25,000 food rations donated by the UN World Food Programme. Also, for the repair of rural infrastructure, the CGOs coordinated their own resources, labour force and official entities (such as the *empresa de energia* – in charge of the provision of electricity) to mitigate the damages caused in sewage, water, electricity and communication systems (Cafered, 2000).

The permanent reconstruction

For permanent reconstruction, the following activities were initially targeted: funding, housing reconstruction, reconstruction of infrastructure related with the coffee industry, general infrastructure, community services, education and technical assistance. However, as it was the case in the emergency phase, permanent reconstruction also attempted to deal not only with the 'hard' (or physical) needs of the victims (shelter, money, food, etc.), but also with 'soft' factors such as community organization and participation, education, decision-making, information, employment opportunities, and economic reactivation (Federación Nacional de Cafeteros de Colombia, 1999c, 1999d).

The priorities were established neither according to a consultation process among individuals nor after consultation with local municipalities or local authorities. However, local and regional committees have an input in the design of the permanent reconstruction project. In fact, soon after the disaster, and in order to assess the magnitude of the damage, a census of buildings and needs in the rural area was conducted. This census included the evaluation of each of the rural houses of the five departments that were affected. The task was conducted by eleven engineers in just one month. According to the census, 6,648 houses (that belonged to registered coffee workers) needed to be reconstructed or repaired and 2,972 coffee industry infrastructures registered within the CGOs needed to be repaired (Lizarralde, 2001).

It was therefore clear that the challenges were enormous. The CGOs had not only targeted an important productive sector of the economy, but also one of the most potentially vulnerable communities. Poverty, lack of education, lack of support from the government, and lack of adequate transportation systems,

characterize rural areas in Colombia and were factors that could amplify the negative consequences of the disaster.

Over many decades the guild had established a complex but highly efficient infrastructure of committees working in the area for matters regarding coffee production and exports. Even though this structure allowed the guild to have large amounts of information at various levels (from national statistics to comprehensive local knowledge about family values and traditions) the organizations did not have the expertise to develop a housing project. Even though the organization had various engineers, managers and specialists in agriculture 'in house', it did not have enough architects, builders or civil engineers with experience in housing. Finally, the CGOs were not builders but promoters of the coffee industry. The guild opted then for an alternative approach to respond, on the one hand, to the mandate it had received from the government, and on the other, to the lack of local capacity to design, plan and build the houses. It decided to act only as a manager of funds with a controlling power over the quality of the construction work undertaken by, or for, the coffee growers themselves (Lizarralde, 2001).

The fund FORECAFE

The next and most important step was the creation of a parallel fund to be managed by the CGOs. The new fund, called FORECAFE (Fondo para la reconstruccion del area rural cafetera), was created with the savings of the CGOs, resources transferred from the FOREC and private donations (made by Starbucks coffee, Red Cross, ECHO and others). From the total resources available at that time, equivalent to $50 million, a first phase called FORECAFE 1 was created. FORECAFE 1 was designated to provide money to affected coffee growers and coffee workers.

Considering the efficiency and advantages of the first initiatives, the central government promptly asked the CGOs to manage a second phase: FORECAFE 2, to provide subsidies and loans to non-coffee workers' families or residents of small rural towns (of less than 20,000 inhabitants). One year later and after the evaluation of the positive results of these two phases, the central government asked once again the CGOs to manage a third phase, FORECAFE 3. This last phase was designated for community services. Finally the total budget for FORECAFE 1, 2 and 3 was $66,000,000.

For the three phases (FORECAFE 1, 2 and 3) an external audit was undertaken by the CGOs. The well known international firm Deloitte and Touche was responsible for accounting and controlling the use of resources and the management procedures used by the CGOs. However, the total administrative costs (including the management of the project) for the three phases are estimated to be only 5.5 per cent of the total budget (Lizarralde, 2001; 2004).

FORECAFE 1 met the needs of housing, productive infrastructures for the coffee industry, public services, and programmes of assistance and social development. FORECAFE 2 was designated for housing reconstruction and

relocation. FORECAFE 3 was designated for the construction of schools, roads, health care centres, police stations, churches and social activity centres. This chapter discusses FORECAFE 1 and 2 which were totally based on an innovative decentralized approach.

Instead of providing finished houses and infrastructures, the CGOs opted in FORECAFE 1 for a strategy where individuals received financial aid and were responsible for making their own decisions about the construction they wanted. This strategy was implemented for the following reasons (Lizarralde, 2001):

- As the community's economy is based on individual agricultural activities, most of the families owned land. This means that these families could rebuild on their own plots.
- Farmers could develop self-help construction, for the following reasons:
  - Farmers have skills and knowledge in construction.
  - Their extended families allow many people to work on each dwelling.
  - The regular season of harvesting was almost five months after the disaster, leaving the peasants with free time for other activities.
  - Farmers work individually and run their own businesses, which allows them the independence to manage their time.
- Construction materials (including bamboo) were available in the region.
- If some families could not or did not want to adopt a self-help construction approach, a labour force was still affordable to hire.
- Rural communities have a deep-rooted sense of mutual cooperation.

To get access to money, rural residents could apply to two different sources for their house and/or infrastructure or production-related structures: loans from the central government or the funds from FORECAFE. For housing, two products were offered by FORECAFE 1: a subsidy of $4,000 and an extra loan of $1,000 (to be repaid to the FORECAFE fund). For infrastructure and production-related structures two products were also offered: a subsidy of $2,000 and an extra loan of $3,000. The basic subsidy could be matched with additional resources: a loan given by the coffee-growers organizations, private loans, individual savings, etc.

The process FORECAFE 1 and 2

The process was simple, residents could apply for the funds administered by the CGOs by proposing an individual project of reconstruction. This individual project could be of any type; reconstruction of a damaged house, or demolition and new construction, reconstruction of coffee-processing infrastructure, repairs to existing structures, other new infrastructure (for example, septic tanks), infrastructure for coffee production or spaces for income generation (stores,

workshops, small industries, etc). Residents were then free to design their individual projects or to hire engineers or specialists. In all cases, engineers of the organization had to approve the plans and guarantee that the structures were structurally sound. In many cases, residents drafted their own houses and repairs by hand on scrap paper and engineers completed the information with structural details and specifications.

For the construction, beneficiaries were free to build however they preferred, with whatever materials and technologies they chose. They were also free to build by themselves, hire contractors (as in a turnkey project) or hire labour. Whatever the option used, the individual project had to follow certain conditions to be eligible for the money of the funds. A group of 23 specialized engineers were responsible for the following tasks: 1) approval of the hazard-resistant quality of the units; 2) approval of the conformance of constructions with ecological and environmental standards proposed by the CGOs; and 3) approval of the monthly construction payments. The ecological and environmental requirements included considerations about the responsible use of wood, reduction of potential pollution of water and a 'norm' that obliged the construction of a sewage system (mostly septic tanks). After approving the quality of construction and the respect of norms, the engineers (working in the capacity of construction auditors) authorized, at different stages, the monthly payments of the subsidies and loans. This process guaranteed that the money was used, and only used, in conformity with the priorities of the project.

The subsidy and the loan were approved by a financial institution in charge of doing the payments. This process included verifying that residents did live in the area, that they were house or land owners and that they were indeed affected by the earthquake. Once the individual designs were also approved by the engineers (acting as auditors), residents were given a first payment. With this, residents had to accomplish significant progress with the project before an evaluation (usually after completion of 25 per cent of the work). In all cases, an engineer (a member of the group of 23 specialized officers) inspected the project before giving the second payment, which had to correspond to a significant advancement of the work (often 50 per cent of the total project). The process of evaluating construction progress and inspection was often conducted four times until total completion of the work (Lizarralde et al., 2009).

In all cases, and in order to guarantee that the use of the resources fitted the priorities of the programme, subsidies and loans were given under promissory notes with a time limit requirement. This meant that if the construction was not finished in the specified time and following hazard-resistant specifications, the money had to be paid back immediately to the fund (Lizarralde, 2004). Concerning the development of individual options and self-help construction, the CGOs supported the rural community with education and technical assistance on legal and administrative procedures.

As each NGO in charge of a zone developed a different programme of reconstruction, many housing products and programmes were simultaneously

offered (rural residents, for example, had access to knowledge about projects conducted in towns and cities). The CGOs' project allowed people to repair or build houses with any of the different choices available in the market (see Figures 8.2, 8.3, 8.4 and 8.5). Therefore, affected families could receive financial aid, infrastructure, technical support for their industry, information, and technical assistance promoted by the project for any of the three possible housing options: 1) individual option; 2) houses from other NGOs' programmes; or 3) a programme of prefabricated houses promoted by the CGOs.

In fact, in order to increase the possibilities of choice for the community and to help the peasants visualise what they were choosing, the CGOs organized a housing exhibition of prototype full-size models of the selected companies.

The prefabricated housing initiative was based on three different prototypes of one-storey units designed by officers of the CGOs and based on traditional typologies used in vernacular housing in the region. The prototypes included semi-open verandas, and pre-designed possibilities for expansion and adaptations. The units included two bedrooms, a kitchen, one indoor bathroom and a social area. The general layouts and proportions of the units corresponded to traditional dwellings, and typical cosmetic features of the vernacular architecture in the region were included in the design (Fonseca and Saldarriaga, 1984). The units were designed over a grid of 1.20 by 1.20 m to be produced with prefabricated modular systems. The bathroom and the kitchen were placed back to back to optimize service installations. Openings in the facades were distributed and proportioned to minimize waste of material in frames and panels. In

Figure 8.2 Repaired houses
Residents acquired loans and subsidies and built the type of house they wanted according to their needs, capacity to work in construction and availability of their own resources.

the bedrooms, the windows were placed at the opposite side of the entrance door. This not only facilitates cross ventilation in the room but also brings a better visual impression when entering the space, making it look bigger. A simple and efficient electrical installation was included. Finally, by allowing cross ventilation and including covered semi-open areas and extended roof cantilevers (called *aleros* in Colombia), the design of the prototypes responded to the hot temperatures and the heavy rains of the region.

The CGOs opened a call for proposals to select the companies to participate in this initiative and to set up a housing exhibition under the auspices of the CGOs. From more than 50 proposals, 17 pre-fab companies were selected according to the following criteria: 1) quality of the system; 2) price; 3) production capacity; 4) socio-cultural acceptability of the technology; and 5) scope for the use of local labour force. Selected companies used different finishes and some used traditional colours and elements to match their proposals to the typical architecture of the region. This aspect gave multiple choices to the clients, allowing them to select the most appropriate option. Pre-fab companies offered competitive prices as the government offered tax benefits for construction companies working in the affected area. The economic recession in the rest of the country attracted the participation of pre-fab companies to the affected region and motivated them to lower their regular costs (Lizarralde, 2004).

Figure 8.3 Infrastructure projects developed with FORECAFE 1
Left: a beneficiadero (customized structure for processing coffee beans) built in the back of the house.

Figure 8.4 House made with prefabricated materials
An exhibition was organized by the CGOs to promote a parallel programme of pre-fab housing targeted to give alternatives to the beneficiaries of the project. Some residents (like the owner of this house) benefited by buying materials and copying ideas.

Project outcomes

Measurable results

During the emergency phase:

- 25,000 food rations provided;
- 700 tents provided;
- delivery and installation of plastics for temporary shelter.

Permanent reconstruction FORECAFE 1 and 2:

- 9,800 houses rebuilt (including about 6,648 houses for coffee growers or coffee workers);
- 4,700 production related structures for coffee (*beneficiaderos*);
- 2,131 individual projects of infrastructure for coffee production, sewage, water and electricity.

It is worth noting in the above results that some families conducted more than one project, for example some rebuilt a house and built a road, or repaired a sewage system and built a *beneficiadero*, or repaired the house and the septic tank, etc.

Other 'soft' outputs of FORECAFE 1 and 2:

- 10,000 direct and indirect jobs created (mostly in rural areas and in small towns);
- information and education for residents (including 2 construction guides printed and distributed);
- 1 housing exhibition;
- 17 private construction companies participating in the housing exhibition.

With FORECAFE 3 and in a period of two years, a total of 490 schools were repaired (some fully rebuilt) using a modular system of pre-fab components. The construction of schools was carefully followed and supported by a four-year initiative launched by the Colombian First Lady to bring education to the poorest sectors of the society. In addition, 80 water supply systems were repaired, 70 health centres were reconstructed, churches, police and community centres were either repaired or reconstructed in the departments of Caldas, Quindio, Antioquia, Risaralda and Cauca (Federación Nacional de Cafeteros de Colombia, 2002a).

Other results

Rural communities in Colombia usually receive little assistance from the central authorities and there is a lack of education and organizational support.

Figure 8.5 Self-help project
This beneficiary reconstructed part of the house and the septic tank

Instead, the constant contact of the CGOs with the rural community gave support and credibility for the programmes, and mitigated the psychological effects of the disaster. To reinforce the self-help initiatives, the CGOs published two educational guides for the construction of earthquake resistant houses (in wood and in concrete). The guides, illustrated with drawings and sketches, provided not only technical instructions but also general knowledge in a basic language appropriate for communities with limited education (Federación Nacional de Cafeteros de Colombia, 1999a). One of the guides described processes and recommendations for construction of one-storey houses in traditional technologies, using *guadua* (bamboo) as the main structural material. Colourful easy-to-read graphics were used to reach out in an accessible way to most of the population (Lizarralde, 2001).

As a complementary activity, the CGOs provided information and advice to the community in the following areas (Federación Nacional de Cafeteros de Colombia, 1999d):

- evaluation of damage (including a housing census);
- promotion of the various products (housing, tents, food, etc.);
- technical advice on how to build septic tanks or floor slabs;
- hazard-resistant principles;
- how to select the appropriate house;
- how to maintain the houses after the disaster;
- how to deal with psychologically affected survivors;
- projects in progress;
- requirements to access the available financial resources;
- results and preliminary evaluations of the programmes.

Information was provided in regional newspapers and magazines published by the CGOs. These included, *Cafered, Quindio, Actualidad Cafetera* (published by the Quindio committee), *Panorama Cafetero*, and *El Caficultor*. Other sources of information were local newspapers such as *Café 7 dias* and *La Tarde* (Federación Nacional de Cafeteros de Colombia, 1999c).

The pre-fab exhibition organized by the CGOs caused many surprises. In fact, less than ten finished pre-fab units were actually sold. However, many housing components were purchased by residents during the housing exhibition in order to construct their own dwellings. A discussion with officers of the CGOs and residents helped us to identify the most important factor to explain this: rural residents are not used to buying houses since, in their experience, building a house is a long self-help process (even lasting many generations) where the house 'grows' according to the needs of the family.

According to Edgar Echeverri, Director of the Department of Production and Development in the CGOs' headquarters in Bogotá, in many cases, the exhibition was a source of inspiration for residents who copied the models and built them by themselves; sometimes buying individual components such as windows, doors, tiles etc. from the pre-fab companies (Cafered, 2000). It also helped counteract the speculation in the prices of construction materials,

which were increasing very fast since the disaster. For the residents, it was an educational exercise, an opportunity to buy quality products and an opportunity to learn that they had the responsibility for, and the liberty to complete their own reconstruction. Finally, from the perspective of architectural design, the exhibition is a noteworthy example of culturally appropriate housing designs coexisting with appropriate technological solutions from which many lessons can be gained for future housing projects.

Even though the project did not target renters specifically, thousands of renters benefited from the various projects developed by the owners of the houses or the owners of the farms.

Shared responsibility (and risks)

Aware of the fact that they could use their funds as they wanted (as long as it was related to reconstruction) residents assumed total responsibility for their own reconstruction and made important efforts to reduce costs and optimize the resources. In fact, with the subsidy and loan (which together account for a sum that is lower than the market value of affordable 'public' housing in most Colombian cities) many families were able to rebuild or repair their units while also doing some infrastructure work. This brought several positive consequences (Lizarralde et al., 2009):

Residents that had construction skills used self-help construction. But aging residents and some women opted for hiring labour or having relatives or friends helping in construction.

Residents optimized the use of resources by using as much recycling as possible. Even in cases in which their original units had to be demolished, they recuperated useful components such as doors, windows, toilets, sinks, roof tiles, etc.

All the constructions were seismically sound while responding at the same time to individual needs, tastes and priorities. Residents chose each element, each colour, each material they wanted to have. They designed, planned and managed their own project and assumed total responsibility for it.

The freedom to match the subsidies with additional sources promoted an important contribution from the beneficiaries. They contributed to the project from their savings, with additional loans and – in some cases – with labour. The freedom to use the resources as they wanted stimulated residents to search for the best available prices in the market for construction components. This helped the local economy while reducing the price of construction significantly.

Conscious about the limitations of their resources, residents optimized their projects by creating flexible spaces that responded to various uses. Similarly to the units frequently found in the informal sector, beneficiaries also built houses and units that mixed domestic activities with income generation: storage of coffee

beans, space for drying coffee beans, storage of equipment, convenience stores, etc.

Residents did not concentrate on one single technology or housing model. Instead, they combined different construction techniques and materials according to availability, price, speed of construction, available skills, etc. It wasn't therefore rare to find a mix of steel structures with local masonry; or a house made of local masonry but with prefabricated panels and corrugated roof sheets (joints and structural connections were verified and validated by engineers). Finally, as long as individual projects respected the evaluation process conducted by the engineers, residents could propose to build them by phases adopting the informal approach of progressive housing.

Transparency and efficiency of the process was later observed by the reports of the United Nations, the World Bank, the Presidency of Colombia and the external audit (Lizarralde, 2004). When FORECAFE 3 was finished and considering the positive results of rural reconstruction, the National Presidency invited the CGOs to develop other housing projects in other areas of the country. Edgar Echeverry (director at the National Coffee Growers' Federation and one of the directors of the project) explained that the answer of the CGOs to this invitation was: 'No thank you, our business is to grow and sell coffee not to build houses'. On 17 January, 2004, an earthquake of magnitude 5.2 in the Richter scale hit the same region that was devastated in the earthquake of 1999. This time there were no deaths, destruction or physical damage, demonstrating that the vulnerabilities of the region were largely reduced (Lizarralde, 2004).

Downturns

However, the process also had some downturns or secondary negative effects:

Coverage of informal dwellers. Rural residents living in illegally occupied lots were not covered by the CGOs' project. This population, that in general lives in risk-prone areas (hills and close to rivers), did not have access to the outputs of the project. The efficiency of FOREC 1 and 2 contrasts with the indifference showed towards this group that, in fact, did not receive any solution – neither from the CGOs nor from the government. Since the earthquake, ample criticism has been made in the media to both FOREC and FORECAFE for not including this vulnerable community. The CGOs claim that the government should have taken responsibility, adding that many people came to the region after the disaster hoping to take advantage of the generous services offered by FORECAFE 2.

Concentrated decision-making in urban areas. Not all the projects conducted under the fund of FOREC were developed under decentralized strategies like the one used by the CGOs. In fact, the majority of programmes relied on

contractor-driven forms in which one or a few contractors were in charge of the construction of units.

Lack of continuity and loss of knowledge. After almost four years of existence, and when the proposed tasks were all accomplished, the national fund FOREC was dissolved. FORECAFE was also dissolved shortly after the project of the CGOs was finished. With its dissolution, collective experience and knowledge gained through the reconstruction experience was lost. By adopting this model, centered in a new temporary unit with the exclusive mandate of reconstruction, little experience and know-how is expected to have been transferred to municipalities and local authorities that, in general, were kept out of the main decisions of the fund (even though this same strategy avoided the risks of corruption – common to municipalities in Colombia) (Lizarralde, 2004).

Decentralizing reconstruction

The decentralization of activities that resulted from the owner-driven approach used by the CGOs favoured a fair distribution of benefits resulting from the investment made. Therefore, a large number of small companies (formal and informal distributors of materials, manufacturers, transporters, etc.) directly or indirectly benefited from the subsidies provided to the families. Contrary to a concentrated (contractor-driven approach) in which only a limited number of formal contractors and subcontractors benefit from the operation – the owner-driven decentralized approach distributed the benefits among different types of formal and informal companies. All of this had an important impact on the local economy, accelerating the economic recovery of the affected area.

Appropriate project management strategies contributed to the positive results of this project. In particular:

- Links between the CGOs and other national and international partners were established. This favoured communication and coordination of efforts and permitted to include a wide range of 'hard' and 'soft' outputs.
- Risks were either avoided (by encouraging actors to participate) or mitigated (by sharing risks with all beneficiaries involved).
- Communication management tools and methods were used. This facilitated formal and informal networking and contributed to increased cooperation with beneficiaries.
- An innovative scheme of organizational design was used. This required only a small number of staff and permitted efficient decision making at the national programme level of reconstruction and at the regional project level.

- The project was based on increased flexibility. Financial flexibility accompanied with a multiplicity of choice at the technical level.
- Owners were encouraged to use their own additional resources.
- Informal sector and networks were included in the project.

The Colombian reconstruction project shows that project decentralization is a successful project management approach because it efficiently manages to, 1) obtain and compute large amounts of information in a sector (an industry) that is well known for high levels of uncertainty; and 2) share project risks in initiatives that are well known for having important chances of failure and important effects from the project environment.

Obtaining and computing large amounts of information

The informal sector and households (responding to their own environment through individual choices within their own formal or informal networks) are capable of spontaneously using large amounts of tacit information about real users' needs and expectations and devising solutions that respond to them accordingly (Lizarralde et al., 2009).

In this case, residents resorted to their own informal networks to obtain materials, labour force, additional funding, etc. All of this allowed them to reduce costs, personalize their projects, optimise resources and respond to their own needs, expectations and priorities while promoting the local economy.

This was only possible because the CGOs completely decentralized the decision-making process. Instead of using traditional approaches, no complicated consultation process was therefore required to support a centrally planned, designed or managed programme (neither to produce a unique housing model). There was no need to ask residents about what they wanted, needed or expected, since the process itself favoured the adaptive emergence of the best solutions. There were, in effect, many solutions, all of them exploiting the best opportunities, the available resources and the best local knowledge. The CGOs project was a 100 per cent bottom-up initiative (Lizarralde et al., 2009).

Sharing project risks among all actors involved

Contrary to concentrated approaches, which keep decision-making among a reduced number of participants, owner-driven reconstruction distributes responsibilities – and therefore risks – among all the actors involved. Important risks frequently associated with housing reconstruction are therefore mitigated (Davis, 1978; 1981; 1987; UNDRO, 1982), notably:

- non-acceptability from the beneficiaries of the housing solutions proposed;
- non-adoption (by the beneficiaries) of the technology proposed;
- overestimation or underestimation of people needs;

- corruption at the levels of municipal and regional governments;
- construction delays;
- cost overruns.

Decentralized approaches, like the one used by the CGOs in Colombia, are based on multiplicity of choice and individual liberty. This is the basis for democratic reconstruction.

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Kenya: Can temporary shelter contribute to participatory reconstruction?

Dyfed Aubrey

Violence following the Kenyan elections in 2007 left over 500,000 people displaced, mainly from the Rift Valley. Over half of these people were temporarily housed in camps for internally displaced people (IDP) and later returned to their own plots or bought plots in areas where they feel safe. This study describes an open-ended, transitional shelter pilot project, implemented in relatively safe areas soon after the violence, when the end-point for IDPs was uncertain. This allowed for a range of incremental owner-driven outcomes which influenced subsequent national policy. The experience illustrates how transitional shelter following disasters can contribute to the first stage of an owner-driven process of incremental housing, adapted to personal needs and local conditions. The chapter argues that there are however institutional barriers in the international humanitarian sector which militate against holistic development.

Introduction

Transitional shelter can be a 'verb', in line with Turner's (1976) concept of transitional housing. This chapter shows how the success of a pilot project influenced the Government of Kenya's decision on an appropriate model for scaled-up housing reconstruction, and describes the larger-scale low-cost housing project that followed. Based on the experience in Kenya and literature on loose-fit architecture, modalities for open-ended shelter design are outlined.

The discussion develops the argument that, if owner-driven housing reconstruction after a disaster is an incremental process – kick-started by humanitarian intervention, but continuing indefinitely in accordance with changing needs, availability of household resources and prioritization of housing in relation to investment in other livelihoods assets – two critical issues emerge: the relationship between owner-driven reconstruction (ODR) and livelihoods development and the relationship between ODR and the potentially conflicting humanitarian response and development paradigms. Understanding these relationships may be of assistance in scaling-up ODR.

Background

Post-election violence

Inter-ethnic violence following the Kenyan elections of December 2007 left over 1,200 people dead and over 500,000 people displaced (UNOCHA, 2008). A fact-finding mission undertaken by the Office of the High Commissioner on Human Rights (OHCHR) in February 2008 found that the violence, which occurred in rural and urban areas, followed three distinct patterns. The first was the burning and looting of shops, commercial premises and houses, predominantly in the urban informal settlements in Nairobi and Kisumu by youths. While appearing to be a spontaneous reaction to the election results, OHCHR believes that this action stemmed from 'cumulated frustrations generated by poor living conditions and historical disenfranchisement', and was triggered by angry opposition supporters who felt robbed of election victory by 'cooked' results. The second was an onslaught by opposition supporters on small farmers and landholders in the Rift Valley, perceived to be government supporters, with the aim of driving them away from the region. OHCHR suggests that this may have been partially organized by traditional leaders and politicians in order to settle historic grievances over land issues and discrimination. The third pattern of violence was retaliatory and targeted mainly at migrant workers suspected of being opposition supporters. This took place in both rural and urban areas including Eldoret, Kisumu, Central Province, Nakuru, Naivasha and Nairobi's informal settlements of Kibera and Mathare. During this time 12,200 deaths were reported, 41,396 homes were destroyed and thousands of business premises were burnt or looted. There were high instances of rape and sexual abuse and of violence and killings undertaken by police (OHCHR, 2008).

Trends in displacement

Displacement affected five of Kenya's eight provinces and was concentrated in the Rift Valley Province, particularly in Nakuru, Trans Nzoya and Uasin Gishu Districts. Unlike many events that lead to displacement, there was no simple pattern of movement. Violence erupted throughout the five provinces and those affected, if given time, moved hastily to areas where they felt safe. Some were able to move to host families and others set up spontaneous camps in police stations and churches. Many sought to move to their ancestral homes in Nyanza, Western and Central Provinces. This movement, particularly in urban informal settlements, had the effect of polarizing communities on ethnic grounds. In total, 313,921 internally displaced persons (IDPs) integrated in their communities (UNOCHA, 2009: 1) or moved to their ethnic homelands. In addition to this, by February 2008, 319,105 IDPs were recorded in 296 camps (UNOCHA, 2008: 1).

Structure of shelter assistance and respective roles

The Government of Kenya's Ministry of State for Special Programmes (MoSSP) whose mission is to 'to provide leadership in the development of risk reduction measures and disaster management in Kenya' (MoSSP, 2009) oversaw the IDP assistance and resettlement process. The Ministry of State for Provincial Administration and Internal Security supported affected provincial administrations (see Box 9.1) by seconding additional district commissioners to oversee security and IDP support and resettlement activities. Provincial administrations were assigned to oversee IDP profiling and damage assessments, support KRCS and humanitarian actors in establishing and managing IDP camps, activate village-level peace and reconciliation committees and advise on additional security measures. Provincial administrations also assisted in the local coordination of humanitarian support and implemented government support and resettlement operations.

The government confirmed that it had sufficient capacity to coordinate and manage IDP camps and assigned KRCS as the lead agency. KRCS is 'constitutionally mandated with the responsibility of assisting the Kenyan government to carry out humanitarian work in times of peace or conflict' (KRCS, 2009). KRCS oversaw the establishment and management of IDP camps and the provision of food and non-food items assistance. It accepted complimentary support from the United Nations High Commission for Refugees (UNHCR) who headed the camp coordination and management, protection and shelter clusters (see Box 9.2). The UN and NGO cluster members supported KRCS in the provision of tents and basic infrastructure and in some cases camp set-up. Coordination between KRCS and the cluster system was strained; both parties operated separately with parallel coordination structures. Initially the MoSSP took a limited interest in the shelter cluster, but became increasingly involved when the government started to push for camp closure. The shelter cluster then became a shelter working group, co-chaired between UNHCR and the MoSSP, and included local and international NGOs, the Ministry of State for Housing (MoSH) and Ministry of State for Public Health (MoSPH).

Box 9.1 Provincial administration in Kenya

Kenya is divided into eight provinces, each is administerated by a provincial commissioner who reports to the minister for provincial administration and internal security. Each province is divided into districts that are administrated by district commissioners who report to the provincial commissioner. Districts are divided into divisions, which are administrated by district officers who appoint area chiefs at the village level.

Box 9.2 The inter-agency standing committee cluster system

The ad hoc, unpredictable nature of many international responses to humanitarian emergencies prompted the emergency relief coordinator in 2005 to launch an independent Humanitarian Response Review of the global humanitarian system. The review assessed the humanitarian response capacities of the UN, NGOs, Red Cross/Red Crescent Movement and other key humanitarian actors to identify critical gaps and to make recommendations to address them.Following the recommendations of the review, the cluster approach was proposed as a way of addressing gaps and strengthening the effectiveness of humanitarian response through building partnerships. Moreover, the cluster approach ensures predictability and accountability in international responses to humanitarian emergencies, by clarifying the division of labour among organizations, and better defining their roles and responsibilities within the different sectors of the response. The Inter-Agency Standing Committee (IASC) has designated global cluster leads in eleven areas of humanitarian activity. UNHCR is the lead for the emergency shelter and non-food items cluster and is supported by IFRC as convener in non-conflict contexts. (Humanitarian Reform, 2009)

Rudi nyumbani

Due to the difficulty in supplying assistance to over 300 camps, many of which were spontaneously settled, and the inconvenience for the institutions on whose premises IDPs had settled, the government ordered the consolidation of all spontaneously settled camps to official IDP camps. This was met with resistance from many who wished to remain as close as possible to their land. By May 2008, the government implemented operation rudi nyumbani (return home) to accelerate the closure of camps, and at the same time began to administer its compensation package of KSh10,000 (EUR€100) per IDP household and an additional KSh25,000 (€250) for each household with a destroyed house. The KSh25,000 did not materialize until towards the end of 2008 and in some provinces was restricted to those who had not received housing support from external agencies. The Kenya Human Rights Commission noted in May 2008 that 'there lacks accountability and consistency in allocation of the KSh10,000 and KSh25,000 to IDPs. The government is not even sure whether it is compensating or merely facilitating IDPs – some IDPs have received nothing at all. The whole process is seriously murky' (KHRC, 2008).

Operation rudi nyumbani was implemented by provincial administrations and security forces and faced opposition from many IDPs who felt that this premature and heavy-handed operation was 'in violation of the international guiding principles on internal displacement and basic human decency' (National IDP Network of Kenya, 2008). Some IDPs returned to their former land with the tents that they had been given in the camps and others relocated to areas where they felt safe. Some, who felt that they could never return to their former homes, or who had previously had no fixed

abode, remained in camps and by June 2008 the KRCS recorded 71,845 IDPs in 102 camps (UN OHCHR, 2008).

Many of those remaining organized themselves into self-help groups of 50 to 4,000 households. These were usually groups of IDPs that had originated from the same area and often organized by self-appointed chairmen. They became officially registered and governed by executive committees of members assigned to specific roles. To obtain land, each group member contributed its government cash handouts into a communal fund and bought rural plots of land for permanent settlement and moved there with their tents. One such group in Nyandarua registered membership of over 4,000 households and acquired 50 acres. They made their own makeshift latrines and obtained water from a nearby river. District level planning departments assisted some groups with land subdivision and tenure issues and district water authorities assisted some with boreholes. The government held back on housing and infrastructure support until tenure and planning issues were formalized. This delay in support particularly affected denser settlements such as Nyandarua, as it could not comply with planning regulations on minimum plot sizes. Once settled on its own land, albeit very crudely in some cases, without official tenure and in great need of humanitarian support, IDP status was withdrawn. The government was therefore able to report in December 2008 greatly reduced statistics of 5,021 IDPs in 4 camps. (UN OHCHR, 2008)
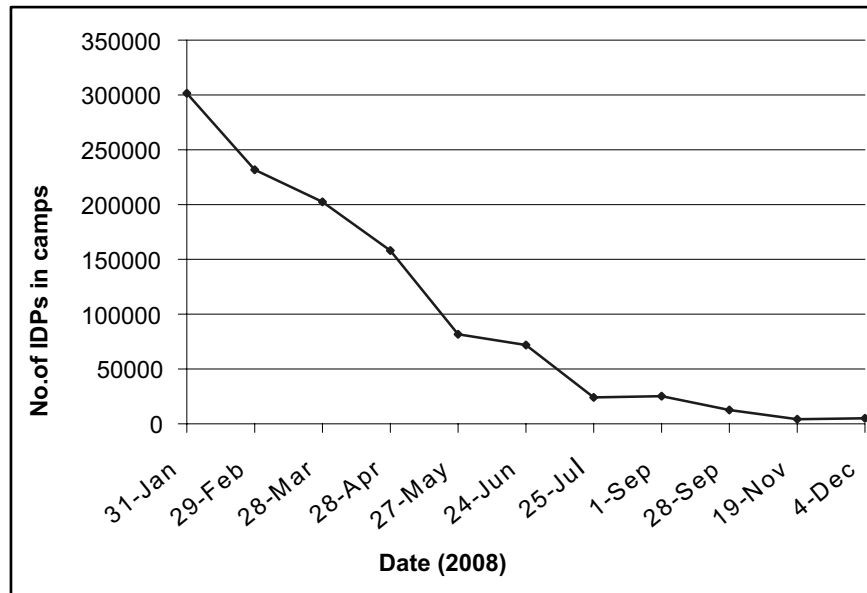
Figure 9.1 Number of IDPs in camps during 2008

Housing reconstruction

By March 2008, it was evident that certain locations in the Rift Valley were becoming safe for resettlement. Typically these were areas where perpetrators of violence had come from outside the community, where area chiefs acted impartially and where differing tribal groups within a community were committed to peace and reconciliation. March is planting season, therefore wherever possible people were determined to get to their fields. The majority of people who could access their land travelled daily from camps, sometimes with police assistance, some however felt safe to resettle, but preferred to do this enmasse instead of individually.

The shelter cluster, recognizing the role of transitional shelter as a catalyst to enable families to make a step change from dependency on external assistance, anticipated that the provision of transitional shelter on owners' land would trigger return (Corsellis and Vitale, 2005). Transitional shelter has been defined as follows:

> Transitional shelter provides a habitable covered living space and a secure, healthy living environment, with privacy and dignity, to those within it, during the period between a conflict or natural disaster and the achievement of a durable shelter solution. (ibid.: 11)

The government insisted that permanent housing should be three-bedroom brick houses. Resources were nowhere near available for this; the government therefore conceded that transitional shelter could be provided on the strength that it would be temporary and built rapidly to allow people to return quickly to their fields.

In developing forms of transitional shelter assistance the shelter cluster considered that broadly there were three target groups:

1. Those who wish to return to their former place of residence.
2. Those who wish to relocate elsewhere in the country.
3. Those who wish to integrate in their current place of displacement.

These groups could be further divided to those with land tenure, those without and who intend to rent and those without who intend to buy land (Kenya Shelter/Non-Food Items Cluster, 2008).

In establishing a pilot project for transitional shelter, the cluster focused on client type one with land, on the basis that these people would be able to return quickly to farming activities in order to reduce the threat of a food security crisis. To avoid a scenario whereby all interested agencies dash off and prepare their own shelters in accordance with their varied abilities, budgets, and comprehension of the problem, the shelter cluster formed a joint technical working group of NGOs that developed a joint shelter strategy and concept design which was piloted by the Irish NGO GOAL in partnership with UNHCR. Intrinsic to the pilot project was the desire to accommodate lessons learned from previous shelter projects and provide solutions that were specific

to the nature of the needs and limited resources available in Kenya. Key issues included:

1. Target group selection to ensure access to the most vulnerable. It was initially anticipated that resources would not permit one new shelter per affected household, therefore vulnerability criteria was likely to be needed.
2. The widely varying degree of shelter experience and knowledge of design and construction between assistance agencies (Da Silva, 2007) which can lead to inadequate solutions with significant variance between shelter solutions.
3. The disconnect between transitional shelter and permanent housing provision, often treated as separate processes instead of a continuous process and leading to the waste of resources in the provision of two separate solutions for a single problem (Aubrey, 2008).
4. Design for uncertainty: the durable shelter end-point was unknown. While security and willingness to return were critical in beneficiary selection, it was not known whether insecurity would return and lead to further displacement.
5. The need to integrate livelihoods assistance with shelter provision.

Household selection

Jaspers and Shoham point out that 'in most emergency contexts, targeting vulnerable households is either inappropriate or not feasible', but acknowledge that in situations of limited resources it is sometimes necessary. It is likely to be more successful if there is very clear disparity between vulnerable and less vulnerable and if community representatives can be relied upon to target the most vulnerable. In absence of a clear and feasible means of selection based on vulnerability criteria, Jaspers and Shoham advocate geographic selection which involves targeting locations of greatest need and assisting all affected households within that location, even at the expense of other locations that may be left out completely (Jaspers and Shoham, 1999).

In assisting target group one, the following prerequisites applied:

- security in the area of return;
- household registration;
- willingness of household to return;
- evidence of land/house ownership which was readily available in district level cadastres.

Beyond this, the transitional shelter strategy noted:

in the event that the financial resources available are not sufficient to cover the shelter needs of an entire returning community, among all potential beneficiaries, only the neediest households will be selected to benefit from the shelter assistance. The selection of the eligible beneficiaries will be

based on socio-demographic, cultural, economic and physical indicators that determine the vulnerability of each household, giving due consideration to the groups with specific needs (e.g. female-headed households and children, older people, persons with a disability). (Kenya Shelter/NFI Cluster, 2008: 4)

The strategy advised that vulnerability criteria and selection would be decided by an:

ad hoc committee comprised of local authorities (DC and DO), operational lead agency field staff and implementing partners, and community representatives [who would] evaluate and eventually weigh the vulnerability of each household in order to reach consensus on the final list of eligible beneficiaries. (ibid.)

In reality, as there was insufficient disparity between vulnerable and non-vulnerable households, geographic selection prevailed. The district commissioner for Kipkelion (South Rift Valley) advised GOAL of a suitable location that had been badly affected, yet was considered by IDPs and the provincial administration to be safe to return to. Vulnerability criteria only applied to the selection of households needing labour support. The same approach was repeated when the project was scaled up to a national level. The worst affected districts were first targeted and within those districts the most effected villages were prioritized pending the prerequisites listed above.

Shelter design

In order to address concerns of the disconnect between transitional shelter and permanent housing, uncertainties of the durable shelter end-point and the speed of construction needed in order to avoid losing time on agricultural activities, the technical working group of the shelter cluster developed an open-ended design concept. Shelters should be designed to fit a range of possible owner-driven outcomes including incremental upgrade of temporary structures to form permanent houses, relocation of shelters or disassembly of shelter materials with meaningful reuse in housing construction. The following principles were derived:

1. Ability to build and inhabit the shelter within two days of receiving assistance in order not to take too much time from critical agricultural activities.
2. Ability to upgrade temporary shelters into permanent houses: i.e. robust structure and roof should be provided. Secondary items such as walls, windows, doors, floors, subdivisions could be added/upgraded by the house owner in time, using where possible salvageable materials from the original building. The structure and roof should follow local, familiar approaches of construction.

3. Ability to disassemble the shelter and move to a different site in case of insecurities returning: dismountable fixings, such as plastic spacers between nail heads and material being fixed.
4. Ability to disassemble the shelter and reuse components significantly in permanent housing reconstruction: robust components advocated such as 4 inch poles that could be reused as roofing timber, minimize cutting materials or using short pieces. This approach was implemented in Yojakarta where temporary structures, which provided emergency shelter during the monsoon season, were made of locally available materials that could be reused in permanent construction (Da Silva, 2007).
5. Ability to extend shelters from basic Sphere standards to suit specific owner-driven needs: modular construction advocated, using materials that are locally available.

In developing the design, an analysis was made of existing houses in the Rift Valley, and most were found to be simple timber framed structures, with structural poles dug into the ground. Usually cedar is used which is resistant to insect attack and rot. Floors are made of compressed earth, walls are made of mud or timber and roofs are iron sheet or thatch. Based on this, Sphere standards, and the principles listed, the shelter cluster recommended:

> The design of the transitional shelter kits provides a living space of 18 m² (3 × 6 m) for up to five individuals. The shelter will be erected directly on the ground (elevated dirt floor, with proper drainage around the structure). The structural frame is made of wooden poles, while the roofing will consist of corrugated galvanized iron sheets nailed to the structure. The beneficiaries will then build the walls with materials locally available, such as additional corrugated iron sheets, mud and straw, bricks, etc. (Kenya Shelter/Non-Food Items Cluster, 2008: 7).

Shelter prototype

Based on these guidelines, GOAL and UNHCR commissioned local artisans to build a prototype in Nakuru, where it could be easily accessed for comments by IDPs living in the Nakuru Showground camp and relevant provincial administration, MoSH and MoSPH officials. The artisans modified the design; pole sizes for instance were too small and inadequately spaced, and built a housing frame based on vernacular technology of the Rift Valley (see Figure 9.2). In doing this, components became heavier, reducing the transportability of shelters, but enhancing the ability to upgrade and offering more options in the reuse of materials. Most feedback from IDPs related to the size of the shelter, which many felt was small, and to the introduction of plastic sheeting as a temporary wall material, which many felt was not durable. These objections were however ignored. The cluster insisted that Sphere standards should guide the size and that extensions could be made later by owners and GOAL pushed

Figure 9.2 Assembling the frame

ahead with plastic sheeting on the basis that shelters built this way could be completed quickly. When the pilot project was completed it was found that most beneficiaries still objected to the use of plastic sheeting, but 86 per cent reported that transitional shelters were larger than their previous houses (Danish Refugee Council, 2008).

The prototype (see Figure 9.3) was then repeated in a school playground in the village Mtaragon where the pilot was to take place in order to receive feedback from and sensitize the community prior to rolling out the pilot project. Through working collectively on shelter designs and principles, the cluster nurtured a culture of consensus, which was important in scaling-up the housing programme to achieve equity of design and quality between assistance agencies. The participation of local artisans and stakeholders ensured that transitional shelters were appropriate to the local context.

Implementation

Owner-driven reconstruction, which is gaining momentum as best practice in post-disaster reconstruction, implies that communities will 'undertake building work themselves, with external financial, material and technical assistance. Owner-driven reconstruction does not necessarily imply that owners build the house on their own, but that, within given building codes, they

Figure 9.3 Shelter prototype

retain full control over the housing reconstruction process' (Duyne Barenstien, 2006). ODR approaches tend to allow bespoke designs to meet specific current and projected criteria of individual households and are often implemented through incremental cash inputs for key stages of construction. Cash grants can empower beneficiaries to take ownership of the product and process, enhance local livelihoods through increasing the demand for local labour and materials and add value through opening up possibilities of non-monetary exchanges for the same (Aubrey, 2008). The Rift Valley transitional shelter pilot was standardized and not owner driven, however the open-ended approach was significant in providing possibilities for owner-driven upgrading and future development. A discussion on the potential role of standardization in ODR follows later in this chapter.

The owner-driven approach depends on the existence of local markets for materials, and this can often be enhanced by assistance agencies supporting local manufacturers such as brick makers and carpenters to meet the scale of demand. However, as the accepted form of construction was with timber poles, which are grown locally to the level of sustained demand, given the time taken to grow saplings from which poles are extracted, it would not have been effective to support local forests. Also due to the national demand for low-cost housing, if the pilot was to develop into a full scale housing project using the same technology, timber sources would have to be sought throughout

Kenya and neighbouring countries in order to allow for sustainable harvesting. Likewise, iron sheeting is produced in Mombasa, Thika and Nairobi and the capital costs of setting up production sites in the Rift Valley would have been prohibitive and not sustainable on completion of the shelter project. Alternatively support could have been given to assist local suppliers to scale up their stocks of materials, but this would have to be measured practically against the alternative option of direct procurement by assistance agencies with strong procurement and logistics capacities, stockpiling and delivering materials to where they are needed. As there were relatively few suppliers locally with limited warehousing and financial capacity, scaling-up their businesses for a large-scale intervention over a short timeframe was impractical.

A bill of quantity was derived from the prototype shelter, which formed a standard shelter kit, and the GOAL procured and stockpiled materials for 497 shelter kits in its Nakuru warehouse. Each kit provided for an 18 m² house and cost $385. GOAL then trucked the materials to accessible central points, delivering around 120 kits per distribution. Community members offloaded trucks and locally hired artisans divided the materials into kits; this was made simple by each kit being identical. Each household arranged transportation from the distribution point to their home (a maximum of 3 km), using their own labour or hiring the assistance of donkeys, tractors or pickups. The artisans assisted beneficiaries in setting out their shelters, monitored quality and provided technical assistance in community self-help construction. They also directly built shelters for vulnerable community members, around 40 per cent of the total number.

Shelters were built immediately and took one and a half days to complete by artisans, two days for 70 per cent of self-build households and three days for 20 per cent of self-build households. Most households hired some form of labour, paying on average KSh1,700 (€17) of their own money (Danish Refugee Council, 2008). Teams of three people usually built shelters and the timely construction was evidence of the effectiveness of the design as well as the training and assistance provided by local artisans.

The experience of managing house construction equipped house owners with skills to upgrade their houses in accordance with their personal requirements and resources. Within a month of receiving kits, 53 per cent of house owners had started to upgrade their shelters. Priorities in upgrading were first doors, second walls and third windows (ibid., 2008). Some beneficiaries bought their own timber for walls, doors and windows from the outset and used the plastic sheeting provided to line the walls. Others sold their plastic sheeting and hired local artisans to build adobe walls. However most salvaged components and timber off-cuts from their destroyed homes and upgraded their shelters incrementally (see Figures. 9.4, 9.5). Some paid for labour in-kind using the tools they were given in the shelter kit, and some sold their tools once shelters were complete to buy household furnishings or fittings, adding to what they had received during early non-food item distributions. Extra iron sheets and timber had been provided in each kit for the households

Figure 9.4 Shelter: Partial upgrade with reclaimed materials

Figure 9.5 Shelter: Upgrade with timber off-cuts

to decide how to use. Fifty-nine per cent used these for latrines and others used them for bathing areas or kitchens (Danish Refugee Council, 2008).

An independent evaluation undertaken by the Danish Refugee Council in August 2008 found that occupancy within a month of distribution was 90 per cent. Most remaining households planned to move in once they had upgraded their shelters to permanent houses. Seventy per cent were content with their shelters. Most stated that the plastic sheeting could have been omitted, or replaced with the equivalent value in timber or cash to pay artisans to build mud walls. Only 12 per cent of beneficiaries interviewed would have preferred cash instead of material assistance. Most agreed that the community self-selection of the vulnerable had been effective although DRC noted that that there had been a bias towards the elderly over other forms of vulnerability. It was interesting to note that quality standards were very similar to houses lost: 86 per cent now had larger houses, 87 per cent previously had mud floors and 86 per cent previously had iron sheet roofs. The evaluation noted that more should have been done to integrate the project with livelihoods and water and sanitation assistance (Danish Refugee Council, 2008).

Scaling-up low cost housing

By the time the evaluation was prepared, operation rudi nyumbani was in full force. Due to the heavy-handed nature of the operation, certain key donors withdrew their pledges of assistance. The government, having previously fallen out with the shelter cluster on housing standards, had now come to terms with the limited resources available for housing reconstruction. It accepted the transitional shelter pilot as the basis for its minimum standard for a low-cost house unit, but required a minimum floor area of 20 m² instead of 18 m² and 'permanent' walls of adobe or timber. It launched a project to build 40,000 low cost houses. By the end of March 2009, 16,240 were built, mainly through partners of UNHCR and the MoSSP. By May 2009 funding was secured for a further 22,510 houses through the government of Japan's donation to the International Organization for Migration (IOM) and through an African Development Bank loan (UNHCR Kenya, 2009). The methodology of beneficiary selection and implementation of low-cost housing followed which developed in the pilot transitional shelter project.

Like the bulk of housing resettlement programmes, the Government of Kenya's housing reconstruction launch document *Return Home (Rudi Nyumbani)* (MoSSP, 2008), written in consultation with the United Nations Development Programme (UNDP), makes no mention of linking housing provision with other forms of livelihoods assistance. Although support for agricultural activities was undertaken in some areas by international NGOs, this was usually not coordinated with housing assistance. Typically assistance agencies worked in specific sectors with limited coordination. Multi-sectoral responses were few and there was little collaboration between organizations to deliver integrated programmes.

One exception, the IOM, linked low-cost housing with peace building and support of agricultural activities. The housing and agricultural components, while not integrated, were coincidentally linked. Support for housing was based on geographic criteria, prioritizing households that did not receive the KSh25,000 government grant or external housing support, and selection was undertaken by community members. Support for agricultural activities was based on vulnerability and needs-based criteria through community self-selection. Despite different targeting procedures, beneficiary households for the two were the same in many cases. This is likely to be because households that did not receive the government grant were in greatest need for support of agricultural activities, implying that others who had received the KSh25,000 grant for housing support tended to use some of this to support income generating activities. Indeed the MoSSP reported in April 2009 that of 22,500 IDP households that received the KSh25,000 cash grant, only 7,300 used it to rebuild their houses (Shelter Working Group, 2009). The peace-building element of this programme was explicitly linked with the support of agricultural activities. After the post-election violence, farmers' groups had become tribally polarized and agricultural support was conditional on re-establishing multi-ethnic farmers' groups. As a result, at least 30 per cent of the support was given to farmers that had not been internally displaced.

An open-ended approach to design to cater for a range of owner-driven outcomes

An open-ended approach to design allowed Kenyan IDP core shelters to be transportable, upgradeable and reusable. Given the post conflict uncertainty of the durable end-point, open-ended design opened up a wide range of possibilities to reach owner-driven development to permanent construction in order to suit specific household criteria.

The concept of design for change and uncertainty is not new in architectural theory. Christopher Alexander describes a house as an activity which is 'created gradually, as a direct result of the living which is happening in it and around it' by people who 'spend only what they can afford.' (Alexander et al, 1973). This approach is advocated by John Turner, who also found that housing could become affordable through incremental self-help construction as and when resources become available. Such housing could be designed to meet individual needs and modified to adapt to changes in circumstance. For Turner, the 'use value' derived from this approach was more significant than market value, as what housing does for the user is more important than what it is (Turner, 1976). John Habraken in *Supports* (1972) categorizes three levels of decision making: the tissue (urban fabric) support (base building) and fit-out (infill). The tissue tends to remain the same, supports will change with time and infill will change more regularly. This system of subdivision allows users to interface with the level that is relevant to them: the consumer (or

household) on the infill level, the housing corporation or developer on the support level and the municipality on the tissue level.

Expanding on writers such as Habraken (1972) and Duffy (1992), Brand (1994) notes that buildings are essentially made of six time bound layers:

- site: generally does not change (although some buildings are transportable);
- structure: foundations and load bearing elements are expensive to change, so people generally avoid doing so;
- skin: exterior surfaces, these may change every 20 years or so;
- services: working guts of a building, electrics, plumbing etc. which wear out periodically;
- space plan: interior layout where walls, ceilings, floors and doors go, commercial spaces can change as often as every 3 years or remain the same for 30 years;
- stuff: furniture, appliances etc., may change monthly or even daily.

Brand cites examples of buildings that were designed identically a hundred years ago but have since developed lives of their own making them distinctly different in time without changing the structural core. He gives an example of a building that started as a factory then became a dance studio then a school. This demonstrates how life goes on and buildings will change – 'function melts form' (Brand, 1994: 156).

Recognizing that skin, services and space plan will change in response to owners' needs, it is fitting for ODR to invest more heavily into the more permanent structural layer and allow the skin and space plan to develop a life of its own with time in accordance with households' resources and priorities. If buildings can metamorphosize periodically without necessitating structural changes, it could be argued that structure is less critical to owners' abilities to personalize their homes. Also given that most post-disaster ODR programmes are standardized to a certain extent, such as common minimum standards, equity of financial resources etc., it should not go against the grain of ODR to standardize primary structural components, or at least provide choice from a range of standard types.

If a standard structure is acceptable in owner-driven processes, this is of great value in humanitarian operations:

1. If the intervention is an upgradeable temporary shelter then budgeting, procurement and distribution of standardized kits is a relatively simple operation.
2. If the intervention is permanent construction then standardized structural options designed in collaboration with end users can be developed into standard bills of quantities and set key-stage grant disbursements, while still allowing flexibility on the design of skin and space plan. This is much lighter on professional resources and time than an entirely bespoke approach.

GOAL in Sri Lanka found that when it changed its bespoke, owner-driven approach, to four standardized structural options based on typical models arising in bespoke production, the programme became time and cost efficient and less heavy on technical resources. The level of owner satisfaction was equally high as the bespoke option and despite standardization, not one house was the same as another due to owners having full control over the skin and space planning within planning restrictions (Aubrey, 2008).

This open-ended, or loose-fit, approach to housing allows the flexibility of owners to develop and upgrade housing in accordance with needs, tastes and resources, allows buildings to change with time, and allows the standardization of structural components if necessary in order to support the operational efficiency of the assistance agency. This approach is particularly important in poorly funded shelter responses, where resources are likely not to permit the construction of completed permanent houses, as it allows temporary solutions to pave the way for permanent solutions through owner-driven incremental development.

An enabling framework

The low-cost housing project in Kenya illustrates that transitional shelter can be a 'verb', describing a *process* of sheltering. In this context, the ODR approach should not view the constructed object as being the main output in reconstruction activity – which is often the case in well funded responses such as post-tsunami Indonesia and Sri Lanka housing reconstruction, where funds were sufficient to build complete permanent houses – but should also focus on the success to which the capacities of owners (as individual households or communities) are developed in order to drive an ongoing, incremental process of reconstruction. This involves owners acquiring technical knowledge and management skills and being able to mobilize resources for incremental improvement.

If housing is an incremental process, which may be kick started by a humanitarian intervention, it is important that there is an enabling framework that is conducive to this process. The willingness and ability of a household to engage in the process of housing is determined by how housing is prioritized against other livelihood needs and its capacity to mobilize resources for this process, which in turn is influenced by the strength of its livelihood. The mechanism prescribed in ODR, which places the household in the heart of decision making and managing the process of shelter recovery, invites the household to also make decisions about how shelter is prioritized against other needs. This then raises the question of whether ODR should sit in a wider framework that considers shelter as one of many needs after disaster, and empowers the household to engage with and prioritize the range of interventions necessary to secure its livelihood.

The ease by which a household can engage in the process of shelter recovery to permanent housing is influenced by factors such as land tenure security,

access to finance, access to affordable materials and labour, and governance. These factors, commonly grouped under the term 'enabling shelter (or housing) strategies' (UN-Habitat, 2006), and are normally associated with development approaches rather than humanitarian interventions. However in linking post-disaster shelter interventions with incremental housing development, it is important to uncover how enabling strategies for housing can be enhanced during or as a result of humanitarian response.

It is useful therefore to discuss linkages of ODR with a wider livelihoods based framework and with an enabling environment for housing.

A livelihoods based framework

IDPs not only lost shelter, but means of generating income, dignity, the breakdown of community and social fabric, security and self-esteem. The combination of these factors led to their status of vulnerability. If livelihood 'comprises the capabilities, assets (including both material and social resources) and activities required for a means of living', (Carney, 1998: 4), it is logical for housing to be considered as one of the many assets that contributes to livelihood. It is therefore relevant to place ODR within the context of a wider framework of livelihoods development, particularly as the means to generate income (another critical livelihood asset) is central to the enablement of owner-driven housing development.

The need to link housing support into a broader livelihoods framework is reinforced by the experience of Kenya where government funds allocated to housing support were siphoned off by beneficiaries to other uses, and experiences such as Sri Lanka where clients of owner-driven housing programmes often used some of the cash allocated to housing for other priorities such as educating their children, setting up businesses, etc. and then ensured that construction reached the key stages necessary for obtaining the next phase grant through sweat equity or through non-monetary exchanges for labour (Aubrey, 2008). These experiences reflect the multi-faceted nature of livelihoods and show that when in control, households will direct resources towards priorities that they themselves decide, but also call for a broad-based approach to humanitarian assistance, from the outset, which allows households and communities to define their priorities and respond in a structured, accountable way. To do this, the owner-driven concept, i.e. the empowerment of households to make their own decisions, should apply not only to housing provision but also to the process of securing other assets, activities and capabilities necessary to live.

At this stage it may be helpful to draw parallels between responses to vulnerability, such as in the context of post disaster, and responses to poverty. While it is important to recognize that 'poverty and vulnerability are not synonymous … the two are loosely related and often reinforce one another' (UN-Habitat, 2006). Significant literature on poverty (e.g. Chambers, 1998; Jones, 1999; Wratten, 1995) has shifted the understanding of poverty from

lack of income to a multidimensional concept, which embraces a range of factors including inadequate access to essential services, ill health and insecurity, and interpreted subjectively by those living in poverty. The analysis of poverty is now increasingly qualitative and policies aimed towards poverty eradication tend to be multidimensional (Fiori et al., 2001).

Multi-sectoral approaches addressing poverty eradication require priority setting and planning across all sectors and at their core is the decentralization of decision making and resource allocation responsibilities to the lowest logical administrative level in order for interventions to best meet the needs of communities and individuals. Multi-sectoral approaches have been criticized for not being holistic enough as they tend to focus on single issues through a range of actors instead of a range of issues relevant to the individual or community (Syagga, 2001). They can also be difficult to implement as they involve a range of government ministries with their own priorities, which may not necessarily be consistent with collective priorities (Ashley and Carney, 1999).

Sustainable livelihood approaches, which also address the multidimensional nature of poverty and vulnerability, are based on core principles that emphasize 'people-centred, responsive and multi-level approaches to development' (Ashley and Carney, 1999: 1). Like multi-sectoral approaches, they rely on decentralized governance and the empowerment of people and groups of people, however they differ in that they tend to address a variety of issues within a single programme, in response to a broad-based, people-centred understanding of needs. They can also be anchored in a single sector, avoiding the complications of multi-sectoral approaches, but create links to relevant sectors. Through being people-focused, multidimensional and potentially anchored within a single sector, sustainable livelihood approaches may be well suited for forming a wider framework within which ODR can be more effective, allowing households and support agencies to address housing as part of a range of recovery and development needs following a disaster.

Barriers in the delivery of an integrated system of humanitarian response will vary from country to country, and will be influenced by the degree to which decision making and authority is decentralized, and the 'strength of partnerships among all stakeholders including civil society, national and local governments, private sector, media, national and international support agencies', (UN-Habitat, 2008). If an integrated approach is to be encouraged, this must be mirrored in the humanitarian sector and as it currently stands, integrated development does not seem to translate well into the Inter Agency Standing Committee (IASC) cluster approach to relief and recovery. Donors are increasingly inclined to administer their funding through the cluster system instead of directly to NGOs, consortia and UN agencies, as this is convenient and minimizes the risk of duplication. The concentration of funds in sector-specific clusters of the IASC militates against integrated reconstruction in several ways.

NGOs seeking funding through the cluster system, for example through the consolidated appeals process, attend 'multiple cluster meetings and

participate in joint activities such as field assessments (which) requires participants to commit a significant, sometimes onerous amount of resources, time and energy' (Mercy Corps, 2006: 4). Funding streams through the cluster system are sector specific and an NGO may be successful in one cluster but not the other, or aware of the commitment required to the cluster may align itself only to one or a few clusters. This limits opportunities for integrated programming.

Working in specific sectors may be acceptable if there is a strong and simple mechanism of inter-agency and inter-sectoral coordination inclusive of all actors including NGOs, local civil society and government. However often 'cluster strategies and plans are essentially dictated by the UN cluster leads with insufficient inclusion of and consultation with NGOs, national governments, civil society groups or affected populations … (and) have simply added another bureaucratic layer without necessarily providing a commensurate level of improved coordination' (ibid.: 3). Evaluations of Pakistan and post-tsunami Asia, showed a chasm between cluster leaders and national counterparts, and in many cases resulted in two parallel coordination structures – national and international – the latter being superimposed on the former (Editorial, ibid.: 7). To strengthen an integrated approach, it is essential that cluster leads serve cluster members impartially despite being in competition in other contexts. Often UN representatives have acted simultaneously as cluster leads and agency representatives, stirring criticism that cluster leads can use the system as a 'tool to promote an agency's own interests' (ibid.: 7). Any attempt towards integrated programming will therefore require a serious review of how the IASC cluster system is implemented in order to strengthen stakeholder representation.

An enabling environment for ODR

Post-disaster shelter relief and recovery responses tend to be guided by Sphere standards, the Humanitarian Charter, the Humanitarian Reform and various guide books written by UNHCR and the Shelter Centre which give insight into quality standards and appropriate methods of delivering shelter assistance. Discourse on humanitarian shelter provision is developed further in the documentation on owner-driven approaches, which focus on the empowerment of affected stakeholders to engage more directly with their shelter needs in order to deliver solutions that are appropriate to individual and collective needs.

Shelter assistance in development tends to be guided by the UN-Habitat agenda and the Global Strategy for Shelter, which have shifted emphasis from the delivery of housing to the enablement of housing through intervention in finance markets, land markets, material and labour, and decentralization of governance, allowing house owners, CBOs, NGOs and the private sector to be empowered to deliver housing in accordance with their own needs and resources (see Box 9.3).

Box 9.3 The enabling approach to shelter provision

The enabling approach recognizes that people can build houses themselves at lower cost than through government provision and can meet their own housing needs more specifically this way in accordance with the resources that they have available. It encourages governments to 'withdraw from the direct provision and enable other actors, the private sector, community groups, NGOs (and individuals) to contribute fully to the delivery of adequate shelter for all' (UN-Habitat, 2006: 28). It addresses the key ingredients required for housing development which are finance, land/tenure, materials, people and institutional framework.

Finance. The enabling approach recognizes the bottleneck to housing created by limited access to finance. It recommends that housing finance must be extended to more people through a range of channels including improving the accessibility of conventional banks and through innovative financial mechanisms such as savings schemes, microfinance, community mortgages etc. To support this, the government has a role to play in reviewing policies on interest rates, savings and subsidies and through regulating financial markets.

Land/Tenure. The Habitat agenda states 'access to land and security of tenure are strategic prerequisites for the provision of adequate shelter for all' (UN-Habitat, 1996: paragraph 75). Land supply can be increased and costs reduced by various mechanisms including land use planning, land sharing, formalizing informal land markets, land expropriation and land banking. Land management and tenure systems are vulnerable to corruption and rely on good governance. They also benefit from decentralization to better address the needs of people and their communities.

Materials/Labour. Materials have major cost implications and inappropriate building regulations can inhibit the production of housing. Policies are required to support the production and use of low cost and (often) locally manufactured materials, to train people in appropriate technologies in order to increase the quality and quantity of skilled workers and to disseminate information.

People and governance. Ultimately, the enabling concept implies that 'the people concerned will be given the opportunity to improve their housing conditions according to the needs and priorities which they themselves will define' (UN-Habitat, 1988: paragraph 15). To do this people need to be able to participate individually and collectively in:

- national policy-making;
- planning, implementation and monitoring of housing projects;
- managing institutions that provide services;
- wider political processes.

(UN-Habitat, 2006: 45)

Legal and Regulatory Frameworks. Governments can play a key role in supporting the creation of enabling environments for housing provision through reviewing legal and regulatory frameworks. Regulatory frameworks have a significant impact on urban development, particularly on zoning, planning, land use and plot development, space standards and infrastructure services and 'stand among the limited number of instruments enabling governments to influence urban land and housing markets'. Through applying incentives and controls, regulatory frameworks can ensure market efficiency while allowing public authorities to intervene on matters of equity and coherence (ibid.: 48).

While both focus on empowering the household to acquire housing in whatever way suits best, the methodology is quite different. The humanitarian model deals directly with the house owner through providing material, financial and technical resources, and the development model deals indirectly through creating an enabling environment. These two approaches are both important to ODR. In Kenya, it was critical for people to return as quickly as possible to their farms after the displacement and to do this direct assistance was needed, but if beyond the initial thrust of the humanitarian intervention, housing develops as an ongoing process, an enabling environment is also necessary.

Post-disaster ODR therefore needs to be able to link humanitarian initiatives with development approaches, and have in place the institutional capacity (government and humanitarian sectors) to do this. In the humanitarian context, 'it is the responsibility of the state to care for the victims of emergencies on its territory. Accordingly, government has the primary role in initiating, organizing and implementing humanitarian assistance' where necessary with the support of humanitarian organizations (Humanitarian Reform, 2009). In the housing development context, governments have a key role in creating appropriate systems of governance and enabling environments. This can take some time and requires political will. It is therefore not guaranteed or even likely in many cases that the enabling environment for housing development will be in place at the onset of a disaster or that it will be in place when needed to support ODR. That said, despite the lack of an overall enabling environment, it is possible that some supportive policies and systems are already in place, which can be adapted or further enhanced to support ODR intervention.

In its ODR pilot in Galle, Sri Lanka in 2005, UN-Habitat worked with pre-existing community development committees (CDC) on participatory mechanisms that had been established in the Million Houses Project (1984–1989). Through CDCs, citizens, particularly women, were able to participate in community action planning and community contracting in order to rebuild their communities after the tsunami in accordance with their own priorities. Where CDCs were not in place UN-Habitat was able to establish new ones. When the project was scaled-up by IFRC in partnership with UN-Habitat, UN-Habitat trained the Sri Lanka Red Cross on the mechanisms established by the Million Houses Project and this enabled thousands of households to participate in the process of rebuilding their own houses and communities. This was achieved despite the fact that the government agency assigned to oversee reconstruction, the Reconstruction and Development Agency, was much centralized. Similarly in Kenya, despite the top-down approach taken by the MoSSP in coordinating resettlement, self-help groups of IDPs that have bought land to build new settlements should capitalize on the existing local authority service delivery action plan mechanism. This was introduced in 2001 and allows citizens to participate in identifying local needs and priorities and to engage in participatory budgeting processes to enable the local authority transfer fund

to be spent in the best way to address local needs. It is therefore possible, even where the overall governance and enabling framework is not in place to support ODR, for humanitarian actors to seek out and work with small initiatives that may be in existence in order to support ODR and work towards mainstreaming this approach. In linking humanitarian response to an enabling environment for ongoing ODR, humanitarian agencies should identify existing supportive initiatives and institutions and incorporate these as far as possible into their programming.

As well as supporting existing initiatives, donors have the opportunity to work with government in developing new initiatives aimed at creating appropriate enabling environments. For instance the European Agency for Reconstruction in Kosovo shifted emphasis from direct funding of housing construction, once a significant number of houses had been rebuilt, to creating an enabling environment to support the development of housing and other livelihood assets. This was achieved through supporting new banks and microfinance initiatives to provide loans to support the construction industry, small-scale enterprises and homeowners (European Union, 2006).

An important development in bridging gaps between emergency relief and longer-term development in the housing sector was the inclusion in May 2008 of UN-Habitat in the IASC cluster system, as a focal point for housing, land and property rights. UN-Habitat recognizes that 'in times of crisis, the highest development gain can be made in the shortest possible timeframe', and that 'a set of strategic interventions in an emergency phase, if integrated in sustainable development goals, can both reduce the period of crisis and build a platform for early recovery and development' (2008: vi). UN-Habitat promotes an 'integrated and strategic' approach, and through participation at the earliest stages, it claims to ensure that 'human settlements interventions, either in immediate emergency or transitional recovery, are linked to longer term development strategies in disaster hit countries' (ibid.: 14). This role should be strategically linked with other humanitarian sectors in all stages of humanitarian response, in order to link housing with other livelihoods interventions and lead ODR into long-term development processes.

Conclusion

The low-cost housing response in Kenya demonstrates the potential of post-disaster shelter to contribute to longer-term permanent housing. Through an open-ended approach, temporary shelter, designed appropriately, can be adaptable to changes in circumstance and can be developed over time to suit specific household needs. This is significant in poorly funded post-disaster responses, as minimal investment on shelter, planned well and backed with a conducive enabling framework, should be able to contribute to long-term housing recovery and development.

Some of the shortcomings of the Kenya response highlights factors that could contribute to an enabling framework. The most obvious shortcoming

was the 'sectorization' of humanitarian response, which left many gaps and led to IDPs siphoning off government grants for housing to support other more pressing needs. As disasters affect many facets of people's livelihoods, a people-centred approach to housing reconstruction should allow households to prioritize shelter needs in accordance with their other needs. If this is the case, people-centred reconstruction, as exemplified in ODR, is naturally linked to sustainable livelihood approaches which place people at the centre of defining and prioritizing their livelihoods needs, and attempt to support individuals and communities to address their range of needs simultaneously through acting locally and at a macro-level. If ODR can sit within such a framework, then the support of ODR should be linked with other sectors, either through coordinated and linked activities or through multi-faceted programming throughout the project cycle, particularly during needs assessments, so that needs as perceived and prioritized by the target group are properly understood and responded to. An enabling framework also requires policies and institutions to be in place to support housing development in the long-term through promoting land tenure security, access to housing finance, access to materials and labour and the ability for communities to participate in decisions that affect them through decentralized governance.

Key obstacles in realizing an enabling framework for ODR after disaster occur within the international humanitarian sector and at institutional levels. Within the humanitarian sector, there is a danger that the IASC cluster system is geared towards sectorized responses. Institutionally, key obstacles include centralized systems of governance, lack of cohesion between local and central governments, lack of cohesion between ministries and lack of preparedness and capacity.

Adjustments are necessary within the humanitarian sector to improve the availability of funding for multi-faceted programming and strengthen systems of delivery. Appeals processes could be improved so that resources for capacity development for longer-term development strategies are available even during early stages of recovery. The IASC cluster system should also seek to strengthen coordination between clusters at national and local levels and to enhance relationships between key stakeholders, including local and central government, civil society, private sector, national and local institutions. At the institutional level disasters, responded to intelligently, can often be opportunities to accelerate change:

> Recovery phases offer a unique chance to revisit past practices and rewrite policies affecting future development in disaster-prone areas … beyond the physical aspects of rehabilitation, the recovery period also offers an opportunity for the society at large to strengthen local organizational capacities, and to promote networks, awareness and political mechanisms facilitating economic, social and physical development, long after disaster. (UN-Habitat, 2008: 18)

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CHAPTER 10

Bangladesh: Can large actors overcome the absence of state will?

Khurshid Alam

Bangladesh is widely known for its integration of participatory development practices and the institutional support this receives from government. Yet, despite the regularity of disasters in the country, participatory approaches to post-disaster reconstruction are not supported by a state framework, and their design and implementation are largely left to individual agencies to interpret. This chapter examines the political framework for this apparent anomaly, and explores its implications for ordinary people. Findings are that outcomes are extremely variable, depending on agency resources and priorities; and that the housing produced has low satisfaction rates and poor status. The chapter argues for targeted international policies and for the publication and dissemination of national programme experiences.

Introduction

Despite the country's reputation for participatory community development practices, post-disaster housing reconstruction is still a top-down and agency-driven process in Bangladesh. If there are any uses of participatory approaches in reconstruction, they are limited to 'beneficiary participation' at design stage such as selection of 'beneficiaries' and initial consultation on design. Owner-driven reconstruction (ODR) as a term is not well known in the country. In recent years, however, principles of ODR have been applied, yet selectively, in post-disaster reconstruction undertaken by humanitarian agencies and the government. These early, but valuable, practices remain at a very small-scale compared to the construction needed following a large-scale disaster. They are also largely unknown and least documented and shared to influence the post-disaster reconstruction discourse. The country seriously lacks a policy regime to guide post disaster reconstruction. As a result, the nature and degree of house owners' involvement in reconstruction are left to the wisdom and choice of the agencies. This chapter documents key lessons emerging from use and non-use of ODR in Bangladesh, with the aim of including ODR as an important approach in reconstruction discussion. It focuses on three areas: 1) experience of ODR in Bangladesh; 2) factors that either hinder or limit ODR

to be adopted by government and humanitarian agencies; and 3) contextual, policy and legal structures that may provide an enabling environment for ODR to be practiced widely in Bangladesh.

Disaster and housing in rural Bangladesh: Overview with key features

A house in Bangladesh means more than just a roof and walls; it has significant symbolic meaning that determines house owners' social position, cultural identity and economic status. In rural Bangladesh, a house with a homestead is a very important part of an owner's livelihood. Most of the rural houses are made of natural and primary materials:

> Housing has been changing its forms and building styles throughout history in response to socio-economic forces as well as climatic conditions and geographic locations of Bangladesh. Settlements in Bangladesh territory initially took place in the highlands of south eastern areas covered with forestation that gave natural protection from floods, tides of the rivers, sea and cyclones. Gradually, with increase in population, the settlements spread in areas with prospects of agriculture. The growth of population ultimately came out as the single major factor for spreading the settlements all over Bengal, which almost entirely remained rural until the end of the 17th century. (Rashid, 2007)

One of the important aspects of the rural house is its multigenerational dimension, where one generation establishes a house that is modified and beautified over time. While primary and natural materials such as bamboo, wood, mud, and clay tiles are widely used in house construction, corrugated iron sheets gained popularity in recent times as roofing and wall material. Masonry buildings, which have flourished during the last two decades, are a relatively new tradition in rural Bangladesh. Even today, bamboo is as widely used as it was in the past and remains a useful material for making walls for rooms and pillars or beams to support the roofs. Other materials used in rural areas to build external walls and internal partitions include canes, jute sticks, corrugated iron sheets, wood and mud or mud bricks. The relatively stable structures use corrugated iron sheets stretched on a flat frame or supported on a triangle shaped bamboo or wooden base.

Bangladesh, with a population of 144 million, is also among the most vulnerable nations, facing disasters almost every year. While disasters affect all parts of material, social and spiritual aspects of life, damage to housing is a regular feature affecting households' economy and well-being. Since 1970, the country has lost an average of 0.3 million houses fully and 0.5 million partially per year as a result of flood and cyclone.

Over the years, people innovated and practised local science and technology to make their houses resilient to known hazard and climatic conditions (Alam, 2007). In flood-prone areas, for example, people raise the plinth of

Table 10.1 Damage to housing by cyclone, flood and river erosion during 1970–2007

Year and disaster	Damage on houses	
	Fully	Partially
1970 cyclone	3,350,000	–
1986 flood	196,803	279,212
1988 flood	1,151,189	2,536,408
1988 cyclone	788,715	863,837
1991 cyclone	819,608	882,750
1991 flood	340,043	573,446
1993 flood	234,393	615,336
1995 flood	898,7082	2,014,017
1996 flood	218,275	598,818
1997 cyclone	290,320	452,886
1997 flood	113,252	241,147
1998 flood	984,002	2,456,795
1999 flood	138,076	426,695
2000 flood	437,050	309,775
2002 flood	115,511	564,527
2003 flood	109,147	541,988
2004 flood	969,161	3,602,009
2007 flood and cyclone	659,826	1,811,329

Source: Disaster Management Information Centre (DMIC), Ministry of Food and Disaster Management (MoFDM)

their houses above the heights of past floods or construct them on raised ground. Poor people often use light materials and loosely structured design so that these can be moved quickly in the likely event of river erosion. Coastal people, on the other hand, make their house resistant to strong wind, cyclone and tidal surges by raising the plinths, allowing for flexibility in the structure and making the roofs relatively low. They also plant sufficient trees around the house to break or weaken the force of the wind; and often use logs and branches of those trees to repair any damage to the houses. In normal circumstances, rural people employ local carpenters and masons to build their houses. But these technologies and practices have limitations and do not work properly in the present pattern of disasters, which are changing in frequency and intensity. Despite knowing the right choice for housing, people cannot adopt or implement them because of their limited financial ability. On the other hand, landless[1] households, which constitute 44 per cent of the total households, do not have secure tenure, and this acts as a disincentive for them to invest in their housing. Many of them live on available public land or other people's land on a temporary basis.

The government formulated a National Housing Policy (NHP) in 1993, which was further revised in 2004 but remains in the draft stage (CARE, 2007). The draft happens to be heavily urban biased but overlooks the urban poor. On the other hand, there is inadequate national financing for housing (CPD, 2003), and most is targeted toward urban housing. The fact is that post-disaster reconstruction is not an area guided by any policy. The NHP and the draft Disaster Management Act (Disaster Management Bureau, 2008) do not include any aspect of post-disaster reconstruction. Although the national building code provides technical guidelines on how to build earthquake resistant houses in urban areas, it overlooks post-disaster reconstruction. Absence of such policy provision resulted in no definite principles and processes for affected house owners to find their role in reconstruction. Therefore, the degree and nature of the owners' role in post-disaster reconstruction remains a choice of reconstruction agencies.

A few decades ago, rebuilding houses after a disaster was primarily undertaken by the affected community. For example, after the devastating cyclone in 1970 that killed half a million people, outside assistance for shelter reconstruction was only 17 per cent, while affected communities constructed 83 per cent of the houses (Chisholm, 1999). The scenario is different now. After the flood in 1988 and cyclone in 1991, engagement of humanitarian agencies and government in reconstruction has increased. In 2007 alone, the NGO Affairs Bureau approved US$3.8 million for house reconstruction (NGOAB, 2009). Among 120 foreign funded disaster related projects approved by the bureau in 2006–07, 19 were housing projects; and the figure rose significantly after cyclone Sidr (73 housing projects out of 89 reconstruction related projects). In total, 78 humanitarian agencies were involved in post Sidr housing. Data shows that the number of agencies undertaking post-disaster housing has also increased, though it is difficult, and to some extent too early, to establish the actual trend. What is the implication of the increased number of external agencies and government involvement in post-disaster housing reconstruction? Most disaster professionals in Bangladesh believe that there has been significant damage to people's capacity to manage their own reconstruction due to increased frequency of disasters. Thus, the necessity of external agencies' engagement in reconstruction has never been greater than today. But the key ideological and methodological question is in what ways the agencies can further strengthen the role of house owners' in the post-disaster reconstruction process?

The study

Background

Bangladesh has been widely cited as an example of the use of 'community based' and 'participatory approaches' at micro-level planning in regular development work, as well as often in emergency reconstruction. While

post-disaster reconstruction in Bangladesh historically adopted diverse approaches, past studies highlighted only aspects of participation in general rather than specifically discussing the degree and quality of participation in key decisions involved in post-disaster reconstruction. There is sincere acknowledgement among the humanitarian actors in Bangladesh about the importance and value of participation in reconstruction outcomes, but participatory practice remains an agency-driven process. Internationally, ODR (please refer to section below on selection of projects for the definition of ODR used by the study) has gained significant policy attention in recent years because of the quality of outcome it offers. In Bangladesh, the importance of owners' key role in reconstruction is increasingly acknowledged, yet remains an overlooked area in practice.

Purpose of the study

This study documents lessons from use and non-use of ODR in housing reconstruction after the flood and cyclone in 2007. This inquiry aims to contribute to future reconstruction policy discussion at a time when the country is exposed to disasters of increased frequency and magnitude as a result of climate change. The study synthesized lessons on the key factors that may shape an enabling ODR environment in Bangladesh. Specifically, it aims to: 1) document experience of ODR in Bangladesh, and establish whether it has been used selectively and on a limited scale; 2) analyse the factors that either hinder or limit full implementation of ODR, and/or prevent it from being taken up at all; and 3) examine contextual, policy and legal structure that may provide an enabling environment for ODR to be practiced widely in Bangladesh.

Selection of projects

Through a scoping exercise with 15 humanitarian agencies and a few key officials at the Disaster Management Bureau (DMB), the study team identified 8 housing projects where some principles of ODR were used to varying degrees. The study adopted a 'participation plus' approach to define the term ODR. In participatory reconstruction, the house-owners participate in the decision making but final decisions rest with agencies themselves. In ODR, agencies allow affected house owners to take the lead role in reconstruction by enabling them to make related decisions, while they provide necessary supports. By using this definition, two projects were identified as ODR cases. Another six projects, where ODR might have been used selectively or not at all, were also included in the study to understand the challenges agencies perceive in adopting ODR. Examination of the factors that limit or foster ODR were undertaken in all projects.

Table 10.2 List of projects visited by the study team

Name/year of disaster	Projects visited (number of house units planned/total built is given in brackets)
Flood 07	World House[2] in Tangail (120).
Flood 07	UNDP/CDMP funded plinth raise by Sharp, a local NGO (100).
Cyclone 07	Muslim Aid, operational, 400 units (400).
Cyclone 07	SSDP funded by CBM for PWDs (10).
Flood 07	Oxfam Novib funded housing implemented by GUK, a local NGO (100).
Cyclone 07	Cyclone Sidr recovery project of the British Red Cross in Patuakhali (925), funded by DEC and the BRC's own resource.
Cyclone 07	UNDP funded SAP project building 550 units (550).
Cyclone 07	Local government funded by the Government of Saudi Arabia (5,320).

Methods

A three-step approach was used in this study:

Step one. This included discussion with house owners. A group of eight trained field researchers visited the project locations. They organized group discussions with male and female house owners (separately) to understand the nature and degree of their engagement in the key reconstruction decisions. A Bangla guideline was developed to facilitate the discussion. Four sets of key questions were employed in the discussions:

1. What type of house they lost by the disaster? What type of house did they expect from agencies?
2. What was the level of participation of the owners in the decision making processes?
3. What was the outcome of participation and non-participation?
4. What results could have been different if owners had participated in the decision making process?

Step two. This included discussions with key project managers in each agency to document their own lessons from use and non-use of ODR. Focus of the discussion at this stage was to understand the factors that might have influenced the choice of reconstruction approach.

Step three. This included policy and context analysis. All Dhaka based managers of the selected projects were interviewed. In addition, key officials from government, UN and civil society were interviewed to understand challenges for use and non-use of ODR in Bangladesh. In addition, available and relevant documents such as review reports, policies and other documents were reviewed.

Disasters in 2007: Setting the context of the projects

With two extreme weather disasters, the year 2007 was unique in the disaster history of Bangladesh (Alam, 2008): widespread flooding occurred in July and August, quickly followed by the category 4 cyclone Sidr in November. The flood alone caused 3,363 casualties, affected 10 million people and reduced crop output by at least 13 per cent. While the flood rehabilitation was underway, the coastal part of the country was hit again by cyclone Sidr with a speed of 240 km, which affected 30 districts (out of 64), impacting the lives and livelihoods of 8.7 million people, and damaging nearly 1.5 million houses and some 4.1 million trees.

The 2007 flood caused full damage to 95,949 houses and partial damage to 856,264 houses in 44 flood affected districts. The average cost of the damaged houses was calculated to be an amount of BDT39,235 ($574). Cyclone Sidr heavily affected houses, leaving 563,877 houses completely or heavily destroyed and 955,065 partially damaged in 26 districts. The most severe damage occurred in Bagerhat district (118,899), followed by Barguna (95,412), Jhalakathi (69,685), Pirojpur (63,896), Patuakhali (53,291) and Barisal (41,470). The overall impact on housing has been significant, with a loss of 11.5 per cent of shelters in some districts. A conservative estimate gives the total value of the loss of housing stock is BDT13,580.50 million ($199.71 million).

The Government of Bangladesh (GoB) and donor agencies contributed an amount of $126 million for repairing of 622,247 partially damaged houses and more than 100,000 houses have been constructed till February 2009 with costs ranging from $730 to $2,193. The number is increasing through participation of more humanitarian actors in the house construction programme.

Summary of the key observations

The house owners have very clear ideas of how their own house 'should' be. This preference is determined by the owners' socio-economic background, livelihood activities, sex, economic ability, cultural tradition, climatic condition, and multi-hazard conditing.

Selected agencies adopted a variety of approaches to determine unit cost, choice of materials, size of house and technology to be used. In a similar way, house owners' roles also varied by agencies visited, which resulted in differential outcomes. None of the agencies visited were familiar with the term ODR. The fact is that they used some of the underlying principles of ODR while reconstructing.

Table 10.3 summarizes the outcomes of use and non-use of ODR by all the eight projects visited.

Table 10.3 Owners' involvement in all eight visited projects

Key decisions involved in a housing reconstruction		Nature and degree of house owners' involvement	Outcome, when ODR was adopted	Outcome, when ODR was not adopted
Site selection, in-situ or relocation.		All agencies involved owner.	Community preference implemented.	Often, latrines are constructed in the wrong place.
House design	Technical standards, such as disaster resilience.	House owners participated in 3 projects (3/8).	Local capacity on resilience technology increased. But often owners voluntarily asked agency to decide about technical standard. Flexibility allowed.	Local technological consideration is discredited by agency-driven technology, this often resulted in design that is not appropriate locally. It has increased risk of fire.
	Size of house	House owners negotiated in 3 projects (3/8).	Bigger and comfortable size agreed.	Frustration among house owners increased about size, number of rooms and use of space.
	Use of materials	Negotiated in 3 cases (3/8).	Owners used their own materials thus saved money. Significant positive impact on local economy.	Often, inappropriate material used, as a result durability not ensured. No impact on local market as materials are imported. Owners were not able to use their own material due to fixed design constructed by contractors.
	Number of rooms	Owners agreed on agency preference.	Owners got two rooms by negotiating with agency, but preference about number of rooms respected.	Owners got only one room which is not consistent with cultural and social preference of the area. In most cases, agencies' decisions were inflexible leaving no room for negotiation.
	Door and windows	Negotiated in 3 cases (3/8).	Community received preferred number of doors and windows.	In extreme case, houses were built without windows, leaving that responsibility to owners.
	Roofs and ceiling	Agencies decided, with limited owners' participation (3/8).	Flexibility to fix ceiling is included.	No provision for modification.

	Storing facilities	Agencies decided with limited owners participation (6/8).	Community received a secured storing place.	Security of household assets not ensured.
House construction		Full ODR (3/8).	To a large extent, the owners decided about use and non-use of contractor but agency policy also influenced the process. Owners' satisfaction about quality of the house was ensured as they led quality checking. Significantly contributed in local economy. High ownership ensured e.g. beautification and modification done by owners. Technical knowledge transferred in a larger extent.	No contribution in local economy. Limited ownership achieved. Technical knowledge was transferred on a limited scale.
Handover	Terms of the deed.	Agencies decided in all cases.	–	Not assessed.
	Visibility sign-board.	Agencies decided in all cases.	–	Mixed reaction, but in most cases agencies were not happy when a big sign-board was erected.

How did the external context influence the choice of approach by the agencies?

As discussed earlier, there is no pre-agreed post-disaster housing construction process in Bangladesh. As a result, reconstruction approaches to unit cost, design parameters and actual construction vary by agency, type of disaster and over time. The cyclone and flood of 2007 were no exception. While the agencies enjoyed reasonable freedom to decide what approach to adopt, most often their choice was influenced by the reconstruction discourse shaped by a pluralistic institutional environment in Bangladesh (agencies, the GoB, the public, academics and the media). Arguably, the discourse was influenced by three important factors: 1) the unit cost – following experience of the inequalities in post-tsunami reconstruction in the region, media and civil society argued that humanitarian agencies and donors should maintain equity in unit cost; 2) the resilience factor – there was significant public pressure, particularly from civil society and the media, to pursue cyclone resistant design. The risk

reduction factor in reconstruction has never received so much public interest in the past; and 3) the debate that gradually took shape over time was to build houses for the landless families who generally live on the embankments. Within a few months of the disaster, GoB imposed a ban on building houses on the embankment without allocating alternative land to them, which created a big dilemma for humanitarian agencies.

All these discussions eventually resulted in minimum standards for housing agreed by the government. As many agencies were engaged in housing with many different unit costs, the government (there was no political government at that time) perceived significant political risk arising from house building to poor resilience standards. This risk was addressed with a top-down minimum standard, which was limited to a technical design. It did not specify what the reconstruction process should be, let alone the role of the affected house owners. ODR was an unknown concept. As a consequence, many opportunities were missed. For example, within two months of Sidr, the GoB provided large coverage of cash grants for house repair or building transitional shelter. At the same time, UNDP also provided construction materials for the same purpose. However, these two interventions were not synchronized to produce an ODR result.

GoB remained a key player in housing using its own fund and other bilateral assistance it received. UNDP and international NGOs also had a big housing reconstruction programmes, but they did not necessarily all follow the minimum standard and process, instead they adopted diverse approaches. Arguably, three factors can explain the reason behind their adoption of different approaches: firstly, the position taken by the agencies on equity and contextual issues, for example, housing for the landless. A small number of agencies, particularly ActionAid and the British Red Cross, decided to support landless people. They mobilized communities to secure *khas*[3] land from the government. Secondly, the type of funding they received. Agencies that received funding from UNDP or European Commission adopted the minimum standards; but agencies that used their own internal fund or received some flexible funding (such as Disasters Emergency Committee UK – DEC) were able to enjoy flexibility. And thirdly, since the minimum standard did not specify a process of reconstruction, agencies used various processes ranging from full subcontracting (to private builders) to direct cash grant to the owners for reconstruction.

Analysis of two ODR projects

After Cyclone Sidr, the British Red Cross (BRC) and MuslimAid (MA) undertook two housing projects in Kalapara and Mirzaganj, sub-districts of the badly hit Patuakhali district on the south coast of Bangladesh. The 'community-based construction' project of MA planned to build 400 units of houses and BRC's 'participatory housing project' planned for 925 houses.

Table 10.4 Community-based construction project details

Organization current status	Unit cost	Target	Project period
Muslim Aid completed	BDT90,000 ($1,325)	400	March 2008–February 2009
British Red Cross completed	BDT100,000 ($1,470)	925	March 2008–May 2009

Despite some similarities, the projects adopted different approaches to engage house owners. A major distinction between the projects is in the selection of target groups. MA only supported people who had land or could obtain a special land document from the local government, whereas BRC only supported the landless. The operational approaches also varied in a number of areas, as explained below.

Mobilizing the house-owners

In both projects, the mobilization of owners influenced the quality of the ODR process and its outcome.

The BRC engaged with owners from the beginning. They organized the owners into groups of 30–35 people before the actual reconstruction project started. At this stage, owners negotiated with local government to access *khas* land and eventually secure a large allocation of *khas* land from the government. This mobilization created an essential condition for the owners to negotiate with the BRC on their preferred houses at designing stage and beyond. In contrast, MA mobilized community from the housing design stage (as it was largely in-situ). The nature of house owner's engagement in the construction process also mattered. While BRC engaged all selected owners from the beginning, MA engaged the representative of the owners (often termed as 'community') to reduce the hurdle of negotiations.

In both cases, the quality of the owner's engagement from the beginning had a positive impact on the overall housing process and beyond. The nature and degree of owners' engagement solved one of the key challenges of post-disaster housing, that is, the speed of the construction. The lessons drawn from both the MA and the BRC project suggest that the quality of community mobilization had in fact increased both speed and quality of reconstruction. The BRC initially started building houses by themselves, but they eventually realized that it was not fast enough to meet the deadline of the DEC. So they gradually involved the house owners in the reconstruction process. This also helped build a sense of ownership of the house which continued beyond the actual construction, for example, people who the British Red Cross worked with secured an access road by lobbying with local government and NGOs. At the time of writing, they are trying to get an electricity connection. Some of them staged a protest at the government office when a dispute arose over the actual possession of a piece of land allocated to them.

Designing the house

Mixed approaches were used by MA and BRC in designing the house. BRC designed a number of demonstration houses using the expertise of their engineers and the community's experience through local carpenters. On the other hand, MA designed three models developed by their own engineers. Then they invited representatives of owners to choose.

In both cases, the agencies accommodated owners' preference to varying degrees. MA modified the house size, number of rooms, and number of doors and windows – based on preference of the owners. British Red Cross also modified their initial technical specification. For example, they reduced the height of the house to make it more wind resistant and increased the size of the rooms (from 11.5 sqm to 21.8 sqm). They also changed some engineering aspects such as the use of certain slopes in line with community suggestions. This made the house wind resistant (preventing the roof from being blown away by winds, which may cause severe injury during high wind).

In accommodating the community's preferences, MA faced a number of financial constraints. This did not create a problem for BRC as owners were already engaged with them and knew the limit of BRC. While none of the agencies had prior housing policy, this allowed them to test out a newer approach. Decentralized decision making in managing the project also created an essential precondition of ODR, which perhaps provides useful lessons. For example, BRC had their main office on the project site, which enabled them to adopt changes in the plan.

Construction

The two agencies used different approaches to house construction. MuslimAid provided pre-agreed cash instalments to the owners to build their house. British Red Cross, along with the owners, decided to go out to tender for certain materials i.e. timber and corrugated iron sheets. Later, they awarded timber tender to two local contractors but the corrugated iron sheet contract was awarded to a Dhaka based contractor. There was no significant difference in the quality of the house, nor on other broader impacts such as the local economy, due to the use of two different approaches.

The sudden decision of MA to make payments at the end of each construction phase, rather than in advance made the big difference. Though the decision was made because the community had spent the money otherwise (often to pay microfinance instalments), it created some delays at the beginning. The owners, however, faced huge challenges gathering money for the construction. As a consequence, some owners sold their valuable assets and borrowed money at high interest.

In both projects, labourers were recruited by the owners. The owners also took part in the construction of their houses, reducing the cost of construction. The BRC recruited all the skilled labourers from the house owners and

provided them with good training. 'Although, initially this process caused some delay and some materials were wasted, the owners were all happy and confident to build their own house' (reported by the BRC project manager). They all received a tool box to aid repair of the house in the future. The BRC organized the owners in groups and trained owners to check the quality of the materials supplied by private contractors. 'Often community challenged the quality of the wood supplied by the contractors' (BRC project manager). Muslim Aid also facilitated the owners to get material on credit. Whether to subcontract purchase or to support owners to purchase it from a local market left differential impact on the quality of the house created at the end. But the decision on local purchase had a positive impact on the local market. As a rough estimation, at least 60 per cent of the money went into the local market in both projects. New shops were established in the local markets to supply construction materials.

There are a number of lessons which can be drawn from the construction process: 1) households with a limited number of family members or who have members unable to work (due to age, disability, female headed household, other livelihood involvement) were not able to engage physically in the re-construction process. Muslim Aid addressed this issue by forming groups of ten owners where at least one of those houses was included; 2) a group based approach in fact reduces the actual construction time. Owners in the BRC project constructed 35 houses per week; 3) if material cost is fixed and owners are required to purchase, then the community should have good monitoring of the market price and address this with contingency measures. Otherwise a community would incur additional cost which they may not be able to afford; and 4) there is a risk of delays in the construction process through cash support in advance, if other disaster/poverty related needs are not addressed properly.

Tools developed by the agencies to support the house-owners

When large-scale damage occurs, house owners may not be able to rebuild houses without support from the agencies and government. A range of factors such as motivational, institutional, capacity and financial may limit their ability. Thus, availability of such support from agencies is a precondition for any successful ODR.

Both MA and the BRC met this precondition by developing a number of tools. Due to the absence of a pre-existing housing framework, the organizations developed an overall operational plan for their staff specifying the required facilitation role for them to support the house owners. For technical purposes, they published posters specifying the role of the house owners in the project. In addition, the BRC developed three more tools: 1) a pictorial guideline for the owners showing how to check the quality of timber supplied by the contractors; 2) a signboard, used for training purpose, showing how to construct the concrete pillars; and 3) another poster designed to support

selected owners to construct sanitary rings. MA developed a guideline for the owners on how to maintain the house after handing over.

Handover process

How houses are handed over to owners might have a long-term impact, but this has received very limited research interest. Hanging a signboard with the name of the constructing agency on it is normal practice in Bangladesh and elsewhere. MuslimAid placed a signboard next to the front door of the house (the most visible place). They have also named the entire area after a Muslim saint in Bangladesh. In contrast the British Red Cross did not place any signboard. But the owners are divided as whether to place a signboard or not. Some believe that it is an acknowledgement of the support of the agency. But most women think that since they have invested their hard labour in building the house, their involvement was not acknowledged while agencies had a signboard. According to a local school teacher, 'I'm fine with the signboard as I lost my house in Sidr, but I don't know whether my children, when they grow up would like it or not. I'm concerned whether the signboard would have an impact in the marriage of my children or whether they will be embarrassed in front of their friends'.

How does approach matter? Key lessons

Lesson one. The evidence from eight projects visited suggests that the nature and degree of owners' participation in key decisions affected the outcome of actual construction. When owners took the lead, significant positive outcomes were observed. Thus, the use or non-use of the ODR principle can largely explain the differences in quality of the houses as well as other outcomes related to housing. However, some of the contextual challenges often became so big that ODR alone could not resolve them. The unit cost of the house decided by the agencies set the biggest limitation on which owners do not have any control. Thus, both MA and the BRC fitted all the discussions and negotiations with the owners into one single standard design, which resulted in similar types of houses. The timeframe given by the donors and head offices often influenced actual work. They wanted to see money being spent quickly. But the fact is that the actual start-up phase for ODR can sometimes be longer than the agency-driven process. ODR does not automatically address pre-existing vulnerabilities of the owners. While it is an ideological agenda and a methodology, its application often depends on the position of the agencies in overall equity issues. For example, the BRC decided to support only the landless people but MA worked with the people who had land or at least can produce some sort of documentation of a land title.

Lesson two. Nonetheless, ODR produced other benefits that are necessary for owners to address some of the pre-existing inequalities. For example, they

increased negotiation skills, confidence and unity among the owners. For example, landless groups organized and nurtured by BRC not only built the houses but also collectively demanded and finally secured land entitlement. They also secured roads and schools from the local government. But a lack of participation can often destroy community cohesion. For example, in one flood rehabilitation project, a latrine was installed next to a neighbour's house creating tension among neighbours. In contrast, where owners were engaged in the design and construction phase, their own local technology blended with modern engineering and produced satisfactory outcomes (please see section on analysis of two ODR projects for more examples).

Lesson three. Whether a community seeks to negotiate with the agency to achieve their preference is not straightforward. The study found that people who are living in extreme poverty and in a frequent disaster environment are less likely to engage in negotiation with agencies. 'They (implementing agencies) need to make houses – we need to stay somehow', said a house owner in a flood-prone area. The role of geographical difference in terms of owners' capacity to negotiate is inconclusive (it was hard to compare). The analysis provides useful insights into the condition in which communities initiated negotiation with the agencies. First, whether the agencies have set fair negotiation criteria on how to reach a consensus and flexibility in their project design. Second, if owners were mobilized from the beginning of the project and whether that helped them to become organized or not. Clearly owners failed to negotiate when they negotiated as individuals. Third, whether owners' roles are defined and agreed from the outset. Fourth, and perhaps the most important, is whether agencies shared adequate information with the owners about the housing process.

Lesson four. In most cases, there is a gap between the preference of agencies and owners. Within budget limits, agencies tend to focus on two major objectives: 1) quick provision of houses; and 2) resilience to disaster. These objectives are heavily influenced by the overall national policy priorities and the discussion after disaster takes place in the media and various forums including coordination meetings. In contexts where disasters are less frequent and the owners had better houses before (multi-generation houses), communities tend to prefer the symbolic value of houses that helps either in retaining or increasing their social position. Convenience, comfort and privacy are also essential factors for communities. Since resources are always scarce, agencies often invest in resilience at the expense of the owners' own preference. Thus, the reconstruction process is at risk of becoming a technical exercise rather than a humane process.

Lesson five. ODR is not an exclusive process that should only be done by specialized agencies, so pre-existing relationships with the owners and the community is not a prerequisite for successful ODR outcomes. Both the BRC and MA were new in the area hit by the cyclone.

Lesson six. Owner-driven reconstruction can reduce the operational cost and increase the speed of construction. Though the study did not undertake a rigorous analysis, it was found that its cost was far less than in the agency driven approach. The BRC managed their entire operation with 14 people, whereby only 4 were engaged in housing. Senior staff of both MA and the BRC believed that such an approach can be adopted at a large scale.

Lesson seven. When house owners have unmet needs and incremental expenses such as payment of debt (even payment for microfinance instalments), there is a high risk of cash (part or full) being spent on other purposes than house construction. Increases in the price of house materials can also influence house owners' ability to build houses, and significantly impact on the speed and quality of the construction. At the beginning of the project, payment in instalments in advance with careful monitoring of the market and use of cash was helpful for MA, but certainly not the shift from advance payment to payment after construction. The house owners faced huge difficulties to manage money to carry out construction.

Lesson eight. While Bangladesh has reasonably strong local governments at union level (cluster of village). In an ideological and policy argument, engagement of local government is a must for any reconstruction undertaken in their constituency. However, agencies often bypassed the union councils fearing the political interference and corruption it may bring. The study found that their engagement can bring far greater benefits than the perceived risk of their involvement. For example, the BRC's engagement with local government helped them to secure *khas* land quickly as well as in negotiating with the host community who were initially reluctant to let in new migrants fearing additional pressure on their resources and services. Local government may perform better and play a pro-poor role when house owners are organized. The landless organized by the BRC threatened the local government that they would not vote for them if they did not support them in securing land. In contrast, MA did not effectively engage the local government throughout the process, thus lessons from the process were not transferred to them.

Lesson nine. On a similar note, livelihood aspects were not properly analysed and factored in by both the projects. The projects relocated in-land (away from the sea or river) people who were dependent on the sea for fishing and catching shrimp-fry (particularly women). The distance had an impact on women who used to do household work as well as catching shrimp-fry. Often shrimp-fry is collected early in the morning or in the evening. Women found it difficult to travel as the distance from their houses to the workplace was greater than before. Although the BRC provided cash grants and some training on alternative livelihood options, these may not be sustained in the long run. This internal movement took place for two different reasons. For the BRC, it was because they had to build house on the land given to the people by the

government. Another reason was that they had to consider safety from tidal surges and cyclones while constructing.

Factors limiting up-scaling of ODR in Bangladesh

Five major factors shape the non-ODR environment in post-disaster reconstruction of houses in Bangladesh: 1) the concept is neither well known nor is it a part of the post-disaster discourse; 2) while agencies agree on the value of participation, imperatives of scale, coverage and speed always lead to a large standardization of housing design. Often participation is perceived as an expensive and time consuming process by the key decision makers. The scale of the disaster matters most. The media always takes significant interest in large scale disasters. For example following cyclone Sidr in 2007, there was huge pressure on government and agencies to quick fix the problem of core shelter for millions of people; media pressurized government to build houses before the monsoon. Thus a quick fix tendency emerged, which contributed to creating a non-ODR environment; 3) there are no policy or guidelines to enforce community participation; 4) pressure from the media and donors for rapid and faster reconstruction before the next disaster or monsoon; and finally 5) post-implementation evaluation, in general, tends to overlook the quality of participation of the owners and their engagement with the agencies.

While agencies involved in this study acknowledge the value of participation in housing reconstruction, often they see owners' roles as limited to providing comments and feedback on the design. There are a number of reasons for this: 1) good ODR practices are not documented to encourage agencies to engage owners in the reconstruction process; 2) there is no incentive for using ODR and accountability mechanisms are weak in the case of bad houses; 3) the logistical hurdles and speed imperative most often receive more attention than aspects of owners' participation.

Following cyclone Sidr, the government and other agencies emphasized the Hyogo Framework for Action strategic goal to 'systematically incorporate risk reduction approaches into the design and implementation of recovery programmes in the reconstruction of affected communities' through integrating DRR in reconstruction processes. The emphasis was translated into 'build back better', a policy focus, which later turned into a common government-NGO structural design, resilient to floods and cyclones. Thus eventually, the structural aspects of design received more attention than the process of implementation.

Post-disaster reconstruction in Bangladesh always suffers from a lack of agreed standards and processes. The draft national housing policy does not include rural housing and post-disaster reconstruction. Standing orders on disasters (DMB, 1999) and the draft disaster management act do not set out clear policy and guidelines to enforce participation of the affected people in reconstruction. However, several coordination provisions in policy instruments provided an obscure room for 'ODR discourse' under the leadership of the

Disaster Management Bureau (DMB). The disaster and emergency response coordination meeting, shelter cluster meeting, and NGO coordination meetings, that take place after any disaster are important entry points to include discussion on ODR. It is also evident that agencies did not provide the owners with rights to appeal if something goes wrong. However, a few agencies who are partners of Humanitarian Accountability Project (HAP), tried to create a provision for a 'complaint box' in relation to their construction work.[4]

The direct and indirect influence of donors over housing design and process is documented in a number of evaluation reports in Bangladesh (Disaster Forum, 2001): 1) donors tend to increase the coverage, which often encourages a top-down design process; 2) deadlines given by donors create a tension between speed and quality; 3) often donors are very comfortable with a fixed design, and a fixed cost of construction for their programme management convenience. It is quite simple and easy for a desk officer to convince the higher authority and the public representatives of the donor countries of a fixed design and a fixed cost. This is good for numerical accountability in the parliaments of donor countries. A fixed time frame to spend the total reconstruction grants is also another big priority that the donors set to agencies to fit into different fiscal year reporting to the upward accountability hubs. The GoB and the UNDP pursued uniform reconstruction, which did not promote diversity in approaches and subsequently the ODR.

The accountability (i.e. reviews and evaluation) and lesson learning exercise often do not examine the nature and degree of owners' participation in reconstruction in general and housing in particular. In addition, the absence of good practice documentation on ODR helps to shape a non-ODR environment.

Four key recommendations

Knowledge management

- There is need for documentation on transferable lessons from ODR in Bangladesh and to bring in lessons from elsewhere.
- Key humanitarian NGOs, media and local government officials should be oriented on the ideological dimension and practical benefit of ODR. An inclusive working group on ODR can be formed in Bangladesh, with some interested humanitarian actors in close cooperation with DMB to promote the practice.

Enhancing accountability

- Sphere and HAP do include general participation. But they should go beyond generic participation, and spell out principles and guidelines for ODR. IASC should be encouraged to develop ODR principles.
- OECD and ODI humanitarian evaluation criteria, which are widely used in humanitarian evaluation of donors and humanitarian agencies,

should include ODR as one of the key evaluation criteria. Humanitarian donors should be encouraged to adopt such criteria.

Policy provisions
- The draft national housing policy of Bangladesh, while further reviewed, should include a section and programme on rural housing and guidelines on post-disaster reconstruction, whilst clarifying the role of house owners.
- The standing order on disasters and the draft national disaster management act (as they are under review) must define the role of disaster affected people in reconstruction and protect their leadership in decision making.

Decentralization
- Government and humanitarian agencies should actively consider decentralization of their organizational decision-making process to help promote the practice of ODR.
- According to the standing order on disaster management of GoB, the union council is responsible for implementing the decentralization mechanism. Humanitarian agencies must put the biggest effort into engaging local government in the reconstruction process.

Conclusion

The purpose of this report was not to highlight the shortcomings of the early ODR practices in Bangladesh though not all aspects of their work reflect true ODR principles. There is scope for further improvement. Despite being a hybrid model, a simple combination of ODR, participatory and agency-driven approaches, these early practices provide valuable lessons in shaping today's ODR discourse, policy and practices in Bangladesh and elsewhere.

Notes

1. According to BBS census report 2001, the number of people living in katcha Hhs in Bangladesh is 18,772,009 (population: 90,839,898), the number of people living in Jhupri Hhs in Bangladesh: 2,246,126 (population: 10,087,255) and the percentage of landless people in Bangladesh: non-owned land: 44.20%, owned land: 55.80%.
2. The name of the organization used in this document is pseudo, if incidentally it matches with any NGO this is unintentional.
3. Publicly owned land to be distributed to the landless people, according to the Bangladesh Law.
4. Lead author's personal note from DEC monitoring mission of 2008.

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List of acronyms

BRC	British Red Cross
CDMP	Comprehensive Disaster Management Programme
DEC	Disasters Emergency Committee (UK)
DMB	Disaster Management Bureau
GUK	Gana Unnayan Proceshtha (a local NGO)
MA	MuslimAid
NGOAB	NGO Affairs Bureau
NHP	National Housing Policy (of Bangladesh)
PWD	People with Disability
SAP	South Asia Partnership

Acknowledgements

About the author

With experience in 25 countries in the world, Khurshid Alam is a disaster and climate change specialist. He was ActionAid's Emergency Policy Advisor and managed a six-country tsunami response programme until becoming the Managing Director of ThinkAhead Limited in 2006. He has written widely on humanitarian issues. As consultant, he played a key role in drafting the national DRR framework of the Government of Malawi and the national community-based DRR strategy of the Government of Cambodia. An anthropologist by training, he currently lives in Dhaka.

CHAPTER 11

Turkey: Can small actors overcome the absence of state will?

Hakan Arslan and Cassidy Johnson

Post-disaster housing reconstruction in Turkey is generally based on the government's model of mass housing, with a central government ministry responsible for providing turn-key housing for the population in a top-down manner. In rural areas, a form of self-help reconstruction is also employed, but suffers from many problems, including corruption and lack of technical support to owners. At the time of the 1999 earthquake the Turkish Disasters Law stated that all people who held Hak sahibi (ownership titles) before the disaster would have the right to a newly constructed house provided by the government. However, this law did not provide for renters or other non-title holding populations who did not have land title prior to the earthquake. A review of the housing reconstruction programme in Düzce province after the massive 1999 Marmara earthquakes shows that, in addition to the two standard methods of procurement (mass housing and self-help), there was a third, and new type of procurement, NGO-aided self-help housing which supported tenants and the most vulnerable of the affected population. These projects employed largely participatory approaches. Although only a small amount of housing was procured by this method, the projects show an important departure from the norm of government-driven reconstruction and an ability to adopt vernacular technology.

Introduction

Turkey is located in the Alpine-Himalayan zone, on the boundary of the two most seismic continental zones in the world with a long and well documented history of damaging earthquakes (Table 11.1). Thus, the government has extensive experience in administering reconstruction programmes. The majority of post-disaster reconstruction programmes follow government centralist tendencies and housing is therefore procured though top-down means, being almost exclusively provided in a turn-key manner by the central government to affected people. In fact, since it is decreed by law that the government must replace any house that is damaged by disaster, the government has built many thousands of houses in recent years. A form of self-help reconstruction, where the recipients are responsible for managing the construction process,

has been employed in the Turkish model, mostly in rural areas. However, it can be argued that this self-help model has not been successfully implemented, possibly because the central government is ill-adapted to administer this type of reconstruction – technical and logistical support is not enough to help families with the reconstruction, and standardized house design developed by architects in Ankara do not match local needs. Under this model, families have responsibility for reconstructing their homes, yet are not included in the important decisions made. Relocation of rural villages is common, but consensus decision-making on whether and where to relocate is most often non-existent. Furthermore, renters and the poor are not included in any reconstruction programmes.

The 1999 earthquakes in the Marmara region of Turkey brought about a new model of self-help reconstruction, where the NGO acts as an intermediary between the recipients and the government. Under this model, the decision-making capacity of families is increased, and the results have been better adapted housing, however this model is still a long way off from a true owner-driven reconstruction process.

Table 11.1 Major earthquakes in Turkey since 1970

Date	Place	Magnitude	Killed	Affected	Homeless	Heavily damaged houses
May 1, 2003	Bingöl	M 6.4	177	290,520	45,000	9,452
Feb 3, 2002	Sültandagi/ Afyon	M 6.2	42	252,237	30,000	4,401
Nov 12, 1999	Duzce	M 7.2	845	224,948		15,389
Aug 17, 1999	Kocaeli	M 7.6	17,127	1,358,953	655,000	50,000
Jun 27, 1998	Adana	M 6.2	145	1,589,600	88,100	4,000
Jan 10, 1995	Dinar	M 6.1	94	160,240	40,000	4,909
Oct 1, 1992	Erzincan	M 6.9	653	348,850	95,000	6,702
Oct 30, 1983	Erzurum-Kars	M 6.8	1346	834,137	33,000	3,241
Nov 24, 1976	Muradiye	M 7.2	3840	216,000	51,000	9,552
Sep 6, 1975	Lice	M 6.8	2385	53,372	No data	8,149
May 22, 1971	Bingol/ Erzincan	M 6.7	878	88,665	27,465	5,617
Mar 28, 1970	Gediz	M 7.2	1086	83,448	No data	9,452

*Affected refers to those seeking immediate shelter assistance. Number of homeless calculated as total number of people made homeless by earthquakes for the given year (not only for the earthquake indicated).
Source: EM-DAT and Bagci et al., 2009

The Turkish approach to post-disaster reconstruction

Actions for post-disaster housing recovery in Turkey are sanctioned by the Disasters Law No. 7,269. This law states that the central government is responsible for the management of post-disaster activities and usually this means that the central government delegates its authority to the *kaymakam* (provincial governors) in the affected region. Under the law, post-disaster government works are divided into two categories:

1. Emergency aid: short-term recovery and relief activities, provision of temporary shelters and temporary housing, etc.
2. Building construction: long-term housing reconstruction, strengthening of the buildings, and decisions for relocation, etc.

The focus of reconstruction activities in Turkey is heavily concentrated on housing and public works, and therefore social aspects of reconstruction, i.e. livelihoods rehabilitation, training, social inclusion and consideration of gender disparity are generally absent from government programmes.

Under the Disasters Law (4th article), the state has a legal responsibility to fund the costs of reconstructing buildings after an earthquake, meaning that the state is responsible for providing a new house to disaster-affected families. Furthermore, owners of houses that are located on land that is going to be expropriated for the relocation of people are also classified as beneficiaries under the law. The criteria to qualify for a new house are: 1) being a home owner (both legal and illegal constructions can qualify); 2) houses should be badly damaged or collapsed; and 3) the owner is capable of meeting the repayment terms over 20 years (Demirel, 2005).

Following the 1999 earthquakes this law has been amended (27 September, 2000) so that only homeowners in rural areas (outside municipal boundaries) would still qualify for state assistance, as above, while houses in urban areas – where municipal building construction supervisions exists – need to be insured by the newly created Turkish Catastrophic Insurance Pool to receive compensation (Gülkan, 2005).

The Ministry of Public Works and Services (MPWS) is the chief governmental agency responsible for reconstruction in Turkey, and after a disaster it determines the number of houses that are going to be built, their method of construction, location and types. Also, under the Disasters Law (9th article) the general directorate of construction affairs working under MPWS is tasked with preparation of the projects, including design standards, approvals, cost estimations, and construction management. The central authority determines the planning approaches (the location plans of the settlements), the architectural features of the units (sizes, room types, etc.) and construction details (construction system, type of foundations, etc.). Consultant firms implement and control the projects according to the decisions of the government, but they have limited scope to make revisions to the projects to solve the problems of implementation (Inal, 2007).

Urban development and the central government: Local government divide

In general, one would agree that reconstruction is a complex task that involves coordination of large numbers of state and non-state actors, and the coordination of all of their resources over a period of years. One important aspect of this is the coordination between the central government and the local government. As discussed above, reconstruction in Turkey is managed by the central government (MPWS and provincial governors) and not by municipalities or local government. Generally in Turkey, municipalities and local governments have jurisdiction over urban planning, and therefore make decisions regarding land use and economic development. However, in reconstruction activities there is a disconnection between these governments.

Relocation

Relocation of damaged villages is quite common in Turkey. The decision to relocate is usually based on three factors: 1) when the old location is at risk of future disasters; 2) when the old location is completely destroyed and therefore to remove the debris and rebuild on the same site will take too much time; and/or 3) when there is a chance to relocate to land owned by the government, since it is generally preferred not to have to pay for the land. The decision to relocate is made by the MPWS, often with input from several ministries. In general the geology of the area and the availability of land are the primary facts taken into consideration for relocation, and social aspects such as rootedness in place or connections between the new and old settlements are of less priority. The outcome is that the site plans of all post-disaster settlements are similar although the regions and communities have cultural and social differences.

Sometimes relocation requires the expropriation of land from private owners. Since private ownership is protected by the constitution, this often leads to problems. For example in Düzce, a two-year delay in the expropriation of land to build a road meant that people relocated to the 8,000 unit settlement outside the city had to travel 14 km to reach the city, rather than using a direct road which would be 4 km.

Methods of procurement

There are two main methods of procurement generally employed by the government after a disaster. The first type is 'mass housing' and the second type we will refer to as 'self-help housing'. Both methods of procurement are overseen by the central government's MPWS.

Mass housing

Under the mass housing method, apartments are handed over to the beneficiaries completely finished (turn-key) and beneficiaries pay for the house in instalments, with low (or zero) interest, over 20 years. The government acquires the land, the MPWS provides the design specifications and construction is achieved either though the 'confidence method' where the MPWS undertakes construction work, or more typically, through the 'tender method', where the housing site is divided into groups and different bids are made by different contractors to carry out the work. The design of the housing is usually multi-storey (3–5 floor walk-up) following standardized plans. The locations of the houses are most often on the outskirts of the urban areas, and sometimes several kilometres from the city centre. Locations are determined by availability of land, and safety in terms of earthquake risk.

Analysis of the mass housing reconstruction approach

Many research projects have focused on evaluating the central government-driven mass housing approach (Karaduman, 2003; Enginoz, 2006; Inal, 2007; Gülkan, 2005; Kumbetoglu et al., 2005). The production of large numbers of housing units, in a short amount of time is cited as being a positive outcome of this approach. However there are several major criticisms, which echo criticisms of similar approaches in many countries and which appear to negatively impact on the recovery of families in the long term.

In terms of project planning, and the design of the houses and the sites, there are several issues that have been raised about the mass housing approach:

- Projects are prepared with very general data and have little regard to the local situation and environment (with exception of geology).
- Houses are distributed by lottery, which breaks up the social groupings that existed in the old settlement, in which families lived among people originating from the same village. This leads to friction among the new neighbours, who often have different living styles.
- It disregards the preferences, needs and priorities of the affected communities as they are not consulted in the project planning.
- The design of the houses and the settlement do not facilitate socializing outside, which leads people to feel more isolated.
- The payments for the houses are too high for the poor to afford, which worsens the conditions of poverty for the most poor.
- Although housing units cost the same amount, they have different values depending on their proximity to transport links, markets, etc.

The location of the mass housing, usually on the outskirts of the urban areas, has also been criticised. People who were living in city centres prior to the earthquake are used to living a life on foot, walking to all their destinations. The move to the outskirts requires them to use buses and cars

frequently, which is expensive for many people. It also reduces the frequency of informal social calls, which is important in Turkish life. The poor, the elderly and housewives who cannot regularly afford to travel into the cities become extremely isolated socially from staying at home all the time (Kumbetoglu et al., 2005).

Self-help housing

This method has been commonly used in rural settings where families are reconstructing on their own land, or in relocated villages. It has also been used in provincial or sub-provincial centres, in the cases where a family owns their own plot of land.

Under the self-help method, called the loan for the individual construction of homes (acronym 'EYY' in Turkish), the government offers financial credit to disaster-affected families to assist them in reconstruction of their own dwelling or purchase of a dwelling from the market. It consists of three different procurement options (see Figure 11.1). Under option 1, families use government credits to buy a finished house. Under option 2, house designs, as well as technical and management assistance are usually available from the government and money is dispersed to the families upon completion of stages of construction on a percentage basis. Under option 3, a building contractor hired by the MPWS manages the construction on behalf of the owner (Tercan, 2001).

Analysis of the self-help housing reconstruction method

The self-help housing reconstruction method offers much greater flexibility to families to decide on the design of the house and its location; in this respect it is much more user-centred than the mass housing approach.

The major criticism of the self-help approach is that the amount of money that is offered to rebuild is usually not enough money to replace what has been destroyed in the earthquake. The precise problems differ depending on the situation, but for example:
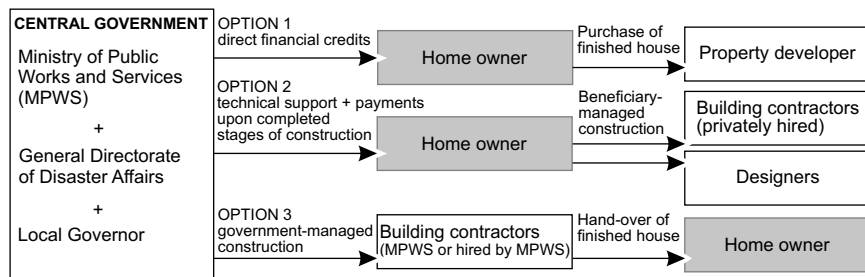
Figure 11.1 The role of stakeholders in self-help housing reconstruction

- After the 2000 Çankırı earthquake many of the villages were relocated. Families did not have enough money to rebuild cattle sheds and hay sheds on the new properties (Dikmen, 2005).
- A severe economic crisis caused the Turkish economy to collapse in 2001, increasing construction costs astronomically. Consequently, only a small percentage of the houses planned under the self-help (EYY) reconstruction programme after the 1999 Marmara earthquake could be completed (Düzce Depremzedeler Derneği, 2002).

Dikmen's (2005) research on the reconstruction process after the 2000 Çankırı earthquake points out some other shortcomings of this approach: 1) the house designs offered by the government have little regard to local (often rural) living styles. While families can choose to use their own design, this entails hiring an architect, which the owner must pay for and manage themselves; 2) more technical support is needed to educate owners about earthquake safe construction and design 3) owners require more support in managing the projects themselves. There have been cases where contractors have run away with deposits, after only having verbal agreements with the owners; and 4) there is no involvement of the owners in important decisions, such as whether and where to relocate the villages and input into the government issued housing designs.

Small steps toward a user-centred approach to reconstruction after the 1999 Marmara and Düzce earthquakes

On 17 August 1999 at 3:02 a.m., an earthquake measuring 7.4 on the Richter scale struck the north-western part of Turkey. Officially called the 'Kocaeli' earthquake, it was situated on the North Anatolian Fault Zone and the epicentre of the main shock (40, 70° N29, 91° E, with a focal depth of 15.9 km) was about 3 km away from the centre of the town of Gölcük. The earthquake ruptured 120 km of the North Anatolian Fault Zone, affecting a large area (approximately 41.000 sqm) between Bolu and Istanbul, in the economic and industrial heartland of Turkey (34.7 per cent of the GNP) (Özerdem, 1999). The major areas affected by this disaster include the provinces of Kocaeli, Sakarya, Yalova, Bursa, Eskişehir and Bolu. This earthquake resulted in the recorded death of 17,480 people and 43,953 injured people. More than 75,000 buildings within the region were demolished completely (Özmen, 2000).

Less than three months later on 12 November 1999 at 6:57 p.m., another big earthquake with a magnitude of 7.2 on the Richter scale occurred in Düzce, affecting mainly Bolu, Düzce, Kaynaşlı, Gölyaka, Çilimli, Cumayeri and Gümüşova cities. The epicentre (40, 76° N31, 14° E, with focal depth of 14 km) was located in Düzce and it ruptured an additional 43 km of the North Anatolian Fault to the east of Gölyaka. Although smaller in extent, this second earthquake also caused death and injury; 763 people were recorded dead and

4,948 people were injured (Turkiye Cumhuriyeti Başbakanlık Kriz Yönetim Merkezi, 2000).

The two earthquakes caused considerable damage to housing, public facilities and infrastructure, but the numbers of dead and injured dominated the tragedy. Over 18,000 people are estimated to have died, and around 50,000 were injured, of which perhaps two-fifths will be left permanently disabled. Large parts of the area were devastated; with around 109,000 housing units and business premises completely destroyed, and a further 249,000 damaged to varying degrees. Numerous schools, health facilities, roads, bridges, water pipes, power lines, phone lines and gas pipelines were severely damaged. Up to 600,000 people were forced to leave their homes, of which perhaps half became homeless and had to stay in tents. And many of the survivors, especially children, were left deeply traumatized (Price et al., 2000).

Earthquake and reconstruction in Düzce

Düzce province is located on the North Anatolian fault line in Düzce plain. As a result of the rapid industrialization between 1980–98, the migration to the city from the rural areas increased and housing demand rapidly increased as well. This rapid migration prompted unplanned construction, and builders added more floors to old buildings, reaching beyond the limits of the municipal laws. As there were no reliable construction control systems in Turkey at the time, new buildings were constructed rapidly with improper techniques and materials and no supervision from the authorities. This created an extremely vulnerable built environment, and such, when the earthquakes struck it caused great amounts of damage to the housing stock and other buildings.

The total area of the city is 2593 sq km, and according to the 1997 census the population was 307,056 with a density of 108 people/sq km (well above Turkey's 83 people/sq km average).

As Table 11.2 shows, in Düzce, there were 16,666 dwellings or houses totally destroyed, 10,968 semi-damaged and 13,070 slightly damaged – according to the categories used in official statistics (Turkiye Cumhuriyeti Sayıştay Başkanlığı, 2002). In total, 84 per cent of the houses were damaged to some degree.

Table 11.2 The general situation of damaged houses in Düzce province after the 1999 earthquakes

Place	Badly damaged or collapsed	Semi- or medium-damage	Less damage
Centres and villages	12,562	7,897	8,237
Districts	4,104	3,071	4,833
Total	16,666	10,968	13,070

Source: Turkiye Cumhuriyeti Sayıştay Başkanlığı, 2002

Table 11.3 Houses constructed through the central government's financial support

Government-provided housing type	Total number built in districts, villages and centres	Who qualifies
Mass housing[1]	8,004	Owner of badly damaged or collapsed house
Self-help (EYY)[2]	3,622	Owner of badly damaged or collapsed house
Repair of semi-damaged houses[3]	4,874	Owner of semi-damaged house

Source: Yarar, 2005 and Turkiye Cumhuriyeti Sayıştay Başkanlığı, 2002

As with the normal post-disaster procedures, government support was available for homeowners to rebuild their homes or to purchase new homes (Table 11.3). The appointed officials worked together with the heads of neighbourhoods and villages to list the *hak sahiplern* or homeowners. It was on the basis of this list that people could make a claim for the short-term and/or long-term provisions of the state.

A new approach to post-disaster reconstruction

The vast majority of the housing reconstruction after the 1999 earthquake maintained the status quo of approaches to reconstruction in Turkey, as described earlier in this chapter. As before, the tendency of the state was to regard social and physical reconstruction problems as technical problems that can be solved through the fixed methods used by the central government by means of MPWS. However, the 1999 earthquakes had a considerable impact on Turkish civil society. It forced issues of community participation onto the agenda and forced the state to re-evaluate its capacity to look after the interests of its citizens (Ozerdem and Jacoby, 2006). Many new NGOs were formed after the earthquake to fill the gaps where government had failed.

In terms of housing reconstruction, this meant that in addition to the normal reconstruction activities administered by the MPWS, there were national and international NGOs working for the provision of adequate housing to the earthquake victims and toward the formation of community-based organizations involved in post-disaster reconstruction. Many of the local NGOs partnered with international NGOs, who offered funding and expertise. Partnerships were also formed between NGOs and municipal governments.

Neither the government sponsored mass-housing programme, nor the private construction industry were able to meet the total housing need of all the affected families. Renters and those people who held no ownership title were not considered as part of the government programme. Furthermore, the very poor who could not afford the government's repayment schedule opted out of the government programme. It was the international and national NGOs who came to the assistance of some of the most vulnerable of the affected families.

Table 11.4 Selected cases from Düzce

Name of housing site	Location of housing site	Housing type	Number of houses	Method overview
Beyciler	Düzce centre	Row house	168	International-National NGO + Local Government
Solidarity	Gölyaka outskirts	Detached house	57	International-National NGO + Community + Universities
UMCOR	Düzce peri-urban	Detached house	220	International NGO + Community

The three cases from Düzce presented below give some cues about a new method of owner-driven reconstruction that arose from the responses of civil society organizations after the 1999 earthquakes (Table 11.4). These cases included the participation of the local government, the disaster-affected community, university, central government (indirectly), and national and international NGOs. The total number of houses built by these means was tiny in comparison to the overall demand for houses, totalling less than three per cent, however, it shows an important movement in user-centred reconstruction in Turkey.

Case 1: Düzce-Beyciler Houses Social Housing Project[4]

Project initiation

Beyciler Social Housing Project is the result of cooperation between the International Blue Crescent (IBC), Catholic Relief Service (CRS) and the Municipality of Düzce. Since the earthquake, IBC and CRS had been project partners in delivering hot meal services, heater distribution, and education. One year after the earthquake, when considerable numbers of families were still living in tents and prefabricated houses, IBC began to carry out studies looking into durable housing solutions for homeless families.

IBC entered into cooperation with the Municipality of Düzce and encouraged CRS to donate US$2,500,000 to realize a project of 168 houses and a community centre for disadvantaged families who did not qualify for the government's reconstruction programmes (Figure 11.2). All beneficiaries of the project were landless families who would become homeowners.

Project planning

The first step was to select house owners in the project. It was decided that families at the lowest income level would be selected to participate in the project. Families who were living in temporary housing and in rented housing filled out an application detailing their living situation and their incomes. In total, 1,377 families applied to be part of the project, and through a

process of elimination, 168 of the most disadvantaged families were selected as beneficiaries.

Other steps of the project planning were carried out by IBS and CRS, including:

- Developing criteria of eligibility to present to potential applicants.
- Geological surveys with Sakarya University to determine the soil quality for construction.
- Engineering and architectural unit designs prepared with technical assistance of Sakarya University and in cooperation with the municipality.
- Draft site master plan prepared in cooperation with the municipality.
- Allocation of land and partnership with IBC was approved by the city council.
- Basic price estimates for materials, labour and operational costs.
- Approval of tax exemption for the project obtained from the Ministry of Revenue.
- Organizational chart, timelines prepared and core personnel hired.
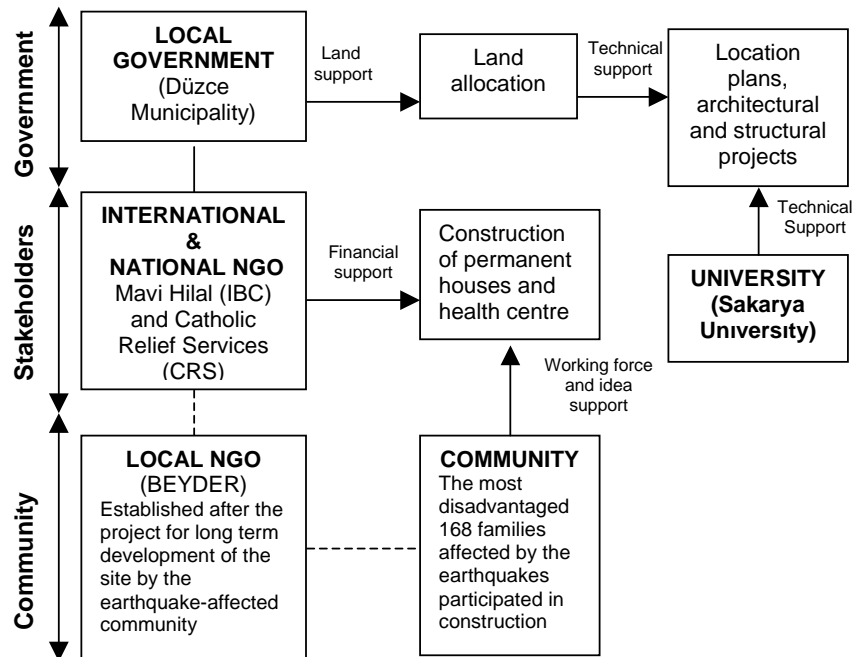
Figure 11.2 The role of the stakeholders in Beyciler Social housing project

Construction method

According to the project concept, the beneficiaries would work in the construction stages. Once the beneficiaries had been selected and the project was prepared, a series of meetings was held to determine the programme of construction with the families. Construction of houses began in the first months of 2003 and was completed by January 2004. The International Blue Crescent declared that 50 workdays would be the minimum each family would need to contribute to the construction phase, and in the end each family contributed an average of 53 workdays. Types of work were delegated according to the physical abilities of each person. Preparing food and taking care of participants' children was developed as an alternative to the participation in construction for female beneficiaries. Elderly or disabled men worked as night watchmen and in concrete watering in the early morning. Towards the end of the construction phase, women began to participate in the on-site construction.

Beyciler Social Housing Project had an 'incomplete' delivery approach, in which the users could complete the interior of the house after completion of the project. The ground floor of the house offered a standard living area for an average family, but the family could choose to enlarge the space if need be, by their own efforts. This 'incomplete approach' reduced the overall price and therefore allowed for the construction of more houses (Figure 11.3).

Figure 11.3 Beyciler social houses

Findings

The Beyciler Social Housing Project offered some new ideas for housing reconstruction in Turkey and offered enormous benefits for the low-income families that participated. However, some criticisms can be offered:

- Families were largely absent from the important decision-making of the project, apart from what job they would do in construction, and how to finish their house.

- The houses constructed in this project were only 168, whereas the total need for this type of project was at least 1,377 (number of families who applied to be part of the project). This certainly points to the great need for housing programmes for non-owners, whether programmes offered by the state, non-state actors or collaborations.

- A residents' association, BEYDER, was started by the beneficiaries to oversee the managerial and financial responsibilities of the settlement. However, the residents need more sustained input from the NGO over the long-term to help them to maintain the organization of the community. This has proven to be difficult without outside support but yet is important for maintenance of the site as well as for new initiatives.

Case 2: Düzce-Gölyaka Solidarity Houses Project[5]

Project initiation

The *Imece Evleri Projesi* (Solidarity Houses Project) was constructed through a partnership of the Association of Volunteers for Solidarity (AVS) in Turkey with Gelderland Aid for Turkey Organization, which had collected money from Turkish people living in the province of Gelderland, the Netherlands. While the original plan was to build a small number of prefabricated houses in Düzce, AVS presented a proposal to the Gelderland delegation for increasing the budget and scope of the project and thus to build permanent housing.

Among the principal problems the victims faced after the earthquake was that the credit the state gave to the families with demolished houses was insufficient to build a new house. Therefore the concept behind the Solidarity Houses Project was to use the state credits available to the families and top these up with money sent from the Netherlands.

The villages of Hacı Süleymanbey, Aksu and Çay in Gölyaka were chosen as the site of the project. Affected by both the 17 August and 12 November earthquakes, Gölyaka was one of the towns in Düzce province in which the destruction was severe, and due to the geology of the area is continually at risk of damaging earthquakes.

Project planning

At the planning stage of the project many consultations and meetings were held between AVS, the villagers and the local governments. Several universities offered technical support in collecting information about the geography of the region, the needs of the villagers, their living habits and domestic needs, and the structure of their community. Designs for the houses, devised by architects, were developed with villagers (in the first phase this was mostly with the men since meetings took place in the coffee shop where men frequent, and later as the project progressed, it was possible to also access the opinions of women) (Figure 11.4).

At the end of this initial planning period, AVS produced a document, which was signed by the headmen of each of the villages and by the mayor of Gölyaka. This included:

- The site of the project: it was decided that the houses would be built within the same village boundaries as the demolished houses.
- The method of construction: that the villagers would take an active part in the construction process.
- Management of the fund: that the credits given by the government and those from donations would be managed by the shared fund administration comprised of one representative from: the villagers, AVS, Gelderland delegation, and governorship.
- The process of decision-making: all the residents taking part in this project will be represented on equal terms.
- The supervision of the project: apart from the supervision service MPWS has to offer, an independent control committee would be assembled from the representatives of the chamber of engineers and architects.
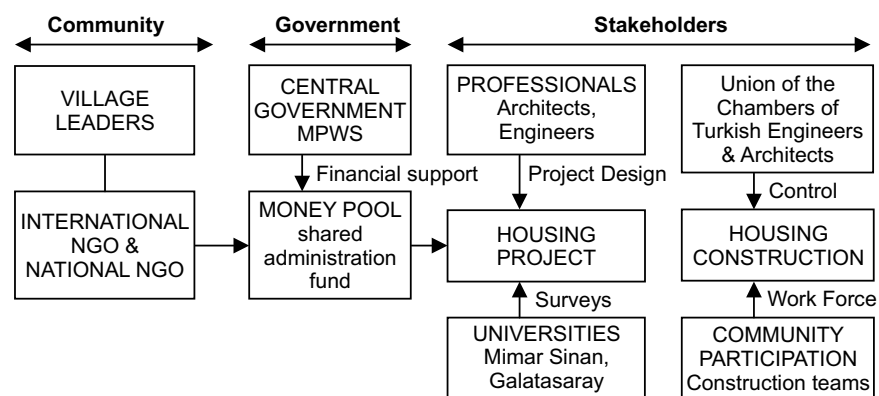
Figure 11.4 The role of the stakeholders in Gölyaka 'solidarity houses'

Construction method

The AVS initiated a model whereby the users would participate in the construction of the houses. This was decided upon for three reasons: 1) it meant that the users could observe every aspect of the construction thus guaranteeing the reliability of the structure and safety of the product; 2) it reduced the costs of each house and thus increased the number of houses that could be produced through the project; and 3) it meant that some of the villagers could be trained in construction skills, which could be useful to them in future.

The organization of the construction process depended on a system, where one member of each household would participate in the building process. In every village, the representatives of the houses would then form a 'construction team' responsible for building the houses. Accordingly, in the first stage of the project, which was for 26 houses, three teams were activated for the three villages involved in the project, for Hacıbeyköy, nine people, for Aksu, nine people and for the village of Çay, eight people.

However, during the first two months of the project, skilled workers were appointed to begin the construction, but their payments were less than what they took in normal circumstances. This allowed the construction to start in a more organized way, while the villagers could be trained in construction techniques.

For the proceeding three months until the houses were finished the villagers were on their own and the teams carried out the construction process. During this time, the villagers were still staying in tents erected near their demolished houses. This was a difficult time for them, the work was hard and the living conditions were poor. However overall the villagers declared pride in being able to build their own houses and were happy with their cooperation and with the skills learned.

Findings

It would have been much more difficult to focus the energy of such a large and varied group almost immediately if it was not under the circumstances of such a large crisis. The project, which began with a sense of public duty, transformed from being an idea of temporary aid, in the form of providing temporary houses, to finding an opportunity for a long-term better environment, including the construction of permanent housing as well as contributing to livelihoods and capacity building in the region.

These factors which gave intensity and power for the creation of the project also contributed to its ongoing maintenance. The method of this project set itself apart from the general attitude of expecting solutions from the government or from other parties. The genuine collective spirit of all the stakeholders, including the residents, outsiders and the government meant that the building of the houses was not an end in itself but instead proved to strengthen the courage and interdependence of the community.

Case 3: Düzce-UMCOR houses

Project Initiation

The United Methodist Committee on Relief (UMCOR) Turkey was engaged in a housing construction programme in which earthquake resistant permanent housing and social infrastructure was provided for 220 vulnerable families. The project sought to mobilize communities to construct their own permanent houses, and to engage the community's participation in identifying and addressing community needs, through implementation of small projects.

Project planning

The project was aimed at the most vulnerable households, such as female-headed households, the elderly and the disabled, and families with a large number of dependents within the communities. Families who did not have any access to land for constructing their own house were targeted, as well as households who had access to land and thus required only technical assistance and material contributions to construct their house.

Construction method

Through the participatory construction of the houses, this project sought to build the capacity of beneficiaries to recognize and employ earthquake resistant construction techniques by providing on-the-job training in earthquake resistant and traditional housing construction. The project was unique in that it utilized traditional construction materials and techniques dating back to the Ottoman period (Figure 11.5). This technology, which uses a wood lattice structure that is in-filled with brick, has proven to be more resistant to earthquakes and utilizes a relatively cheaper technology that can be easily adopted. There is an enormous advantage to this mode of construction in a region that is situated within a major geographical fault line, and which remains prone to earthquakes and other tremors.

Findings

While the families adopted this technology during the project construction, post-project modifications have not used this technology, and have, in fact, used construction techniques that are vulnerable to earthquakes, such as hollow cement blocks with little lateral reinforcement. This shows that more sustained intervention may be needed for the users to actually adapt this technology, or it may need to be made more affordable. This is often a problem in reconstruction projects that adopt construction technologies that are not totally familiar to the participants. Even though people may know how to use it, they may not be able to easily procure the materials, or the materials may be too expensive or time consuming to build with.

Figure 11.5 UMCOR settlement completed
Note small additions on the side of the house are not the traditional timber frame used in the main constructions.

Discussion

The cases of user-centred reconstruction presented here exemplify an important departure from the norm of government-driven housing reconstruction. These projects must also be understood within the context of housing production in Turkey in general, in which the mass housing administration, known as TOKI by its Turkish acronym, is an incredibly powerful and efficient engine in terms of production of housing. In fact, since 2003 it has produced 250,000 housing units throughout the country, transforming cities and towns in the process. As expected, this form of housing provision is extremely controversial, on the one hand it is supplying comparatively well built, rationally planned settlements complete with schools, shops and health centres, at a relatively low cost to the occupants. On the other hand, this model, as in many other countries, has failed to provide housing for the poorest sectors of the population. Furthermore, under current laws, property-owning families are subject to having their land expropriated for development (a process which is underway on a large scale in Istanbul, for example), which will have the impact of making low-income families more poor in the long term as their existing capital is seized and they are forced to pay more to purchase houses in the new TOKI housing. Powerful lobbies within the country, development companies and those with ties to the government are backing this engine of housing construction. Thus one must reflect upon to what extent a user-centred approach to reconstruction (or to any housing construction) can take hold within the country at this point in time. The projects presented in this chapter are small in scale and exist because of support from sympathetic local municipal governments and from relatively strong civil society groups. But given the current regime of housing production, without the backing of the central government toward a user-centred approach, these types of projects will remain at a small scale, happening here and there when the project environment is supportive.

Nonetheless, the case studies reveal the active role and strengths of the newly established civil organizations in post-disaster housing reconstruction, even though it was their first experience. The earthquake clearly had a hand in the emergence of a potentially powerful civil society movement, which came forward to respond to the needs that were not being met by the government (some argue that a civil society movement was already happening within Turkey as a response to neo-liberalism and EU accession talks). Ozerdem and Jacoby (2006) argue that this post-earthquake civil society movement had the capacity for restraining the traditional autonomy of the Turkish State, but this may be regarded as more a consequence of the space created by the state's inability to respond effectively to the disaster rather than any extensive and sustainable associational activism. While activism did peak in the months after the earthquake, there are many NGOs and civil society groups that are still active in the 1999 earthquake area (Yarar, 2005).

The government was eager to support the national and international NGOs in the early phases of recovery, when the needs were acute. But, in time, the top-down approach began to take hold again, as government resisted sharing its control or handing over its powers of father state. Certainly there is an internal barrier in the willingness of central, and often local, government to support these civil society organizations, which creates a barrier in using the whole capacity of the affected region.

However, these newly established organizations are learning how to interact with the governmental branches and to press forward for better solutions not just in housing but also for public transportation, health centres and other social programmes. Support from international NGOs and civil society groups are an important part of this process. Not just financially, but through the transfer of knowledge and capacity building from NGOs from other countries, to their counterpoints in Turkey.

Another important issue is that the user-centred projects were aimed at renters and low-income owners who were not included in the government projects. As discussed earlier, the state approaches were aimed at homeowners who, under the law, had a right to a new house, and who had the capacity to pay for the new house or to pay back the credits. Thus the user-centred projects had a much better ability to provide solutions for the poorest sectors of the population. External capital was used to realize these projects, through external (international) donations of money and/or land, and this injection of resources, coupled with the labour and work of the users, enabled them to become owners of new houses, or in some cases, first-time owners. This was not without its problems because those who had to pay for their new homes from the government felt that people who benefited from the NGO projects got homes for free. In this regard, the work and labour of the users in the management of the project and in construction of the houses (i.e. sweat equity) was an important factor to rationalize that they did not have to pay for the houses (or paid less).

The issue of renters in reconstruction is an important one, and one that is often overlooked. Even in the production of risk, renters play a large part. Take, for example, that the building codes in the Düzce region were not enforced due to rapid urbanization and migration. These migrants were generally tenants, rather than owners. The rapid construction and poor quality buildings were generally built by property owners to house these migrant-tenants, thus increasing their income from the property. In many cases extra floors were added to existing buildings and these were what sustained damage or collapse during the earthquakes. Thus the issue of providing sustainable housing solutions for renters is not just important in terms of reconstruction, but it is also a critical question in the reduction of risk in the city. Put simply, the disasters law needs to recognize renters and squatters as residents, and they should be included as beneficiaries in the reconstruction programmes.

Conclusion

The question of scaling-up user-centred reconstruction is an important one. These three case studies show an effort at community involvement in design and construction of new dwellings, but the scale of these projects is very small (less than three per cent of the whole housing demand) and one wonders that if the scale of the projects was to increase to meet demand whether the same success would be achieved.

In the Turkish context this would require some major changes. First of all, the central government, MPWS or TOKI has the ability to produce housing on a large scale. If these bodies were to change their approach to housing delivery, adopting a user-centred approach where individual projects were adapted and tailored to the specific place and environment, and people took an important role in shaping the projects certainly scaling-up would be possible. This would take a monumental change in methodology, but theoretically it is possible.

Secondly, the increase in capacity of civil society organizations including their ability to partner with sympathetic local governments, offers some hope for scaling-up of user-centred housing production. These organizations, such as Dep-der, who are gaining expertise in the methods and also enhancing their local, national and international networks, will be in a better position to respond next time an earthquake happens.

Notes

1. Number of houses constructed by government or through government channels.
2. Number of *hak sahipleri* (homeowners) listed. This does not confirm that a house was necessarily built or purchased (in most cases they were not).
3. Number of houses constructed by government or through government channels.

4. Information for this case study is prepared from the project website, http://www.beycilerevleri.org.tr/ and from site visits by the authors.
5. Information for this case study is drawn from Demirel, 2005.

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Progressive housing: Reconstruction after the 2001 earthquake in El Salvador

Carmen Ferrer Calvo with Concepcion Herreros and Ing. Tomas Mata

Poverty, vulnerability and a general context of housing scarcity in El Salvador grew worse after two large-scale earthquakes occurred in 2001, within 30 days of each other. A large number of houses were affected, mainly the ones built with adobe, and this worsened a pre-existing historical housing deficit in the country, especially prevalent in rural areas. Working in partnership, the Spanish and El Salvador Red Cross developed a project which drew on experience gained after Hurricane Mitch. This participatory project introduced the concept of 'progressive housing' to El Salvador, developing a three-stage reconstruction process with different and clearly set out participant involvements at each stage. The chapter reports on implementation at two sites, showing how outcomes included not only high occupancy and satisfaction rates, but also longer-term economic and social vulnerability reduction for participants, the realization of a more resilient building stock, and the entrenchment of a more resilient technology.

Introduction

El Salvador is the smallest country in Central America and earthquake prone with a chain of volcanoes crossing from east to west. It is the most densely populated country in the region. Historically, one of its biggest problems is the shortage of safe and dignified housing, mainly, in suburban or rural areas. Throughout its history, it has suffered major disasters: the civil war during the 80's, the earthquake in San Salvador in 1986 and Hurricane Mitch in 1998. All these facts already limited the resilience of this country in recent decades. Then in January and February 2001, two large-scale earthquakes struck the country, leaving more than 200,000 houses destroyed or damaged, and increasing the prior housing deficit.

Prior to the earthquakes, Hurricane Mitch in 1998 weakened the favorable prospects of development that began to emerge in the region. In El Salvador, besides the tropical storm winds, the main reason for damage provoked by Hurricane Mitch was the strong rain fall combined with ecosystem fragility, the high vulnerability of the population and the lack of mitigation means.

The population suffers from chronic disasters like environmental degradation, drought, forest fire and periodical floods. Three years later, when the two earthquakes struck El Salvador, poverty grew worse because the population of the rural areas, which has the lowest income rates, was again the most affected.

The Red Cross reconstruction experience during Hurricane Mitch was very positive and allowed the different Red Cross national societies to develop operational criteria, procedures to ensure the legality of housing and facilities ownership and their safety facing possible disasters, minimum standards in habitability and quality, designs tailored to the specific population needs, tools to analyse and assess environmental impact of the construction works, and other tools to improve the Red Cross response in reconstruction projects. This increase in capacities also helped the Red Cross to identify other reconstruction partners and learn from their past experiences. This also helped the Red Cross access the large body of knowledge developed in Central and South America in relation to incremental housing experiences.

All these factors led the Salvadorian and Spanish Red Cross to use the methodology of 'progressive housing' as one of the methodologies to respond to the needs of the people affected by the 2001 earthquakes. The concept of 'progressive housing' referred to the fact that the house was developed in different stages in an incremental way. In each stage the users, the affected population, took more and more responsibility. This approach is different from the core-house approach in the sense that as the house progresses it becomes more finished rather than bigger, as typically happens in a core-house approach. This project did not end with the construction of the dwelling but went on to include other aspects such as water and sanitation and livelihoods.

Evaluations done during the implementation of the project and when it was finished showed good results. A Spanish Red Cross internal evaluation was run in 2007 on over more than 20 housing projects in the four Central American countries within the Spanish Red Cross 'special plans' for Hurricane Mitch and earthquakes in El Salvador. This evaluation compared the different methodologies used and developed different tools as a result of best practice. More than five years after the end of the implementation these tools are documented in the *Catalogue of Spanish Red Cross Shelter and Construction Projects, 1987–2007* (Spanish Red Cross, 2007a), a compilation of housing projects in three different phases (emergency, transitional and permanent housing) and the *Spanish Red Cross Shelter and Construction Guidelines* (Spanish Red Cross, 2007b).

Background

El Salvador is the smallest nation in Central America with an area of 20,720 sq km. In 2002, it had a population of 6,517,798 and a demographic density of 314.26 inhabitants/sq km, the highest population density in Central America. According to the human development index published by the UNDP (2002)

El Salvador ranked 104th out of 162 countries and 48 per cent of the inhabitants of El Salvador live in poverty or in extreme poverty; these can be found chiefly in the country's rural areas and in the poorer, outlying areas of the larger cities.

On 13 January 2001 an earthquake took place that measured 7.6 on the Richter scale, and this was followed by another one on 13 February 2001, which measured between 6.1 and 6.6. The earthquakes claimed 1,259 lives; left 8,964 people injured, and caused damage to the extent of approximately USD $1,603.9 million. The total number of people affected by the earthquakes rose to 1,639,173, which represents 25 per cent of the population according to the National Emergency Committee (COEN) in February 2001.

From 13 January to 2 July, the total number of aftershocks registered came to 10,219, and 701 of these were felt in the area of San Salvador and San Vicente (World Health Organization, 2002). These data clearly indicate the enormous pressure the population of El Salvador was under during 2001. The damage wrought on rural and urban housing was especially significant, as this left thousands of families homeless, without their belongings, and with no way of taking care of their basic needs.

Houses in the communities affected by the earthquakes were built with adobe, and can be characterized by their lack of resistant structure, thus the number of houses destroyed or left uninhabitable was considerable. In addition, the second earthquake, which had a shallower epicentre, destroyed many buildings that had only been slightly damaged during the first one. The total number of houses destroyed came to 153,001, whilst another 186,444 were damaged, representing 24 per cent of the total number of houses in the country. This damage to housing added to the problems of the historical housing deficit, estimated to stand at 551,604 units (UNDP, 2001: 44) and to low-quality housing, both especially prevalent in rural areas.

Areas affected

All 14 departments that make up the country were affected by the two earthquakes to a greater or lesser extent. Damage to housing was concentrated in the departments of Cuscatlán, La Paz and San Vicente, which led to a considerable increase in social, financial and environmental vulnerability of the urban and rural population.

The Spanish Red Cross focused its support to the Salvadorian Red Cross in the department of San Vicente, where 13,643 houses had been destroyed and a further 21,400 damaged, leaving a total number of 169,529 people affected. The department of San Vicente is made up of 13 municipalities, and the Spanish Red Cross became involved in the progressive housing projects in the two most underprivileged municipalities in San Vicente: Tecoluca and Verapaz.

Reconstruction proposals

The Government of El Salvador channelled part of the international aid received after the disaster through the country's public institutions. The assistant deputy minister for housing was mainly in charge of this task and a large part of these resources was directly channelled by the municipalities themselves.

Many actors were involved in responding to the disaster, including the International Organization for Migration (IOM), Cooperative Housing Foundation (CHF) International, Habitat for Humanity and Solidaridad Internacional, among others. The Salvadorian Red Cross received support from the International Federation of Red Cross and Red Crescent Societies (IFRC) and several national societies of the Red Cross, such as those from Germany, Italy, Japan, the Netherlands, Switzerland, and Spain. In San Vicente there were other projects apart from the Salvadorian Red Cross/Spanish Red Cross captured in this document. One of them is that of San Vicente Productivo, a project funded by the European Union.

The Government of El Salvador contributed to the reconstruction process in different ways: it arranged land transfers so that this could be built on by other actors, it provided information regarding urban legislation, and it also arranged, and carried out, construction work for other parties involved.

The Spanish Red Cross, as well as other Red Cross national societies, was already working in the country in support of the Salvadorian Red Cross since Hurricane Mitch. When the first earthquake hit, the Spanish Red Cross created the special plan for Earthquakes in El Salvador (PETES) in accordance with the plan of action of the Salvadorian Red Cross. It included three phases:

1) *Emergency phase*: search and rescue, first aid, evacuations, search and family reunification, relief delivery (e.g. food, shelter, cooking items, hygiene items, water).

2) *Stabilization, rehabilitation and humanitarian aid*: global strategies to cover basic needs of the displaced population in shelter, water and sanitation, livelihood, psychological support and health.

3) *Recovery and reconstruction*: simultaneously with the previous phase and according to the former development projects still ongoing in the country, this phase began the identification and definition of projects to rebuild houses and infrastructure, as well as projects for community and economic development (the project in this document was part of this phase).

Within the development programme, the actions to achieve recovery and strengthen capacities of the communities and individuals, largely passed through the rehabilitation and reconstruction field. In addition, the pre-existing vulnerability situation of these communities heightened due to the loss of their houses, as well as the destruction or damage of key communal facilities (e.g. schools, health care centres, water and sanitation).

Understanding the development process as an operational continuum, the Spanish Red Cross formulated their intervention strategies with special attention to developing a participatory, community and continuous approach, as well as considering environmental protection and sensitivity to cultural factors.

One of the aims established by PETES was the reconstruction of houses including the water supply and sanitation systems. In accordance with the general guidelines set out by the PETES, the Spanish Red Cross together with the Salvadorian Red Cross carried out two different interventions related to housing, both of which differed in scope and concept, but which had the same objective. The two housing projects were: new resettlements built using a contractor-built methodology with a high degree of participation by users; and reconstruction of houses in the same location as before the earthquakes using the progressive housing methodology.

The Spanish Red Cross and Salvadorian Red Cross also identified, designed, and implemented other development projects in order to obtain an integrated approach to development including: water supply and sanitation, strengthening community social networks, primary health care, economic development and disaster preparedness. The activities of the PETES finished in December 2006.

The progressive housing approach

A number of organizations in El Salvador decided to use the progressive housing methodology after the 2001 earthquakes in regards of the huge deficit of safe housing and the importance of families being the main actors of their own recovery. These organizations wanted to achieve a high level of project efficiency, impact and sustainability. The intervention area (urban or rural), the confidence of the communities in the implementing organization and the population involvement were crucial to the success of this approach. One of these organizations was the Salvadorian Red Cross with the support of Spanish Red Cross.

The two different housing projects (resettlement with contractor-built approach and reconstruction with progressive housing approach) shared the same goal: to help the families affected obtain the living conditions required to properly re-establish their well-being and their former daily domestic and livelihood activities, if minimum conditions were ensured in the closest place from where they used to live and as soon as possible. The houses were therefore considered a tool, part of a wider approach by which families could start to rebuild their lives.

The Salvadorian Red Cross and Spanish Red Cross intervention in progressive housing was carried out in nine communities in the municipalities of Tecoluca and Verapaz, in the department of San Vicente. The initial plan was to build 600 houses. However, some people dropped out of the projects. Some families left the community to live with host families in other communities

or even other countries. Some other families joined other housing projects in other areas with different approaches. Finally 582 houses were built using the progressive housing methodology.

Several factors contributed to the design of the methodology described below. For example, the structural damage of the houses, the people's irrepressible fear of rebuilding using local materials and methods, and the attempt to optimize the balance between the identified needs of the population and the resources that the Spanish Red Cross and the Salvadorian Red Cross had available for this intervention.

The general principles that guided the progressive housing approach were:

- The houses were built on the same land on which they had existed before the earthquakes, provided conditions permitted this and provided the site was not at risk of flooding or landslides. Thus, it was possible to avoid uprooting the population. The families held the ownership of the land.
- The structure of the buildings was designed to be earthquake resistant, capable of withstanding an earthquake similar to those that had occurred without collapsing. The aim, in this case, was to ensure no loss of human life and to ensure that the damage produced would be repaired by the users themselves.
- The constructed area per house would be 42 sqm, 36 of which would be roofed, divided into three rooms with a porch measuring 6 sqm outside. Participatory design methodology took place.
- Community involvement was essential during the whole process, from the design of the house to the handover.

The concept of progressive housing referred to the fact that the project would be divided into different stages of construction with the active participation of the families that were benefiting. However, the concept of progressiveness did not end with the construction of the dwelling, as the original design was conceived so it could be extended and improved by the users in their own time depending on their resources and needs.

The first stage comprised the construction of the structural elements of the house using contractors. The unskilled labour needed by the contractor was contributed by individuals from each family within the community. This was the first step towards recovery for both families and communities, as their active participation would guarantee their appropriation of the intervention. This stage also offered the opportunity to train local people, something that improved, and in some cases created, employment opportunities.

During the second stage, the non-structural elements of the houses were finished by the users themselves. The Red Cross supplied some materials and provided the necessary technical advice through a local technical team as site works supervisors. The families were now familiar with the strategy and the work, and their participation increased in an effort to finish their own houses.

The third stage completed the intervention and dealt with the potable water supply and household plumbing system that was designed bearing in mind the participatory diagnoses carried out individually in each community during first and second stages.

The work of social promoters from the Salvadorian Red Cross during the implementation of the project was essential to obtain a high involvement and confidence from the communities towards the project.

Target communities

Population data

The department of San Vicente has an area of 1,184 sq km, 98 per cent of which is rural. It has a population of 166,957 people (84,785 men and 82,172 women). Its economy is dependent on agriculture and livestock, chiefly basic grains, coffee and vegetables. It also produces sugar cane and livestock and fowl are also raised.

Tecoluca is one of the largest municipalities in the country measuring 286.2 sq km. It has a current population of more than 30,000 people. The municipality of Verapaz has an area of 24.31 sq km and has an officially registered population of 7,099 inhabitants.

The progressive housing project was carried out as follows:

Social organization

The communities in El Salvador have 'communal development associations' known as *Asociaciones de desarrollo comunal* (ADESCOS), which are bound and legalized by the town councils. These ADESCOS are organizations that mobilize the community and help the community access government funds, organize itself to maintain common structures such as schools or roads, undertake projects of common interest, and other issues. The representatives are elected

Table 12.1 Progressive housing project

Community	Municipality	Department	No. of houses
1 El Arco	Tecoluca	San Vicente	141
2 Llano Grande	Tecoluca	San Vicente	37
3 El Puente	Tecoluca	San Vicente	24
4 Santa Cruz de Paraiso	Tecoluca	San Vicente	30
5 San Pedro	Tecoluca	San Vicente	40
6 Sand José de Borjas	Verapaz	San Vicente	29
7 H. Nuevo Oriente	Verapaz	San Vicente	68
8 San Antonio Jiboa	Verapaz	San Vicente	105
9 San Isidro	Verapaz	San Vicente	108
		Total	582

at assembly elections and are important figures within the community. There is a regulation in the country on how these associations work, what their responsibilities are and their structure. These associations are an important reference point for the communities. The trust that the inhabitants place in the ADESCOS and their system for spreading information, led to the decision to adopt the ADESCOS to facilitate channelling, coordination and communication between the community and Red Cross personnel. The social and organizational fabric that existed before the earthquakes, were used and reinforced by the project. It was possible to make the most of this and other community resources thanks to the fact that the houses were built in the same place, thus nobody was forced to move.

Criteria for selecting the users

The Spanish Red Cross arrived to support the Salvadorian Red Cross in San Vicente during the first phase of the emergency after the earthquakes. The personnel deployed throughout the country had the arduous task of identifying detailed needs through a rapid assessment, which they documented for future use. Initially, 14 communities within the department of San Vicente had been identified, however, after a more exhaustive analysis of the communities, the development team decided to target nine communities of the 14 (see Table 12.1).

The families benefiting from this project had to satisfy requirements both in terms of the damage done to their houses and in terms of the risk to their lives. They also had to be able to contribute evidence of their ownership of the land where their house was to be constructed.

Land tenure

There were various situations in regards to the ownership of the destroyed houses. People who were legal owners of land, or had land ownership which was being processed (reconstituted families, caretakers, etc.), in some communities received help from the town hall and were provided with the professional services of a lawyer, which brought down the cost of the process. Thus, all the people benefiting from the project had legal documentation certifying ownership, which was fundamental if they were going to be included in the housing project. On the other hand, there were also families whose houses were located on land that belonged to the railway company, or to other private individuals. These people were excluded from the project for reasons of ownership.

Implementation process

Before beginning the construction of the houses, the communities prepared a house design in a collective way, using a participatory design methodology.

This methodology consisted of outlining on the ground the walls of the house, using just two lines of blocks in order to help a real space simulation to a scale of 1:1. This helped the communities have an idea of the real space of their houses and also to make easier the distribution of the windows and doors to their future houses.

The houses consisted of a unit with a gabled roof and walls made of concrete hollow blocks reinforced horizontally and vertically. The gross floor area was 42 sqm, divided into two bedrooms of 9 sqm each, a common area of 18 sqm, and a porch measuring 6 sqm.

As already stated, the progressive housing project was made up of three different stages:

Stage one: Partial construction

The tasks that involved people were distributed in the following way:

- *communities*: these contributed unqualified labour and were organized into work groups;
- *local builders*: hired after their tender offer was successful;
- *construction supervisors*: one supervisor for every 30 houses hired through the consultants that designed the houses;
- *social promoters*: from the Salvadorian Red Cross and trained for this specific purpose (one promoter for every 50–70 families). These created a climate of trust as they worked alongside the community and exhaustively identified new needs to be considered in later development interventions thanks to their in-depth knowledge of the individual situation of each family group.

The methodology followed in this stage involved the partial construction of the houses and was carried out by a construction company hired through a public tender. All the construction companies that worked in the progressive housing projects funded by the Spanish Red Cross were subject to supervision by a technical team hired for this purpose. During this stage, the work of the construction company, along with the follow-up and supervision, guaranteed that everything would be carried out according to the design plans, the technical specifications, and most importantly, ensured that the structural system would be able to withstand earthquakes. The community's contribution during this first phase was unqualified labour, each family contributed the work of one person per house per day.

The work carried out during this initial stage was:

- excavation and laying of the foundations;
- the resistant structure was built and the walls were built up to 1.70 m in the bedrooms and 1.10 m in the remaining areas;
- the roof was built and covered;
- paving.
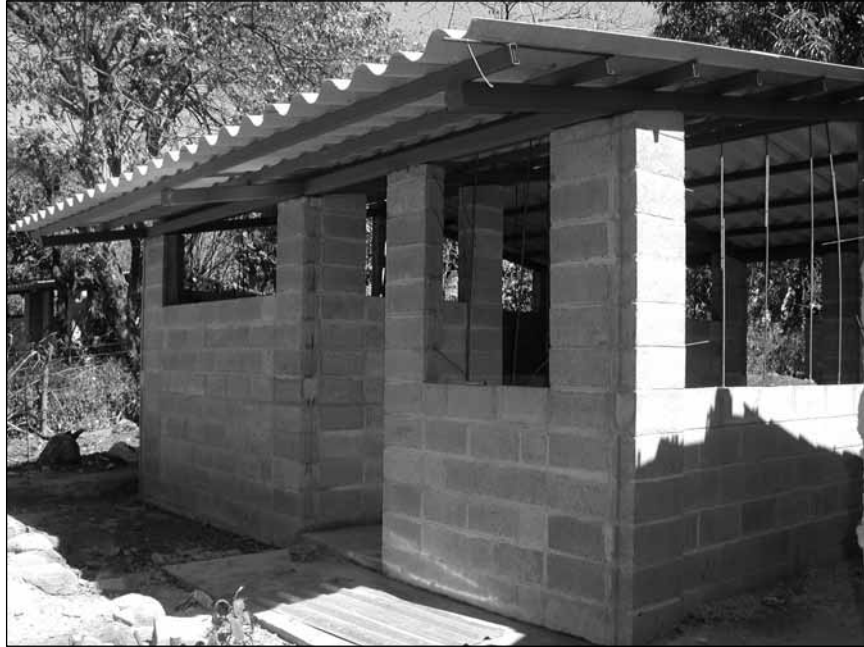
Figure 12.1 House at the end of stage one

The construction company was in charge of the on-site layout, laying the foundations, and the structure of the progressive housing. All of this was carried out under the supervision of the construction control teams. The community contributed working days to the construction of the housing.

The aim of the building system followed was to ensure that the structure would act 'as a whole', meaning it would not collapse under any circumstances. The houses were built with hollow concrete blocks with steel reinforcement running inside and then filled with mortar. The walls had 13 vertical reinforcements (functioning as pillars) using corrugated steel reinforcement bars, as well as horizontal corrugated steel reinforcement bars every three or four rows of blocks. The corners were joined using overlaps in both directions. The walls were fixed to the roof using a metal structure that was pressed into the reinforced concrete at the structural reinforcement points. In addition, the fibre cement roofing sheets were fixed to the metal structure using resistant adhesive materials.

Stage two: Completion by owners

During the second stage the people involved tasks were:

- *communities*: these contributed labour and were organized into 'mutual help' groups. They also contributed a large part of the resources necessary.

Each group was formed by approximately five people, representing five families;

- *social promoters*: from the El Salvador Red Cross continued the work begun in the earlier stage;
- *master builders and bricklayers*: these provided technical support for the different construction processes underway in the communities. In some cases, these also provided labour for families that could not finish their house themselves.

The execution in this phase counted on a higher participation from the community to complete the basic units. The following work was carried out by the owners themselves:

- The lintels of the doors and windows were made using special hollow blocks (U-blocks) that enabled a continuous beam to run at lintel level over all doors and windows.
- The walls were finished off either by following the initial building system using vertical and horizontal reinforcements and concrete blocks, or by using local materials.
- The houses were made more waterproof by rough coating all the outside walls and then later whitewashing or painting these.
- Finishing touches applied to the whole house.

Figure 12.2 House painted at the end of stage two in San Antonio Jiboa

In order to continue the construction of their houses, all families were given part of the materials and the necessary training, technical support and follow-up by the team (of master builders and bricklayers) hired by the Red Cross for this purpose during this stage. Thus, it was the families themselves who finished the job.

The Red Cross provided each family with:

- Materials that were not available locally, e.g. concrete blocks or blocks made of other materials, depending on the system chosen by each family to complete their house according to the resources each had available to them.
- Workshops to impart construction techniques with the support of the Italian Red Cross.
- Technical support and monitoring necessary to the communities; one master builder per community, one bricklayer for each 20 houses and 11 social promoters in total.

The families' contributions included:

- the materials necessary to mix the mortar and concrete (sand, water, cement and gravel);
- the doors and windows depending on their preferences and financial resources;
- the whitewash, paint, and all other materials needed to achieve the desired finish;
- the labour necessary to carry out all of the above activities.

Stage three: Water supply and sanitation

The minimal living conditions necessary for a house to be inhabited include a supply of potable water and a basic system for the removal of grey water and excrement, these needs were identified after an exhaustive analysis during the previous two stages.

The main criteria taken into account for the selection were:

- *technical viability*: there was a source of water, permission had been granted, and the project was backed up by a technical study;
- *social viability*: the community considered this to be a priority and gave their support to the project to bring potable water into the houses.

This was carried out not only with the owners of the progressive houses but also with the entire community in the case of El Arco, Santa Cruz de Paraíso, Llano Grande, El Puente and San Antonio de Jiboa.

Although the initial situation was different in the case of each of the five communities, the common objective was to install a sink with two taps (one filler tap and one shower tap) and a system for removing grey water connected

to a diffusion well in each of the houses and a system in each house for the excreta disposal.

In this third stage, people from targeted communities continued collaborating actively in organized groups. They received training on how to use and maintain the new installations, and committees were set up and advised on how to administer and maintain the new community systems in an effort to guarantee the sustainability of the intervention. Throughout the entire project workshops were organized to impart specific skills, local neighbourhood associations became stronger as a result of assigning responsibilities related to the project, and social networks became stronger thanks to the creation of mutual help work groups, etc.

In order to complete the intervention, the community's needs were identified during stages one and two, through the realization of 'participatory diagnostic' with the support of social workers. These participatory diagnoses consisted in three phases:

1) *Describing the community*: including physical, social, cultural and economical aspects, obtaining data and information through the interviews with key people. Also some visits and visual inspections were made.
2) *Knowing our needs:* two workshops took place with high participation, where the beneficiary families decided themselves what aspects were priorities to develop in their communities and by themselves.
3) *Analysing the current community's situation:* The Spanish Red Cross and Salvadorian Red Cross mapped and analysed the needs and concerns of the communities and their inhabitants.

Based on the diagnoses obtained, projects were drawn up to help community development, to strengthen the local economy, and to organize the construction of health or educational centres, etc.

At the same time as the progressive housing project was underway, many other construction projects were also being carried out: at least six educational centres were reconstructed and/or extended, among these were a Hogar del Niño (a house for people with physical and mental disabilities) and a centre for the blind. In addition, two healthcare centres were rehabilitated and other projects for the construction of permanent houses were carried out.

Disaster preparedness workshops and risk reduction activities were promoted in the communities to explain some additional work that could be carried out on their new houses in order to reduce vulnerabilities. Some activities undertaken by the households were: cleaning the area around the house, removing superficial run-off water, house maintenance, construction of natural barriers, protecting slopes, planting trees and extending the house.

Figure 12.3 Participatory diagnostic workshop in El Puente

Timeline

The three stages of the project overlapped in an effort to make the most of the time, materials, and human resources. This considerably increased the amount of administrative and coordinative work to be carried out by the people involved in the project but also served to make it much more efficient. A total of 538 families had moved into their new houses by 29 July 2002. The timeline for the project is outlined below:

1) Planning and drafting the project document lasted from May to August 2001 (4 months).
2) In August 2001, a pilot house was built to optimize the material and human resources and in an attempt to discover any construction or technical problems.
3) During the months of September and October 2001 the social promoters were hired, the tender was issued, and the successful construction companies were announced.
4) Stage one construction: This varied depending on the number of houses to be built in each community. All of them began in November 2001 and the last one was completed in March 2002 (4–5 months).
5) Stage two began at the completion of stage one in each community and came to an end in July 2002 (approximately 4 months) in each case.

Table 12.2 Timeline of project implementation

2001										2002				
Activity	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Planning and drafting the project document	▓	▓	▓	▓											
Construction of pilot house				▓											
Social promoters were hired, the tender was issued and awarded to the successful construction companies					▓	▓									
Construction in stage one - 582 houses							▓	▓	▓	▓	▓				
582 houses finished in stage two											▓	▓	▓	▓	▓
538 families moved into their houses															▓

Results

Finally, 582 houses out of 600 (foreseen at the beginning) were built in 9 communities (see Table 12.2) and all of the houses were built under the conditions of quality required by the project and all are resistant to earthquakes.

The impact of the intervention, as well as its efficiency and effectiveness, was remarkably high due to the fact that the work was carried out with the communities in their place of origin, using the existing infrastructures, resources, and social fabric. The quality control carried out on the construction work also meant that Red Cross personnel were obliged to put a lot of effort into coordination. However, the houses, even though built within the same community, were dispersed in a large area which hampered progress and minimized how well the supervisor could follow up on the work done. Yet, on the other hand, whilst stage one was underway, the future owners of the progressive houses became 'apprentice construction supervisors', making

complaints and keeping a close eye on the way the construction company was doing its job, something that brought huge advantages as well as some minor disadvantages.

The community involvement was constant from the very beginning. They carried out the design of the house through a participatory workshop and a census of the houses/families, they were responsible for spreading the news about the progressive housing system, helped speed up the processes involved in splitting up land or started off the processes necessary to have ownership recognized, they also provided a lot of information about different aspects in the community (electricity, water, construction materials for the houses, plumbing, town organizations, etc.)

Under the motto 'learn as you work', it was possible to motivate people into organizing the work groups that made it possible for the users to participate. Project guidelines were also drawn up and these were then adapted to suit the local situation and the situation of each family. As a result of 'learn as you work' the communities developed some tools: first, bearing in mind the arrival of the construction company created a demand for certain services, such as rented accommodation and cafeterias for the workers, several money-making initiatives emerged during the first stage of the project. Second, to obtain financing for stage two of the project, eight of the nine communities organized raffles, dances, food pantries, and a series of other events to collect funds, with the help of the social promoter. These events were called 'activities to collect community funds for the purchase of basic materials for stage two'.
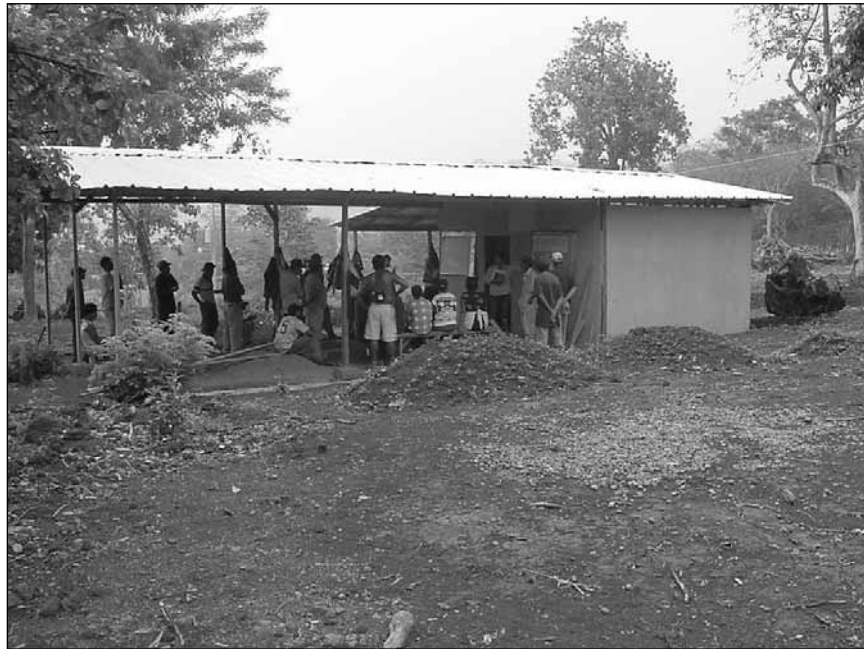
Figure 12.4 Community team meeting very early in the morning

One of the aims of community participation in the project (by providing labour and by attending the training workshops) was to ensure that the users themselves played an active role in their own recovery. This participation, made possible by appropriate community organization, entailed significant social, economic, educational advantages and positively impacted on social organization. One important fact is that, by the end of the project, all of the families without exception had met the number of working days they had initially committed to the construction of their houses.

The direct impacts of the progressive housing approach are as follows:

- According to the identifications carried out before and after the project, this intervention covered the immediate needs after the disaster of 97 per cent of the population in the target communities, whose priorities were personal safety and peace of mind.
- The active participation of the community during stage two of the project paved the way towards new employment opportunities for the inhabitants. This led to increased employment in the construction industry within the communities, which had the positive repercussion of improving the standard of living.
- Local collaboration increased, and has continued to do so, thus strengthening social networks.
- Women became involved in building the houses, which served to bring down certain cultural stereotypes. They were also actively involved in collecting money for stage two. By the end of the project, almost 40 per cent of women had increased their level of participation in community affairs.
- The El Salvador Red Cross managed to show a very different side of the institution to local people, illustrating that it is about much more than just public health.

While this project was underway new development interventions were identified and some of these were related to livelihood activities, such as the setting up of small fish farms in certain communities, among others. This comprehensive programme of SRC through the special plan to respond the earthquakes of 2001 (PETES) came to an end in December, 2006. The permanent delegation is still working in El Salvador. This aside, the communities had family-run businesses (run by women on their own for the main part), such as shops selling basic, essential items and, as was to be expected, in some cases the new houses were also turned into working areas in almost all the communities.

Strengthening social capital was one of the most important points to come out of all the projects carried out. The community development programme included projects that covered preparation for disasters, the environment, community health, water and plumbing, and economic development. In addition, as it was necessary to activate existing social networks, this made it

easier to make changes in the case of some local leaders, which brought new impetus to the situation in the heart of each community.

The strengthening and/or creation of committees to administer the new installations were also reasonably effective. In fact, in one of the communities, this committee came to play a pivotal role in the local hierarchy. Several small hamlets that had historically not exercised a great deal of influence within their municipalities also began to gain prominence and thanks to the support received from the project, local authorities started to pay more attention to these hamlets.

Other results

The relationship between the construction workers and the community while cohabiting, was not always an easy one. It is a good idea to establish the services construction companies can expect in order to carry out their work, and under which terms these services would be at their disposal, prior to beginning construction. For example, in El Salvador problems arose over the electricity needed to run the machinery at the site. In the end, the community was forced to accept liability for the consumption, and the corresponding cost, as the company had set-up an illegal connection to the general power network. However, there were no problems regarding the supply of construction materials and there were no noticeable price increases. Yet, there was a certain lack of professionalism between the construction workers and the construction supervisors sent by the consultant company responsible for the supervision of the works. Although in some cases the construction company did not follow the terms of the contract to the letter, these were largely of little importance and did not cause any delays to the project schedule.

Sustainability of the results

Although cement blocks are more costly than other locally available materials, it was the communities themselves who opted to use them, as they had very little faith in local materials, such as adobe or *bahareque*. Little house maintenance was expected to be necessary and this could be easily carried out by the house owners themselves.

Other relevant data five years after the project came to an end can be found in the internal evaluation carried out by the Spanish Red Cross regarding conditions in five of the nine communities that took part in the project. At this time, the houses were considered to be highly habitable (scoring four out of five); all the dwellings still had a water supply and a plumbing system and all of them had been connected up to the electricity supply, which had not been done during the initial project carried out in 2001–2.

This evaluation also showed that in general families had maintained their houses well, they were kept clean, occupied and well cared for. Families had also made improvements according to their capacities. The houses were well

Figure 12.5 Houses that have been simply finished in Hacienda Nuevo Oriente, five years later

maintained and they replaced elements that had been broken or repaired them in a correct way. It is very interesting that no family has removed any part of the house (roofing sheets or others) to sell them and replace them by similar elements of less value. Most of the families have done minor improvements to the houses such as small annexes. These annexes are made with very cheap materials such as tree branches or recycled materials from their destroyed house.

Around 25 families were able to do major improvements to the houses such as annexes made of hollow blocks (most of them) or *bahareque*, but never adobe. For the roof structure of these annexes most used steel structure and corrugated iron sheets, never fibrecement sheets. Some of these works were contracted to local masons and some of them were done by themselves.

Constraints

The transition from stage one to stage two was not easy as it involved important changes for the community: its participation was no longer restricted to the provision of working days but now also meant a hefty financial contribution had to be made in order to purchase the materials. What hampered the situation most was the commitment to comply with the dates set for the end of the project, as these were very specific and meant that residents had to

make a huge effort. In addition, the authorities did not keep their promise to speed up the procedures related to the possession of land, which meant that the families benefiting had to take on the extra work involved in legalizing or updating their documents of ownership.

El Salvador is a complex country from a political point of view. It was essential to keep a distance from aspects related to 'local politics'. The municipalities were reminded of our principles, neutrality among other things, and they were repeatedly told that under no circumstances should this project form part of an 'electoral campaign'. Our independence must be unquestionable.

Conclusions

This way of organizing the project – asking for active participation from the community – is a viable alternative in rural areas, as inhabitants are more prone to working on their own initiative and organizing their available time in order to take part in the activities.

The families selected for the project should be families able to meet their economic obligations, as they will be expected to make a hefty contribution, which may be beyond the resources of some.

It is necessary to implement the participative design methodology from the very beginning, without any previous references and without visiting other housing projects, as the communities might be influenced out of fear of losing the project.

If this methodology is to have maximum impact, extensive knowledge of the country, culture and its way of life is paramount. Ideally, it should be implemented in countries where the National Red Cross Society that will carry out the project has not been recently set up.

Only the laying of the foundations and the construction of the actual structure should be managed with the construction company. The remaining building work should be managed by the users. This requires greater planning and coordination but also guarantees that the resistant part of the house will be carried out properly and in less time.

Plan each stage of the construction process exhaustively, detailing the activities to be carried out during each stage and the roles assigned to each person taking part. Ensure information about the project is widely disseminated from the very beginning, as this will help make the most of the resources and optimize the time taken to carry out the project.

Endeavour to make the most of the families' commitment to the project and assign tasks, such as 'amateur supervision', to keep an eye on how the housing is being built. If this is done in an organized fashion, local inhabitants can be effective as an 'early warning system' in the event of a problem.

In the case of El Salvador, the role of the social promoters from the Salvadorian Red Cross was of crucial importance, as they created a feeling of trust between the community and the Red Cross office. In addition, they were able

to quickly solve problems and often managed to stop these from becoming more serious, as they were present in the communities on a daily basis.

The progressive housing project in El Salvador was an efficient housing project that had a dynamizing effect which led to the training of local people in social and technical areas (construction). This was the start of a comprehensive plan for community development that came to an end in December 2006, and which permitted the inhabitants to decide on their own model of well-being with the constant support of the El Salvador Red Cross and the Spanish Red Cross.

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About the author

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CHAPTER 13

Peru: The long-term impact of short-term reconstruction work

Eliseo Guzmán Negrón

What are the long-term gains from participatory reconstruction processes? This chapter reviews six reconstruction localities in Peru some 6 to 18 years following the original disaster. Findings are that, whatever the national and local economies and politics which are major drivers of reconstruction processes and levels of owner participation, successful owner-driven reconstruction (ODR) encourages participation beyond the individual house and household into regenerating the community with new communal facilities, employment and businesses. If this is ignored, participation is likely to decrease as beneficiaries' demands are met, and their focus shifts to livelihoods and generating an income. Evaluations from Peru highlight that a holistic approach is the only sustainable way to maintain participation from beneficiaries throughout the reconstruction process. The chapter argues that funding schemes, strategic policies, and project timings should be reviewed to incorporate this broader approach to targeting participatory reconstruction.

The regular occurrence of earthquakes in Peru has afforded the opportunity to study the long-term effects of different degrees of owner participation in the reconstruction process. The purpose of the studies conducted in the sites of reconstruction projects was to observe their performance over time and the fundamental and positive role played by the population in the development of such processes. The circumstances in each area are constantly changing and economic and political decisions at local, national and international levels are reflected in and interrelate with contextual situations in each particular area and, therefore, influence both the reconstruction process and the participation of the population. This chapter therefore includes an historical reference framework to provide a better understanding of the initial and current stages of the actions.

In this context, the actions carried out in six different scenarios and under different circumstances are described, as well as the effects of the different views regarding reconstruction problems and the participation of the population. The study covered the following areas and types of reconstruction. On-site reconstruction, in which rebuilding was carried out in the same place happened in Alto Mayo in San Martín; Morropón, in Piura; Chuschi and Quispillacta in

CASE STUDIES	EVENTS	
SAN MARTIN Alto Mayo	2 Earthquakes 1990 - 1991	①
PIURA Morropón	Floods associated to El Niño Phenomenon 1997 - 1998	②
AYACUCHO Chuschi and Quispillacta	Earthquake 1999	③
MOQUEGUA Chen Chen	Earthquake 2001	④
ICA Nasca	Earthquake 1996	⑤
ICA Tierra Prometida	Relocation of the population 1998	⑤
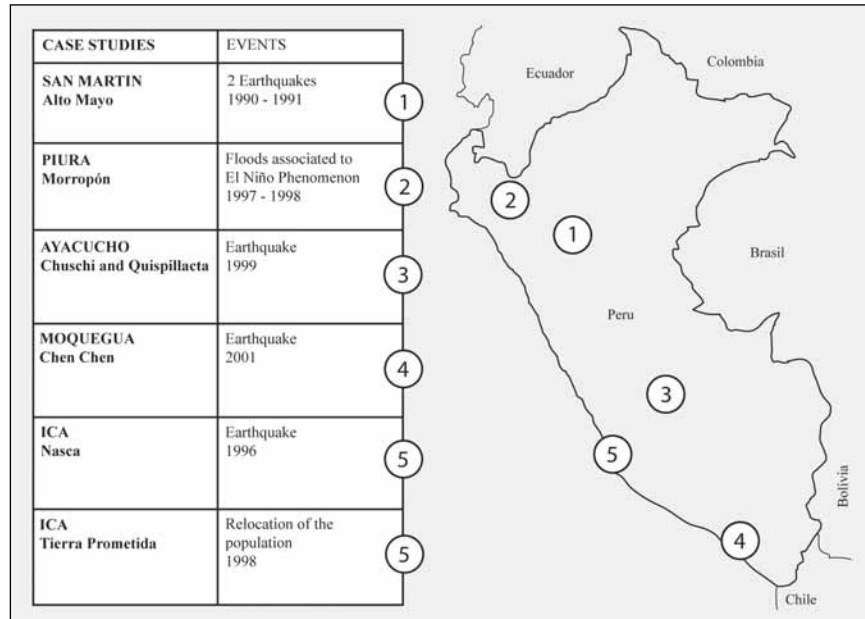
Figure 13.1 Map of case study locations in Peru

Ayacucho; and Moquegua. Relocation, in which rebuilding took place in safer areas happened in Nasca in Ica and Tierra Prometida in Ica.

On-site reconstruction: Post-earthquake reconstruction in Alto Mayo

In this case study, people migrated from the mountains in conditions of extreme poverty. Their organizations were affected by terrorism, but they were also supported by NGOs.

Background

Alto Mayo and Rioja in the department of San Martin are highly seismic areas with a history of earthquakes. Rioja and Moyobamba were the provinces most affected by the strong earthquake that occurred on 29 May 1990 (6.2 degrees on the Richter scale), which killed 70 people, injured 1,600 and either damaged or destroyed 6,000 homes. Another 6.2 degree earthquake occurred on 4 April 1991, causing 40 deaths, 700 injuries and the destruction of 466 homes in Moyobamba and 339 in Rioja, affecting a total of 8,000 people, destroying schools and damaging electricity and water supply systems.

The effect of the earthquakes was further aggravated by the extreme poverty of the population, particularly the migrant population who, with a limited

knowledge of construction systems and structural reinforcements, built their homes and community sites in inadequate locations, using makeshift materials. As a result, the buildings are highly vulnerable.

Different national and international organizations helped the earthquake victims and negotiated funds from international technical cooperation agencies. The Alto Mayo Reconstruction Project was implemented to support the victims. After a participatory analysis of the damage caused by the earthquake, it was decided to discard the use of rammed earth and adobe and use improved *quincha* (timber frame) instead. This was piloted, with residents and local builders, on the construction of classrooms and a community building, and then adapted to housing.

Workshops were held with the local population. The participants were taught construction techniques and were organized in accordance with their skills, gender and age. The participation of women and children in both the work and the organization was very important, raising their self-esteem as well as their social status.

In around three years 708 houses were built and nearly 2,000 homes were replicated by the people themselves in San Martin. This success became known internationally. One of the fundamental strategies was the use of participatory risk management methodologies and the application of appropriate technologies. Good coordination was established with the population and with local governments and institutions.

The two basic principles of the reconstruction process were first of all to acknowledge that the serious impact of the earthquake was due to the poverty situation expressed by the precarious financial, social and housing conditions; and secondly, that the reconstruction process is an opportunity to promote a local development process, considering the population's safety rather than being limited to restoring pre-earthquake conditions.

The objectives were to disseminate information regarding prevention, alternative building techniques and the conservation of natural resources; serve as a model for the reconstruction of other settlements; encourage community organization and participation and incorporate local prevention policies; evaluate the dangers and risks in the towns; promote collective self-construction of school modules with improved *quincha*; and provide training for builders and the local population.

The provincial municipality, the local school, local authorities, community organizations and the target population all participated in the programme. The inclusion of women was important, encouraging a greater participation.

After the April 1991 earthquake, a new project was conducted which gave continuity to the previous one, expanding its scope as the damages increased and coincided with a cholera epidemic. The materials were partly donated and the population provided manpower, timber and aggregates. The demonstration homes built with improved *quincha* during stage one were unharmed, whereas those built with other materials were damaged or destroyed. This demonstration proved the efficiency of improved *quincha* buildings in earthquake

situations, serving as an example for the subsequent construction of nearly 4,000 houses as well as schools and community buildings.

The actions included the evaluation of damages and risks in the towns, the collective self-construction of housing modules with improved *quincha*, training for builders and members of the population, workshops for teachers, the prevention of cholera in 46 settlements in Alto Mayo and the promotion of improved *quincha*.

The current situation

Nearly 18 years have gone by since the last earthquakes, during which time significant changes have taken place in the local economy. Migration into the region increased significantly due to a severe drought in the northern coast of Peru which affected the predominant crops there, i.e. rice and sugar cane which, despite it being a desert area, require plenty of water. The volume of water in the Gallito Ciego and Tinajones reservoirs decreased, forcing farmers to reduce their cultivated areas. The government encouraged the cultivation of rice in San Martin where the conditions are appropriate, therefore the cultivated area increased from 32,000 hectares in 2003 to 80,000 in 2005. In addition, imports were reduced due to protective tariff measures, the price of rice rose and local farmers increased their production, creating more local job opportunities.

Another factor is the existence in the area of free land of a better quality than the land in the migrants' native areas (71 per cent of the migrants had 0.5 hectare plots and the plots invaded in San Martin range from 3 to 5 hectares), thus attracting a large number of migrants. The population growth rate is 4.3 per cent, of which 1.3 per cent is migrants.

The increase in the population, income levels and consumption have expanded the network of services and activities in the towns, as well as businesses, specialized shops, internet booths, discotheques, restaurants, etc. A cement and concrete block factory was established and a brick factory.

In urban areas, the improved *quincha* walls have been replaced by other building materials, (bricks, or concrete blocks), maintaining the original design and, in most cases the wooden roof structures are covered with concrete tiles. The use of these materials in the construction of new houses is largely due to the existence of local cement, concrete block and brick factories.

In rural areas, although people have improved their financial situation, they are reluctant to invest in their homes because they hope to have a place in the town.

The majority of houses have also been expanded. Rooms have been added to take utmost advantage of the area without giving any thought to ventilation or lighting. The rooms are dark and smelly due to the inappropriate location of the bathroom and kitchen. The back of the houses are used as barnyards or as untidy storage areas.

Although the project team had the foresight to give the beneficiaries plans of their homes for future expansion purposes, expansions have generally been done in an improvised manner. The root of this problem lies in the lifestyles of the target population, who are mostly migrants from Andean highlands, where homes are usually closed due to the cold and they tend to continue this tendency unconsciously.

In general, public areas are neglected, except for the main squares which have adequate lighting, trees and benches; secondary roads are usually un-paved and have no trees.

Migrants have created problems, having settled on plots on the outskirts of the towns increasing their savings and thus creating a demand for more housing and services, forming new settlements with no previous planning, destroying the forests and producing climate changes that will result in a shortage of water.

The problems are beyond the control of local governments. As a result, 1.33 million hectares have been deforested, nearly 27 per cent of the total area.

The present scenario is a positive one as the standard of living has im-proved, however this situation could be reverted unless precautions are taken to prevent the collapse of urban services due to the constant changes and new demands.

Community participation is restricted, as the better financial conditions have helped overcome the problems caused by the earthquakes; the improvement

Figure 13.2 The main square in Alto Mayo

of the habitat has now been delegated to local governments, who are making efforts, despite their limitations.

On-site reconstruction: Post-flooding reconstruction in Morropón, Piura

This case study focuses on small rural populations with no previous organization. Their houses were destroyed by floods and rebuilt with support from NGOs.

Background

In 1997 and 1998, the El Niño phenomenon brought about nine months of heavy rain, floods and changes in temperature that resulted in thousands of victims and caused damage to housing, infrastructure and farm products.

There were more than 85,000 victims in Piura and 8,000 homes were affected, half of these in Morropon, one of the poorest provinces in the country, where the road infrastructure and services are insufficient and the homes are vulnerable to heavy rain. Ensuing health problems included diseases such as cholera, dengue fever, malaria and other diarrheic and respiratory diseases.

A restoration project was implemented, the objective being to reduce their vulnerability and design local development plans. An overall development approach was promoted, whereby the population participated in their development rather than as mere recipients of aid. The main features of the plan were the following:

Although the majority of the population is comprised of farmers, they lacked a canal irrigation system and had to pump water from wells, thus increasing their production costs and barely making ends meet. The El Niño phenomenon further aggravated the situation, causing the wells to collapse. To prevent a future water shortage, dams were built.

The construction system with concrete foundations and one metre footings to prevent possible floods was built with improved *quincha* (timber frame), with the active participation of the local population and using local materials. Technical assistance was provided to people building their own houses, taking disaster prevention into consideration.

Urban planning was based on reducing vulnerability and centralizing water, electricity and health services. The houses were built on 200 sq. m plots, forming a housing complex.

The beneficiaries were selected following an appraisal of the houses and their potential recovery, depending on the number of members and whether or not they had received aid before. The municipality, the neighbourhood board and representatives of the population participated in this appraisal, thus guaranteeing the commitment with the target population to build their homes.

Guidelines were provided to water users' boards, promoting an efficient use of wells and water supply systems. Drainage studies were conducted to reduce

risks in the area and a risk map was drawn up to pinpoint the most vulnerable locations. The studies were delivered to the municipality and to civil defence. Health care and better standards of living were promoted, providing training on water conservation, hygiene habits, family relationships, gender inequality and family violence. Given the lack of a waste collection system, it was decided that waste should be buried

It is worth pointing out that the institutional work was not limited to building homes, but included the development of the organized population, heightening their awareness of their capacity to improve their standards of living and overcome their poverty situation and exclusion. The greatest achievement was that the population adopted prevention and risk evaluation activities as their own.

Situation today

The roofs originally built with timber beams and corrugated iron sheeting were replaced as they attracted too much heat. The people developed their own system adapted to local weather conditions. Other materials are being used for extension at the back of homes. In general, no predetermined plans are used for the extensions; the rooms have poor lighting and ventilation and lack privacy and the back of homes tend to look untidy and neglected.

The intention to improve the outside appearance of the houses is evident. In general, more effort is being put into improving the appearance of social areas. A particular characteristic is that, on their own initiative, the families have painted the front of their homes in bright colours and decorated them with different drawings (birds, mermaids, geometric figures, etc.). In most cases, they have planted plants or flowers in small gardens in front of their homes. These individual efforts have made the whole town look colourful, cheerful and original. This shows that people are trying to improve their surroundings and are raising their self-esteem. It is an example of how, with a little inspiration and imagination, the urban environment can be improved at no great expense. There is also evidence of collective participation in the streets, which consist of packed down earth, with sidewalks in front of the houses, each family contributing their part.

On-site reconstruction: Post-earthquake reconstruction in Chuschi and Quispillacta, Ayacucho

In this case study, the rural population concerned has a high level of community participation based on tradition. The population was displaced by violence and affected by an earthquake. Support for reconstruction has come from NGOs.

Background

On 31 October 1999, an earthquake that registered 4.0 on the Richter scale affected the towns of Chuschi and Quispillacta in the Ayacucho Department destroying 80 per cent of the homes and a large proportion of the basic services infrastructure, causing serious personal and material damages including 26 injuries, 2,130 victims, 1,608 people affected, 355 homes destroyed and 536 homes and 3 schools damaged.

Chuschi was the first community affected by political violence in the early eighties as well as the Quispillacta and Uchuyri communities located about 120 km from Huamanga, the capital of Ayacucho at 3,140 metres above sea level, totalling about 10,000 people in both the town and the countryside. This area is considered extremely poor, with no water or sewage systems although electricity is available. Farming and cattle-raising are the main activities.

The main objective of the reconstruction work was to introduce appropriate technologies and raise public awareness regarding the need for risk management. Considering that Ayacucho is one of the departments with the highest poverty rate in the country, efforts were also made to create jobs, conducting practical training workshops so that people could build their own homes and certain components and to install sanitation systems, using local resources.

The population participated actively in designing the housing modules. Certain criteria were established, optimizing the use of adobe. The project built 213 one to three roomed houses, 100 community bathrooms and six multi-purpose community buildings.

Square adobe bricks were used for the walls, with vertical and horizontal reinforcements and a tie beam at the top. The roof was made of concrete tiles propped up by beams and sawn eucalyptus timber strips, and baked bricks were used for the floor. The project provided technical advice for the construction. The project manager provided technical training, the beneficiaries provided the materials. The project was supported by community authorities, the municipality and civil and religious organizations.

The population participated actively in the construction, under the traditional *ayni*[1] method, manufacturing adobe bricks and roof tiles. At the same time, training workshops were held on the construction of adobes and roof tiles and on risk management, and the population's participation was evaluated.

The beneficiaries were proposed by local leaders and authorities, taking into consideration devastated families, single mothers or widows and unencumbered properties.

Actual situation

The main problem was the lack of consistency of the roof tiles, which were apparently moulded and insufficiently cured, therefore they broke easily and did not acquire consistency when set. Another reason could be the extreme

changes in temperature; local builders had warned about this and the process was improved at the local population's insistence. Some cracks were evident in the corners.

People used different combinations of corrugated iron sheets and clay roof tiles for their improvised roofs, deteriorated walls have not been restored and even the original paint is still there. Extensions have been built onto the back of the homes which bear no relation to the construction system they were taught and barnyard animals live alongside the people. Free spaces in the homes are cluttered with different objects.

No improvements have been made in public areas, the streets are gradually deteriorating, the stone paths have no clean or uniform paving, ditches have not been cleaned and only a few attempts have been made to plant trees.

Nevertheless, the great effort put into building the carved stone church in Quispillacta, which could be the envy of any city, is a source of amazement. A great deal of effort and money has been invested in works that do not improve the infrastructure of the settlement, although they give the community satisfaction. It must be borne in mind that, beyond rational thinking, the traditions, customs, beliefs and priorities must be respected because they form an undividable part of the community and also reveal the existence of a great deal of energy to embark on actions if they decide to do so. It involved specific efforts by the community and local government that are meaningful to them because they gave them an identity and raised the population's self-esteem.

Figure 13.3 Carved stone church in Quispillacta built with the population's efforts

However, they are partial efforts, as there are no signs of any community efforts to improve the rest of the settlement.

The root of such attitudes can be found in the increasing presence of state institutions during the last decade. Seeking political clientelism, donations have been made of food, schools, computers, materials and manpower in exchange for nothing, replacing the population's efforts. People have become dependent and have lost their dignity and self-esteem; the traditional form of community work has been destroyed and the efforts, actions and intentions of development cooperation organizations have been wasted. People expect and even demand aid and support, and even stop making improvements so that they look worse off than they really are in order to receive more aid.

On-site reconstruction: post-earthquake reconstruction in Moquegua

In Moquegua, a very poor urban population was affected by an earthquake and has been relocated to land owned by the municipality. Support for the reconstruction was provided by NGOs.

Background

Moquegua was struck by an earthquake on 23 June 2001 (6.9 degrees on the Richter scale). Of the total population of 88,758 people, 42,350 people were affected and 11,886 houses were destroyed or declared inhabitable; of these, 6,300 were in the city of Moquegua.

The main factors responsible for the damage caused were the poor quality of the soil, the location of the houses on unstable slopes and inappropriate building materials – adobe for the first floor and quincha for the second floor.

An aid programme was designed, the main objective of which was to build housing for extremely poor families devastated by the earthquake and to develop their capacity to apply improved brick-making technologies. The project consisted of three stages, targeting 195 families, which were implemented in the Mariscal Nieto Province between August 2001 and April 2003:

1. Moquegua one: The construction of 103 adobe houses.
2. Moquegua two: The construction of 42 adobe houses.
3. Moquegua three: The construction of 50 concrete block houses.

The beneficiaries were proposed by local authorities and leaders, taking into consideration the poorest affected families with children, single mothers or widows and the disabled, whose properties were legally unencumbered.

They were all single-storey housing modules varying in size between 34 sqm and 48 sqm. They were built in the traditional Moquegua style architecture with a saddle roof. Sanitary and electrical facilities were installed as well as a septic tank. In the first two phases, adobe was used, as the most accessible material traditionally used in the area and for its thermal qualities.

Figure 13.4 Housing module built in Moquegua with traditional saddle roof

The project provided the materials, training for the beneficiaries and technical advice for the construction work. The actions were supported by municipal authorities, community authorities and civil organizations. The beneficiaries provided the materials and manpower. Training was provided on the manufacture of adobe reinforced with cane, the roofing technique and requirements to protect the houses from dampness and erosion. The component manufacturing workshops were diversified, producing concrete blocks, concrete beams, roof tiles and covers for the septic tanks. The construction work was carried out in groups and the building components and roofing were produced by families. Participation was defined based on skills, gender and age. The participation of women and children was considered outstanding.

Actual situation

Both the houses built with concrete blocks as well as those built with adobe have remained in good condition. Indoors it was observed that the roof had been built with concrete truss beams, which are an innovation; another innovation is the so-called *tumbadillo*, a cloth cover placed under the lower part of the roof to reduce the heat and give a better appearance.

In general, the extensions at the back of the houses were made of adobe, bricks or concrete blocks, with thought given to lighting and ventilation, bearing in mind the plans that were given to the beneficiaries.

Urban investments are evident as the local government is concerned about development: the streets are paved, a civic centre was built, public areas are pleasant, there are urban furnishings, children's playgrounds, lampposts, roads and sidewalks, benches, ditches, etc. The population is willing to cooperate, for example in decorating sidewalks with colourful geometric drawings and growing gardens in front of their homes, despite the small size of their plots, giving the town a better appearance.

The local government in Moquegua receives funds from mining license fees, which it uses to provide services to the city and make investments in the community. The population participates by controlling and efficiently planning the distribution of funds.

Relocation: Post-earthquake relocation in Nasca, Ica

This case study involves groups of small farmers formed into cooperatives, whose houses were destroyed by an earthquake. Support for reconstruction came from NGOs.

Background

The Nasca region was struck by an earthquake (6.4 degrees on the Richter scale) in the afternoon of the 12th of November 1996. About 93,000 people were affected, 17 people were killed, 1,600 injured, 5,200 houses were destroyed and another 122,000 damaged, as well as 400 schools, 40 health centres, 36 public buildings, irrigation canals and roads. The water and sewage systems were damaged, both in the city and in the countryside. 7,000 hectares of crops were destroyed and the tailings deposits camp caved in, contaminating the Acari river and destroying farmland. Material losses were estimated at USD $42 million. This area is under constant threat of earthquakes, having been struck six times during the last century.

The 1996 earthquake occurred in an area where poverty, precariousness and informality prevail. The infrastructure does not meet the requirements and the environment is completely deteriorated. In addition, the political violence in this area is driving people away.

The adobe houses in the towns and the countryside crumbled, untitled land created physical-legal encumbrance and relocation problems and housing reconstruction began with tenants in the cities and with squatters in rural areas.

International cooperation funds, in alliance with other national institutions, conducted an inter-institutional reconstruction assistance programme for rural towns in the Acari district, in coordination with the local governments and the people themselves.

The programme was aimed at supporting the most poverty-stricken rural families and focused on improving housing conditions and the physical safety of the rural habitat, encouraging participation in local capacity building.

The actions were guided by two principles: first of all, the acknowledgement that the earthquake had a greater impact because of the poverty situation and secondly, that the reconstruction should be an opportunity to promote local development with the participation of the population, taking their safety into consideration, rather than returning to pre-earthquake conditions.

Evaluation and risk zoning studies carried out with the participation of the population provided the guidelines for establishing preventive measures as part of the reconstruction actions. Remodelling projects and new plots of land were prepared and settlements were relocated. Physical-legal formalities were complied with, water-supply systems were restored, reforestation and promotion actions were undertaken and assistance and training were provided to the community organization.

A relationship was established between the state and the population, international cooperation funds were obtained, technical and social aspects were incorporated to ensure that the solutions were appropriate for the physical environment and available resources, and mutual aid between the victims was encouraged to improve the organization and promote community participation in local development. The participants included community organizations, the target population, and the municipalities of Nasca, Vista Alegre and Ingenio.

The population participated in the design, particularly women. It was decided to build a housing module with a single multi-purpose room 4 m × 7 m and a bathroom. Various alternative construction systems were evaluated based on their resilience to earthquakes, adjustment to the local environment, the local resources available and the local low-cost building tradition, in order to ease the organization and collective participation processes. It was decided to use the improved *quincha* system similar to the one employed in Alto Mayo. It was interesting that wooden columns were selected as a decorative element. Pressed mud was used for the roof to avoid the heat and the location of the modules in the front, back or across the plot was decided in accordance with family preferences. Plans of the housing modules were handed over taking extensions into consideration. At an urban level, a large main square was planned.

The housing modules and community buildings were self-constructed with improved *quincha*; the programme provided materials, skilled manpower and technical assistance.

A large number of local people have worked in the mining sector and have participated actively in protests and demonstrations; this conflictive attitude was reflected in the activities they were involved in.

The need to overcome their problems encouraged the women to participate actively in the reconstruction. While the men were at work, their wives were involved in a number of tasks, in addition to their domestic chores; some of them even took on the leadership of works committees.

Housing conditions were improved and so was the physical safety of the rural habitat. The construction technique was adopted, as was the disaster prevention approach to the reconstruction. The women played a fundamental role in the improvement of community organizations and concerted actions were undertaken with the state and local governments.

Actual situation

The houses built with improved *quincha* are still in good condition. In general, extensions at the back of the homes are improvised structures made of sticks and fabric, with no natural lighting or windows (see Figure 13.5).

At an urban level, the streets have not been paved, except for a few sections of sidewalks in front of the homes and some gardening attempts. The main square is a neglected plot of waste land.

People have lost their initial initiative and the settlement looks generally neglected. In both urban and rural areas, land titles have not been defined, creating a sense of inactivity. Due to their insecurity of tenure, people spent no time or effort on developing their settlement.

Relocation: Relocation of flood victims in Tierra Prometida, Ica

In this case study, the population was relocated after the floods associated with El Niño in 1998. The project was promoted by the church.

Background

The El Niño phenomenon caused the Ica River to overflow at the end of January 1998, creating mudflows and floods. Many towns were swept away, more than 50 per cent of the homes were destroyed or damaged, irrigation systems and roads were severely damaged and the water and sewage network collapsed. A large proportion of the population remained in the open air, with no roof to shelter them.

It was necessary to move the victims to a plot of land three kilometres from the city, referred to as La Tierra Prometida ('the promised land'). Initially, tents were set up for the people but promiscuity, the lack of space and the internal struggle for power created conflicts among the population. Under such circumstances Sor Martha Vera, a nun, took the initiative to combine the interests of the different groups fighting for local leadership power and formed a single board of directors, which together with the development committee, planned and organized the activities for the development of the settlement, seeking and obtaining assistance from different NGOs and the Church.

The area was divided into plots measuring 200 sqm and 498 temporary shelters were built. These temporary shelters deteriorated over time, the wooden columns are moth-eaten and the plastic has gradually been ripped off by the wind, not that it provided much protection against the cold or the heat. Some

Figure 13.5 Housing module extension at the back

people are using them as extra rooms or barnyards inside their plots, gradually replacing them with more resilient materials like adobe, adobitos[2] (green brick) *quincha* or clay bricks. The people themselves built these homes depending on their economic situation, without any help from institutions other than the parish which provides small loans for materials.

Present situation

Through the parish priest, the Church has replaced the works, hiring and paying the staff to implement them and taking decisions. Although local leaders intervene in planning their needs, the Church is in charge of the actions. Thanks to its negotiations and its aid network, it regularly obtains donations from various organizations in Europe. These funds have been spent on the implementation and equipment of services and social buildings, including the construction of a local community-parish building, a nursery school, a primary school, a medical post and a well that supplies the area. With the help of ITDG (now Practical Action), latrines were installed, an electrification system was obtained for the settlement and assistance was provided to build houses for the population.

The population has a passive attitude towards the development of the settlement as people expect their problems to be solved for them. During the earthquake of 15 August 2007, 135 houses that had mostly been built of raw bricks and adobe were destroyed. People have started the reconstruction work, in some cases using raw bricks even though they are well aware of their vulnerable nature; others are protecting themselves with straw matting. Community problems are solved by the parish priest rather than by the people's efforts, to the extent that they insist on and receive payment for the work they do for their own benefit. The population does participate in this settlement, but they are paid for it. This paternalism reveals a mistaken concept of charity, which has created an absolute dependence on donations, affecting the population's dignity and self-esteem. People have become accustomed to begging.

The image of this settlement is proof of that situation. The first thing to be seen upon arrival is the rubble of the 2007 earthquake and the settlement has become the rubbish dump of the city of Ica. As a result of people's low self-esteem and low sense of dignity, they have become accustomed to living amongst the rubbish and even though the president of the region promised to pave the streets if they cleared the rubble, they considered this offensive, so the streets are still the same. The most prominent part of the settlement is the main square where the parish and the community parish building are located. All other public areas are abandoned and the streets are dirt tracks. A few individual efforts to build houses and a lonely tree are evident.

Comparative study of cases and points to remember

Each of the reconstruction actions revealed the existence of a dialectic process in all these areas; the circumstances are by no means static but constantly changing. Local, national and international economic and political decisions are reflected in and interrelate with local circumstances, in one way or another influencing the population's decisions and actions. Consequently, those actions are reflected in the reconstruction processes and in the population's participation.

Each case occurred under different circumstances and at different times. However, in all cases, poverty and extreme poverty and the people's vulnerability to disrupting external agents, be they natural phenomena or social conflicts, had the following consequences:

- loss of lives;
- destroyed housing;
- damages to the infrastructure of water, sewage and electricity services, roads and means of communication;
- destruction of community education and health services and community buildings;
- destruction of productive facilities, crops and cattle;
- disruption of local governments;
- psychological and emotional damages.

In every situation, the circumstances were dealt with by the affected population, the state (either directly or through local governments), local companies or organizations linked to the victims and non-governmental organizations. The actions of these entities were different in every case and in different aspects.

Local participation in the reconstruction

Participation is the process whereby the affected population becomes involved in actions and decisions to improve its standard of living and reduce its vulnerability, which is basic for strengthening local organizations and individuals and creating community development opportunities.

We believe this definition summarizes the main idea behind the action and, after visiting the areas where reconstruction processes are taking place with the participation of the population and seeing such a wide range of experiences in different aspects of the community, we are firmly convinced that participation is the focal point of any action aimed at reducing the vulnerability of a community and embarking on community development tasks. In every case there were different forms of participation.

Initially, the population's participation was effective. In Alto Mayo, Piura, Chuschi, Moquegua, Nasca the actions of promoters were important. Decisions regarding different matters were taken at meetings with the population. An important premise was to acknowledge that people's poverty situation is the root cause of the disasters and that, as part of reconstruction tasks, consideration should be given to an opportunity to promote local development with the participation of the population, who should be made well aware of the safety measures required to avoid future vulnerability.

Workshops were held for the participatory design of housing modules and settlements. For construction purposes, the population was organized depending on their skills, gender and age. Workshops were also organized to manu-

facture construction materials (adobes, roof tiles, concrete blocks, etc.) and to teach people different ways of building appropriate to their circumstances.

Together with the local governments, the population selected the beneficiaries. Coordination was established between the population, local governments and institutions, to carry out different tasks, including legal formalities, sanitation systems and stronger organizations. The participation of women and children in the work itself and in the organization was important.

Fundamental contributions were the use of participatory risk management methodologies and the application of appropriate technologies. Different NGOs also supported the population's participation in community development. To this end, risk prevention workshops were held to heighten the population's awareness of the need for people to carry out their own risk prevention and evaluation activities.

The population's participation through traditional forms of community work (e.g. the *ayni*) was very important. The people were encouraged to develop their own productive activities. Nevertheless, the different cases evolved differently over time.

In Alto Mayo, people's participation is now very limited. Better economic conditions have helped overcome the problems caused by the earthquakes and, within their limitations, the local governments are now making efforts to improve the habitat of the communities.

In Batanes, people carry out individual actions that contribute to the urban image, painting the front of their homes in bright colours, decorating them with attractive drawings and making their portion of the sidewalk. Urban improvements depend on the local government which has very limited resources.

In Chuschi and Quispillacta, participation was very active initially, but at present people in general are not making any effort to improve their homes or their surroundings, except for a few specific actions promoted by the local government for specific works, such as the church (carved stone) or the main square, which proves that the potential energy for developing the community does exist.

During the last decade, state institutions donated infrastructure, equipment and even food for electoral purposes, without making the population participate in any of the work. People have become dependent, expecting their problems to be solved for them and making no effort to participate in the development of their community, losing their dignity and self-esteem. This has complicated the work of NGOs that are promoting participation, as they are requested to invest exclusively in works. In Tierra Prometida the situation is similar, due to the presence of the church in the area. Consequently, traditional forms of participation (like the *ayni*) are disappearing.

In Nasca the participation of women was significant. In addition to their domestic chores, they took over the organization and leadership of reconstruction committees. At present, in view of the sense of insecurity regarding their property, people are not investing any time or effort in developing their

settlement. However, this is not the attitude in all areas. In other places and despite their problems, people have a fighting spirit and a desire to prevail over their situation.

In Moquegua the participation of the population is expressed in the control and efficient planning of the local government's performance, which benefits from mining license fees which are redistributed to the city in the form of services, allowing it to make investments for the well-being of the community. It was interesting to note that even though the housing modules and the participation and housing construction methodologies were similar to those of Chuschi, the results were so different in terms of participation. The reason is that in Moquegua there is an ongoing struggle within the mining sector and the state has not assumed a paternalistic attitude.

The history of the people's struggles for rights in the past have consequences for their participation. Nuevo Ayacucho and Moquegua are a good example of a supportive attitude towards community development.

Comments regarding participation

After the experiences analysed above, it is evident that several aspects need to be borne in mind. Participation in reconstruction tasks has positive long-term effects, promoting individuals in the group and in the community. People can participate individually or in groups.

It gives a sense of importance and acknowledgement in the community, therefore individual efforts become social so that decision making becomes more democratic. People realize that they can generate their own development without depending on governors or technicians and they are successful in improving their standard of living.

It prevents people's dependence on assistance and paternalism, because they become responsible for their own development, raise their self-esteem and are encouraged to improve their standard of living. They think of ways to generate employment and they help design their surroundings. Their knowledge of the area enables them to provide accurate information based on actual circumstances and to become involved in risk reduction actions, so that when they build they take structural resilience, appropriate materials and a protected location into consideration.

It allows for impartiality, equality and transparency in the selection of users and a responsible administration of funds. It also directly promotes participation in education, health and social aid programmes, as an overall part of the reconstruction process. Works are implemented quicker when the beneficiaries participate, formalities are simplified and families benefit sooner from their houses and actions. Extra costs are reduced as profits and administrative expenses are eliminated and the quality of the construction is guaranteed because better advantage is taken of materials and local manpower. In some cases, local construction systems can be improved.

The sustainability of a settlement, subsistence methods, local economic development activities, improved knowledge, social capital and the unity of the population are quickly and easily established.

Local areas and traditional buildings with their own history are maintained, no alien elements are imposed, the local culture is respected and incorporated into community development, improving the designs, solutions, materials or forms, as the case may be, adjusting them to the surroundings. Often when these are inconsistent with the cultural or traditional context and prove to be inappropriate for the population, people tend to discard them or use the homes or buildings for the wrong purposes.

Participation and solidarity among people who have organized themselves to help each other usually works well. This was evident in the settlements we visited. However, it was proved that mutual aid is prompted by need and although it is an institution in Andean areas (*ayni*) and was brought to the coast by displaced people and migrants, this reciprocal working method to protect them against poverty tends to diminish when the population's economic situation improves. This suggests a stronger inclination to promote participation as the social advantages are evident.

Participation of women

The participation of women deserves special mention. Although disasters are largely due to the vulnerable situation of the population, women are even more vulnerable because of the current inequality. They have less access to education, to land titles, to housing and to local management decisions. Nevertheless in all cases, the participation of women in reconstruction tasks has been significant in terms of manpower, organization, planning, ideas and training, promoting participation and the creation of productive activities, demonstrating responsibility and consistency as well as involving children and the elderly in different areas, in addition to taking care of their family and their domestic chores. Their active participation in the reconstruction process revealed their capacity and potential, raising awareness that their role should be valued as they gradually take over the leadership of neighbourhood groups, even though in some areas they are still considered inferior to men. Nevertheless, progress has been made in doing away with inequality.

The apparent division of work between genders is erratic, as is their supposed vulnerability. In practice, it was proved that women are capable of doing all the tasks, as they have the stamina to be first in line to take on responsibility posts for reconstruction and community development purposes; hence the proposal that women must be included in all working groups. The fact that women stay in the settlements while the male population go out in search of sustenance makes it fundamental to encourage their participation in reconstruction programmes.

Another determining factor is their direct relationship with children, the elderly and the disabled, which makes it possible for them to coordinate ac-

tions with these groups. In some cases, children or the elderly have assumed the responsibility of building their homes and contributed to the reconstruction tasks.

State actions

Different forms of state presence were evident. In the Chuschi and Quispillacta area, the state carried out infrastructure works and donated food and equipment for electoral purposes, through different organizations.

In general, state actions in the most poverty-stricken areas were focused on the implementation of infrastructure works without promoting organized participatory activities and community efforts to solve their own problems, thus creating dependence. In some cases, such actions were used for political purposes, curtailing community initiatives and giving rise to a passive attitude to development. People have lost their dignity and self-esteem, expecting to have their problems solved for them and becoming accustomed to begging instead of participating in their own development. In general, all projects are affected by these methods.

Nevertheless, that does not mean that the state should not be in charge of implementing infrastructure, as that is not only its obligation but the people's right. However, it must also promote the participation and organization of the population, proposing alternatives coordinated with their local governments.

In cases of extreme emergency, food aid or temporary accommodation are inevitable. However, in the reconstruction stage, areas should be planned together, with the participation of the community.

Through the Ministry of Housing, the state has been involved in the reconstruction stage after the earthquake that struck southern Peru on 15 August 2007, with the Techo Propio (own roof), Mivivienda (my home) and Deuda Zero (zero debt) programmes, delivering bonds to individual families. Although the conditions for granting loans (ownership of the land, minimum income, no participation in other programmes) restricted the number of beneficiaries, 18,700 bonds worth 6,000 Soles each were handed out (equivalent to $2,000 which is not even enough to build one room). Although there were more than 80,000 victims, 19,400 Soles have been awarded so far. This is the typical system of granting subsidized loans, in which the population has no participation in any stage. It is a partial solution because it only covers a small privileged higher income sector. A year after the earthquake, people are protesting because no progress is being made with the reconstruction, rubble is still evident on the streets, families are still living in tents or temporary shelters and schools and hospitals are still in ruins. Under these circumstances, the work of NGOs is an essential complement, together with community participation.

Local government actions

The central government is incapable of solving the population's local problems directly and although the efforts of local or municipal governments to overcome centralization are limited, they are the basic form of organization through which the population participates in local decisions, coordinates community tasks, communicates and solves its infrastructure and development problems, and elects the agents to represent them at regional and central government levels. The central government should divert efforts, forming a network of local governments capable of taking action. Through capacity building, local governments should organize the population to ensure that infrastructure, services, orderly growth, heritage conservation, prevention and environmental protection are properly undertaken. This is the way to reach out to places beyond the scope of the central government, to which end the participation of the population is fundamental, as all the actions revolve around them.

In some places there are independent local government organizations and authorities who have more powers than the official authorities and who must be respected because the participation of the population often depends on their decision (native communities or community associations).

Local governments often make the situation more vulnerable by awarding land titles and implementing infrastructure works in risk areas. Technical staff are not trained to implement projects and infrastructure works or no local risk-management plans are available. The authorities and staff require local risk-management training to reduce the vulnerability of the population, promote sustainable development, reduce poverty and encourage decentralization.

Local authorities sometimes respond to political or personal interests. The population should have a responsible participation in electing their authorities, bearing in mind their common well-being over and above any private or political interests.

In certain circumstances, local governments conduct community actions without encouraging the beneficiaries to participate in either the negotiations or their implementation. As a result of this paternalistic attitude, the population has become passive, government funds are wasted because actions are not prioritized or useless investments are made. Consequently, priorities must be established. In this respect, it is fundamental for citizens to supervise and control the agreements, promises and obligations of the authorities.

Local governments have their own income and their own funds, they also receive funds from the central government and are entitled to royalties. They have the capacity to implement projects and are in possession of machinery, vehicles, tools, technical staff and workers. They also have the power to award land and quarries on concession. All this is geared towards community development.

They should promote the participation of the population in community development, not only as observers but as collaborators, so as to raise their

self-esteem and their sense of pride in participating for the benefit of their own people. Actions like the discussion of participatory budgets and the prioritization of investments in open councils or assemblies imply exercising participatory democratic rights and duties, strengthening governance, promoting responsibility and transparency and improving management and organization skills.

Training should include information on administrative systems, risk management instruments and methodologies and construction systems, which should be disseminated to local organizations (local governments, NGOs, the Church), that are directly involved in the reconstruction process.

NGOs

In all cases the importance of NGOs is evident. They carry out actions in aid of different populations, even anticipating problems and complementing state actions. Actions increase wherever NGOs are present and they establish relations at different local government levels.

NGOs play a fundamental role in accompanying vulnerable populations, directing their fund-raising actions and managing reconstruction and development programmes in areas affected by disasters, promoting the participation of the population. They systematize experiences, develop techniques and produce useful information for the work of reconstruction and development programmes.

During the implementation of the programmes they establish links with local government institutions, act as spokespersons for the population and fundamentally help to obtain benefits and determine the capacity to enter into agreements, within a framework of respect for local customs.

The relationship with the population is established through training on different subjects appropriate to each stage, either project management, the evaluation of disaster impacts, determining risks, supporting reconstruction, developing building alternatives and training the population on construction, productive processes and sanitation. These tasks are carried out by promoters or instructors, who are the link with the population.

Promoters and local participation

The relationship between the promoter and the beneficiaries is often the pivotal point around which the efficiency of participation revolves. A lack of knowledge of the circumstances, local conflicts, a lack of natural leaders and technical aspects could curtail the population's participation, on whose actions the success or failure of the programmes depend. Their training is usually based on practical experience in different areas, circumstances and situations, when solutions have to be found for numerous problems covering practically all areas of knowledge; in some cases, immediate solutions are required.

With a good knowledge of the economic, social, cultural and physical conditions, adequate solutions can be found. Each circumstance has its own particular characteristics. Therefore, knowledge of local conditions is fundamental for encouraging the participation of the population, as it creates confidence, increases opportunities for discussing familiar issues, reveals an interest in solving problems and finding the right solutions, based on information shared with the population regarding the actual circumstances.

In view of the responsibility required to promote this activity, a good knowledge and management of different disciplines is necessary, from technical aspects related to different fields of engineering, to technical-social areas like urban planning, sociology or psychology, or technical-artistic areas like architecture or art, general history and local history. Training a promoter implies a full programme of studies and even the creation of a special university degree that allows for teamwork, in order to complement information and view the problems from different perspectives. This training must be constantly updated.

Promoters must realize that the success of their work depends on two basic conditions: their permanence in the area and their relationship with the real representatives of the population. That is the only way to become aware of the different local aspects, characteristics and resources. This means that promoters must have particular characteristics. In addition to an overall education, they must have the capacity to solve daily problems immediately and establish a horizontal relationship with the population to generate mutual confidence. This requires communication and teaching skills to disseminate ideas and knowledge, as well as a vocation for community service. In other words, they must be willing to become fully involved in their work, casting aside personal interests and placing priority on community interests.

Participatory design

Participatory workshops took place to design housing and settlements, in which the local people suggested the areas, spaces, materials, construction systems, etc. Every place has its own local materials and appropriate construction systems and the people have their own particular vocations and skills. However, there are also different needs, idiosyncrasies, landscapes, aesthetics and climates; therefore, guidance is required to achieve a design that reflects the local characteristics.

Nevertheless, in some cases there is not much difference between one architectural design and another, with no specific expression to give the place a sense of identity or an image that reflects the local characteristics. It is necessary to search for original alternatives rather than be restricted to defined models. Participatory design processes are often a way of avoiding individual designs, making the local people accomplices to justify erroneous results.

Although the population contributes the elements for the design, the final product cannot be decided in a group based on the average of the different

suggestions. There must be an individual capable of synthesising the ideas and creating the overall proposal. This exercise requires practice and expertise that the people usually do not have. We cannot allow ourselves to be ultra democratic and produce a mixture of ideas lacking in unity. Fair consideration must be given to public know-how and public reasoning, combining the technician's knowledge with that of the population without underestimating either, and opting for the most suitable outcome.

Little importance has been given to aesthetics, even though this could give the local population a sense of satisfaction in their daily lives. This is expressed in the lack of variety in the design and distribution of the homes, which lack colour, etc. It is also reflected in the use of public areas. People are treated as though they do not deserve an aesthetic, pleasant, humane, comfortable and functional area, probably because unconsciously there are still traces of our colonial past when the poor were considered second-class citizens with no rights. We must keep aware of the fact that our actions often contradict our intentions and our projects must bear this in mind, because it shows respect for the population and raises their self-esteem.

Sustainability of the construction system

In Alto Mayo and Nasca, the improved *quincha* construction system employed was appropriate for both the countryside and the city. The buildings proved to be earthquake-proof and have had a great multiplying effect, resulting in the construction of housing, schools and community buildings. The roofs with a wooden structure and a cover have been effective.

In Batanes, the improved *quincha* walls in particular remain in good condition, the concrete foundation with a 1 m footing provides protection from future floods and improved *quincha* was used to build from this height. The roofs, which were originally made of timber beams and corrugated iron, have been replaced because they attracted too much heat. The people designed their own system adjusted to the local climate, comprised of a 5 cm layer of mud placed over plastic on top of a layer of crushed cane supported by bamboo canes, with a cover of clay roof tiles or corrugated iron. The timber beams did not support the weight and this roof reduces the temperature considerably.

In Chuschi and Quispillacta square adobe bricks were used, however the roofs posed a problem as the concrete roof tiles were not strong enough and cracked easily, therefore they are being replaced by clay roof tiles.

Adobe was also used in Moquegua, alongside concrete blocks that have caused no problems. The corrugated iron roofs supported by wooden trusses have also remained in good condition. Concrete trusses were equally used with good results, besides they are more economical and more durable than timber. In general the floors are made of concrete tiles which are still in good condition. Bricks were used on the floors in Chuschi, with good results.

In Nuevo Ayacucho and Tierra Prometida, different construction systems were used for the walls, roofs and floors. People there need advice because they are erroneously using raw bricks and baked bricks with no reinforcements.

In several cases, plans were given to the beneficiaries for future expansion purposes; however, in general their expansions have been improvised, possibly because many of them are migrants from cold Andean areas who unconsciously tend to reproduce the closed in living quarters they are accustomed to.

Materials

Buildings tend to be demolished when they could be restored, simply because they are adobe. People tend to classify materials as bad when they fail; in fact they are neither good nor bad, simply used in the wrong way. It is the construction systems that fail and their use, in circumstances in which for financial or traditional reasons stronger materials cannot be employed, should not be discarded. Stronger materials also fail when the construction system is inadequate or when urban standards are applied in the countryside using materials or designs that are inappropriate for the circumstances. All this reflects a general lack of knowledge of the circumstances.

As far as 'strong' building materials are concerned (cement, bricks and iron), people tend to prefer them because they believe that they are more durable, besides giving the impression of a higher social status. People use these materials when they can afford to, however they should not reject other materials that are more appropriate to their area or their economy. This also depends on the local traditions, uses and customs. Promoters of community participation must be well aware of these factors when proposing alternatives.

It is important to bear in mind the area and the circumstances in which the housing construction will take place. There is a persistent use of bricks, even though the price has increased. Costs can be reduced if the beneficiaries participate in the productive or building process and generate income for the community by creating small productive companies. The same goes for reinforced adobe.

In Alto Mayo, the construction system in urban areas changed pragmatically from using improved *quincha* to bricks, once the economic situation had improved. Raw bricks, adobe or clay bricks should not be used without reinforcements because it makes the constructions vulnerable. Likewise, they should not be used in inadequate locations. It is necessary to create an awareness of the need for forethought, particularly in poor sectors that have no access to the resilient housing promoted by the state.

It is necessary to make sure that as a result of the reconstruction process, communities will be better off than they were before, living in a better habitat in more resilient houses than their previous homes.

Housing problems identified and alternatives

In general, the problems identified refer to expansions. In many cases, houses are expanded in an improvised manner with no technical criteria and no planning, combining functions and creating overcrowded and promiscuous conditions. These homes become more vulnerable as no measures are taken to prevent risks and every available space is used to a maximum, doing away with ventilation and lighting, thus polluting the environment. The original construction system is not used for the expansions, in which improvised and very precarious materials are used with no previous planning, allowing the cold and/or rain to seep through.

No matter whether the families are large or small, the homes tend to be used for both living and working purposes. In some cases they have dirt floors which are not easy to clean. Although the idea was to prevent future damage, the expansions have proved to be just as hazardous, if not more so.

These problems must be avoided. The settlements continue developing after projects have been completed, as the latter have fixed terms and limited funds. As the populations have limited funds and lack the know-how to build expansions, monitoring is essential so that corrective measures can be taken. Participatory training of the population can improve these conflicts, inculcating the idea of living in a healthy, safe, comfortable, habitable and pleasant home, taking disaster risks into consideration.

General plans should be provided, bearing in mind the expansion of the original buildings and taking into consideration the location of patios, windows and ducts to provide lighting and ventilation. Floors should be solid, made of materials that can be washed and swept, bearing in mind that a single model is not applicable to all situations but should be adjusted to the size of the families and their needs. The possibility of building a second floor and the use of public areas should also be considered. The plans must be given to the beneficiaries.

Individual designs imply having the staff to deal with particular cases. Local people need to be taught to interpret the plans and adopt criteria for expanding their homes. To this end, a variety of plans are required that can be adapted to different potential expansions. However, initial costs prevent the construction of larger, more comfortable and more protected homes from the start.

One alternative is to consider the home not as a finished module but as a house in expansion, in which the final touches will be added in a second stage. The first stage would involve the construction of the skeleton, applying primary plaster and then the people themselves would subsequently finish the home with their own funds as part of an overall project, considering lighting and ventilation, the size of the family and the different activities to be carried out in the home.

Another idea would be to plan a different kind of house to which habitable modules can be added, training the family to build a small module that

can later be easily repeated. These could be 3 m × 3 m modules, equivalent to the size of a bedroom, a kitchen or a store room. Two modules would make a living-dining room, one module could be an office, two modules could be a consulting room or workshop, four modules could make up a small classroom, a large classroom would be six modules and so on. The idea is to achieve a module to suit the family's increasing needs. The construction system and materials would depend on the area and should be easy and affordable to replicate.

Use of public areas

In reconstruction projects, public areas have been disregarded, except in the case of the main squares in settlements like Alto Mayo, Chuschi, Tierra Prometida or Moquegua. However, the main square is not the only important part of the settlement, as people circulate, meet and communicate in streets, parks and squares.

In rural areas, despite the dispersed settlement patterns, there are also places where people gather for their festivals, games or meetings, depending on their age and gender. Such areas must also be taken into consideration.

Public areas reflect the population's economic situation, development and self-esteem, being the result of community rather than individual efforts for social purposes. People have moved to places where aspects of their native areas have not been taken as a reference, with an arbitrary layout of streets or public areas that people stay away from because they are strangers who do not feel identified with them, as occurs in Tierra Prometida or Nasca.

Streets with no lighting or pavements like those of Batanes, Chuschi, Nasca and Tierra Prometida express a lack of respect for the population; with such unpleasant public areas, they have become accustomed to ill-treatment.

Little investment is required to make public areas more gratifying. Planting trees, making sidewalks with local materials, benches, fountains, recreational and sporting areas for children, youngsters or adults, landscaping, etc. are aspects that, with some organization and ingenuity, can make life more comfortable and agreeable, within an atmosphere of respect and self-esteem.

Interesting results were found in Batanes, Piura, where urban planning was based on reducing vulnerability and centralizing water, electricity and health services. Initially, the streets were made based on the principle of collective participation; each family contributed their part of the sidewalk in front of their homes and at their own initiative, families have painted the front of their homes in bright colours and attractive drawings on different topics and have also set up small front gardens growing plants or flowers. These individual initiatives give the whole settlement a colourful and original image, revealing the intention to improve their environment and raising people's self-esteem. This is an example of what can be done to improve the surroundings with a little imagination and at no great expense. Moquegua is another example, where the sidewalks are colourful, with different textures and drawings.

In general, urban development tasks have been assumed by local governments, in some cases with positive results, like in Moquegua which receives funds from mining license fees. One exception is Tierra Prometida, where the parish took on the task, substituting the efforts of the population who have failed to respond.

Public areas are for the entire community and although the local government makes investments, the decisions regarding their space, management and design imply the participation and work of the population, who should be able to express their tastes, aspirations, needs, beliefs, traditions and culture. Such decisions comprise the urban image as an element to be preserved, because it forms part of the roots and identity of the people. The conservation of historical or traditional places and buildings reinforce this idea. Reconstruction projects should include urban aspects as part of their development programmes and place value on people's self-esteem.

Provincial governments should have a professional team to disseminate information on urban design to local municipalities and these in turn to the population. In this respect, it must be stressed that the solutions must be consistent with the economic limitations and in keeping with local traditions and customs.

Monitoring and evaluation of the projects

Reconstruction projects are neither monitored nor evaluated. In many cases the established reconstruction guidelines are not followed, as proved by the problems encountered. Project goals are often short-term, without considering the dynamics of the actions that begin when the project is completed and the people start inhabiting their homes. The lack of monitoring, evaluation and corrective actions undermine initial efforts.

Problems in some projects were not corrected because the population was accustomed to receiving aid without any effort, expecting their problems to be solved for them. One way to take advantage of aid is to postpone any restoration work so that they can be considered victims and receive donations. In some cases they have even demolished their homes.

Financial restrictions and project terms are the two limitations that create conflicts regarding the conditions proposed by donors for implementing the projects. No funds are allocated to monitoring or evaluation, so the development of the actions cannot be appreciated, more so in changing circumstances like in Peru. Although they imply a cost, these aspects should be included in projects, so that errors and successes can be evaluated and efficiency improved. These aspects should be considered an investment rather than a cost. One alternative is for the people themselves to carry out this task in a training process, coordinating actions with the local government.

The terms of the project are another aspect that can cause different political, social and economic conflicts during the implementation. Changes in the population's economic capacity can prevent or modify the implementation

of certain aspects and undermine the initial objectives, which is why a certain amount of flexibility is required. Immediate familiar solutions are sometimes prompted by haste, meeting requirements but without any innovating development.

The duration of projects also creates conflicts because once they are finished, the staff move away from the population and the aid is cut off suddenly, creating uncertainty and a lack of confidence in new interventions, sometimes making future actions impossible.

The exit process should be gradual and agreed with the population, so that responsibilities can be transferred. This implies training local governments to monitor the actions and ensure the continuity of the objectives. To this end, permanent project evaluation mechanisms should be implemented in order to control the actions.

Technological innovations

Familiar building systems were employed in the reconstruction. No other construction systems were developed with a view to finding innovative alternatives for the reconstruction work. In many cases, the variety of roofs was more limited, even though they are often more important than the walls. Although local materials are usually used in order to economize, there are new construction systems and materials used by private companies which could be applied to the reconstruction, which may be more efficient and economical. Materials are being designed for walls and roofs, resins, wood preservatives, panels etc. which could be used and assimilated by the population.

Experts or representatives of donor organizations usually form part of the bureaucratic part of the institutions or are social scientists, economists or lawyers without enough experience in technical-construction aspects. However, they take short-term technical decisions even though they have no technical know-how or knowledge of the actual circumstances, forcing them to consult with research centres that supposedly have the knowledge and criteria to be applied in emergency situations. Finally, the decisions regarding construction systems and the materials to be employed are put in the hands of experts.

Although these experts and research centres have carried out research and studies on reconstruction materials, they tend to propose the use of familiar systems with no innovations. These centres and their experts have developed into institutions that provide construction advice and sell technologies, distorting the objectives, obtaining services from the people instead of serving them. This type of advice restricts the development of other technologies and other centres. Their experience is mostly based on laboratory tests rather than on actual circumstances and they impose their knowledge vertically without questioning where, why or for whom, often making mistakes.

Research is fundamental. Thanks to research, mix proportions have been improved, as has the resilience of walls and roofs and the development of reinforcements. Nevertheless, this work should be continued based on the same

systems, improving the materials and systems and proposing new alternatives. Research institutes and researchers should be supported. Coordination between these centres should be established to exchange ideas and propose innovating alternatives, putting the well-being of the vulnerable population first and casting aside individual interests. Research subjects are endless and innovating systems are being developed to be applied in reconstruction projects, which could help reduce costs and provide more resilience against disasters. Consequently, research should be a permanent, ongoing process as innovations cannot be improvised during emergencies and when disasters do occur, the solutions could be belated. Research and innovation are not limited to technical aspects, but also cover financial systems and promotion, training and psycho-social methodologies, etc.

The city/countryside dichotomy

The rural population is also affected by disasters and these people are more vulnerable because of their more traditional lifestyles. They use unconventional building systems for economic and traditional reasons, usually with no technical advice and no knowledge of appropriate standards and techniques. They settle in unsafe areas and their lack of land titles prevents them from gaining access to loans.

The dispersed settlement pattern is a determining factor of the low density in rural areas, which prevents the implementation of water, sewage and electricity networks and education and health establishments. Rural people are isolated and neglected; therefore, they should be considered a priority in reconstruction programmes, as they are more vulnerable than urban populations.

Rural dwellings are closely linked to farming production, so little importance is given to the inhabitants and no consideration is given to the fact that they are entitled to the same comforts and services as any city dweller. This is also reflected in public areas. There is a close relationship between rural dwellings and farming activities. For example, the house is for storing. Although this should be reflected in the solutions, urban solutions are often applied to rural dwellings which simply do not work. In order to provide the right solutions, a thorough knowledge of the characteristics is required.

Houses should be built with local materials improving local construction techniques, and boosting the skills of the population and its authorities. Whenever possible, rural people should be encouraged to concentrate in one place so that infrastructure and services can be provided to raise their standard of living and improve their economy.

Reconstruction funds

Reconstruction funds should fundamentally be directed to the most vulnerable areas, particularly rural or isolated areas rather than urban sectors where

people have a better chance of economic recovery, as was the tendency observed after the 2007 earthquake.

Another aspect is that after a disaster, funds – particularly funds from abroad – tend to be spent directly on the emergency stage and separated from the reconstruction stage, leaving the reconstruction to be financed with national funds. The alternative should be to use all funds on emergency and reconstruction strategies within an overall plan, so that developmental solutions can be proposed whereby part of the emergency investments can be used for reconstruction purposes, even considering aspects related to the production and vulnerability of affected areas.

In unforeseen disaster situations, contingency funds can solve emergencies and reconstruction stages. One aspect worth developing is the idea of generating an insurance system against contingencies, so that when a disaster occurs a fund is available to cover the consequences of the disaster. Mechanisms such as lower premiums or the creation of reinsurance or coinsurance should be sought so that reconstruction situations can be dealt with. This idea is also related to the possibility of creating a stock of international aid or a materials bank for emergency and reconstruction purposes, so that problems can be dealt with immediately.

Productive activities

The continuity of reconstruction and development processes depends on the increase in the economic capacity of the population so that they can improve their standard of living, overcome existing poverty levels and generate employment in activities that provide permanent income for them, based on internal and external markets.

Different populations develop different activities appropriate to their area, based on local inputs, services or skills in some cases, reconstruction generates employment, as certain activities can be assumed by the local organization and the community can benefit from the profits. On many occasions, local resources that could be exploited are not identified.

The creation of jobs cannot be improvised. Professional work teams should be formed to develop creative production alternatives and strategies for the economic recovery of affected families. Studies must be conducted to determine the existing potential of quarries, minerals or plantations that can be exploited for community development purposes.

Information and dissemination of experiences

Local governments and the population are unaware of the different construction technologies, training methodologies, participation, evaluation and financing strategies. Knowledge, skills, organization methods and local technologies must be shared, as they are resources that complement external resources. Technical cooperation for the reconstruction should be promoted to

obtain the help of professionals from unaffected areas of the country and from other countries.

For more efficient reconstruction work, the achievements and mistakes of reconstruction efforts should be disseminated, using available media to disseminate information that must be well grounded, evaluated and in many cases criticized, but always with a positive attitude. People learn from mistakes and successes and information networks are an important tool. Local and provincial governments, research centres, NGOs, universities and professionals must all be included in these information networks.

Conclusions

Recommendations

The participation of the population affected by disasters is essential in reconstruction processes. The population takes part in the actions and decision making in order to improve their lives and reduce their vulnerability. This is the foundation on which strong organizations are built, generating community development.

The participation of the population should start from the existing organizations, the traditional work systems based on reciprocity, and self-construction. Reconstruction, development and risk management actions should be integrated. Women's participation and the work of NGOs should be more valued.

Follow-up, maintenance and evaluation actions should continue after the conclusion of projects. Funds should be made available and the deadlines should be more flexible in order to ensure the effectiveness of projects. The population has to be trained to take part in these actions.

The central government should delegate efforts, establishing links with local governments and the population with action capacity, thereby strengthening their capacities. The reconstruction projects should include the improvement of public spaces in order strengthen the people's identity and self-esteem.

Research that contributes to a more effective participation in reconstruction processes and community development should always be supported and in order to disseminate the information, research results, techniques and different interventions, it is necessary to use the technology available.

The continuity of reconstruction and development processes require an increase in the economic capacity of the population to improve the quality of their lives and overcome poverty. Income generating activities within and outside the communities should be promoted.

Final conclusions

Through the different projects visited, it has been possible to confirm that there are some factors which promote the population's participation and therefore increase self-help in the reconstruction tasks.

The principle impulse for self-help is crucial. In the Andean population even an institution (*Ayni*) exists. In some cases this tradition has been carried to the coast. A population's participation is promoted through the recognition that individual efforts do not produce important benefits on the community level and working together allows the community to face the tasks of reconstruction, development and promotes the participation of the population. In populations where poverty and extreme poverty are predominant, this participation is vital and indispensable to achieve community development and to overcome the population's marginalization.

The history of the population's struggles and organization is a factor which enhances participation and facilitates the community's actions. It is also a factor of cohesion and community solidarity, based on common interests with historical roots.

It has been shown that the practice of participation in local government has a positive impact. The monitoring and proposals that are carried out, lead to achievements and positive results at the community level. However these factors which generate participation have great force in the beginning stages of the projects, and lose energy as the community's demands are resolved and the problems solved.

It has also been shown that the factors which promote participation can be negative factors in reconstruction and development tasks. Paternalistic attitudes, which substitute the population's efforts, reduce the community's strength to achieve development. Therefore the question is: can participation complete reconstruction on a large scale, without loss of quality?

What we have seen in this experience is that success is strongly linked to continuous participation, so when participation is not limited to house reconstruction or to solving problems as an individual, but continuous through involvement with local governments even after the reconstruction project ended, the project impact was significantly higher than when participation spaces were inexistent or limited to its initial scope.

It became obvious that where participation of the population was very active, urban comfort was achieved as a prolongation of initial house comfort, enjoying now proper illumination, parks, children's recreation centres and health and education services. Needless to say that this urban comfort was not achieved if the involvement of the population did not continue after the project was finished.

Probably one of the most important impacts of long-term participation is employment generation and an increase in family income. Urban comfort means also more construction, need of more supplies, quarries, etc. This also means more value for the property which translates into more credit facilities, development and sustainability through a positive cycle.

The results of the evaluation showed a new task that reconstruction projects must face: to increase sustainability and participation over time by considering objectives beyond house reconstruction, if it is to achieve urban comfort by means of creating participation spaces open to the population where they

can work together with their local authorities. This new challenge means that finance schemes and project timing should be reviewed as well as participation strategies and the project objective as a whole.

Notes

1. *Ayni* is a Quechua word meaning cooperation and solidarity, dating back to pre-Hispanic times and involving reciprocal work. It is an important form of collective work in native Andean communities, valued as a strategy for survival and cultural unity. The concept can be summarized as 'I'll work for you today and you'll work for me tomorrow'.
2. *Adobitos* are unfired clay bricks which people use to build walls and partitions. Due to their size, they neither have enough bearing capacity nor are they earthquake resistant. Their use, however, is widespread due to their low cost, despite the risks involved. An interesting piece of information obtained from a non-industrial brick producer in Ica is that of the total number of bricks produced, 10 per cent are sold as fired bricks and 90 per cent as green bricks, which means that people are building informally without taking any safety precautions, thus increasing their vulnerability.

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About the author

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Conclusions

Michal Lyons, Theo Schilderman, Camillo Boano and Sandra D'Urzo

> Communities, activists and designers prove that when people work together, affordable housing can become a reality even when challenging the agendas of the most powerful (Alex Salazar)

> Shifting the focus from needs and deficiency to strengths and possibilities can empower communities and designers (A. Hendler-Voss)

The preceding chapters of this book brought together academics and practitioners to analyse some of the seminal experiences of post-disaster reconstruction over the past few years, in order to explore the barriers and opportunities to carry out people-centred, participatory reconstruction on a large scale; and to assess the developmental impact of such work as has been carried out to date.

Part One of the book set the scene, exploring the evolution, effectiveness and approaches for people-centred reconstruction, thereafter the rest of the book is devoted to case studies. Part Two brought together four programmes which examined the implementation of participatory reconstruction policy on a large, national or international scale. All explained the politics and evolution of the national programmes concerned, and then critiqued them from a range of perspectives. Part Three presented five projects which raise important issues for the planning of larger programmes or policies. In these two sections, each chapter is deeply rooted in a post-disaster context that is peculiar, time-bound, spatially specific and thus unique. Nevertheless, collectively, they offer a vision which affirms the possibility of radical change for the better through post-disaster housing practice, recovery policies, the role of government, agencies, NGOs, the professions – and ordinary people. Several main themes emerge.

It is often believed that participatory programmes are only appropriate for small, intimate-scale projects. The overall conclusion from this book must be that large-scale, participatory reconstruction is possible and can be productive for development and vulnerability reduction.

It is also commonly believed that any owner-driven housing programme is slower, more expensive, more arduous and more time consuming compared with conventional donor-driven/top-down approaches. The more reluctant

claim, that 'owner driven' lacks quality control mechanisms, leads to substandard buildings and opens the door to corruption.

Again, such arguments are largely refuted by this book. As Lankatillike's account of the people's process makes clear, coherent models can be developed which can be implemented in more than one country, culture, and logistical context, and which build on people-centred approaches to 'normal' housing – or to housing in 'normal' times – to enable development after disaster.

Indeed, Lyons' account of the CRRP provides an example of an approach to reconstruction developed upon the mainstream of the Sri Lankan house building tradition and clearly following the strategies and methodologies of the Million Houses Programme to reach people, their families and communities. In turn, this was derived from the popular process through which individual families in Sri Lanka form the main plank of housing development.

Lyons' discussion also shows that such models can be sensitively adapted to a local scale and accommodate a wide variation of household needs. The programme and project examples illustrate that well planned and implemented projects and programmes, conceptually grounded in a holistic developmental strategy, can confound the doubts about people-centred, participatory reconstruction: house owners will be faster at purchasing materials, at contracting out part of the work if they need to, at assisting on technical supervision and quality control. All this generally ensures that the level of satisfaction with the end product is higher. It does not necessarily ensure that quality of construction is higher, as this is jointly determined by the resources of owners and agencies, but they are certainly no worse. Broader development objectives can also be met through the reconstruction process, not only on a local, village scale but also as part of large-scale programmes encompassing thousands of households.

It is impossible to do justice to the richness of themes and details which emerge from these case studies and this chapter does not attempt to do so. Instead it draws together a number of key issues which emerge from this collected experience of post-disaster housing reconstruction, focusing its developmental impact on, primarily, the poor of those societies affected by disasters. No matter how such processes are labelled, packaged and implemented, the fields of housing, vulnerability-reduction, post-disasters, participation and development need to converse with each other explicitly, because embedded in this exchange is a potentially transformative process of development.

Participation

The practice of participation implies a will to empower people, at least over the process of reconstruction proper. However, in reality a very wide range of modes of participation has been practiced in the case studies presented here. As described in the Spanish Red Cross projects in El Salvador, in the CRRP's multi-site programme, which involves local interpretation and implementation of the people's process, in the two Bangladeshi projects, in the range of

models adopted by agencies in Aceh and Nias, both in parallel and as they changed with experience, in the different projects analysed in Hidellage and Usoof's review of Sri Lanka's ODP programme these correspond to widely varying formal arrangements for community organization and mobilization, representation, responsibilities, accountability and rights.

What are the implications of this for the people concerned? In some cases, it has meant a contribution in cash or kind rather than genuine influence over design, planning and specification. Where people have been involved in the design process their involvement has sometimes been simply to select among a narrow range of house types. Thus, as Hidellage and Usoof show, Sri Lanka's ODP was extremely variable in the extent and type of participation engaged in by agencies. In the collection as a whole, projects at one end of the range fostered individual influence and promoted individual decision making over a wide range of matters including, for example, house plans and finishes and control of the procurement process, as in the CRRP; while in other cases participation was limited to a contribution of physical labour. In some cases, rather than become involved in discussions with individuals about their own homes, participation took place through community representatives only, as in Alam's study of a MuslimAid project in Bangladesh. Indeed, the demeaning connotations of an agency sign posted on one's house in that context reinforce the feeling that people's sense of ownership over the process has not been thoroughly established there. In others, such as the CRRP's work in some parts of Sri Lanka, the home clearly embodies a series of household decisions over size, plan, quality and finishes, plans for the future, type of livelihood taken up on the premises and so on. Moreover, over time several agencies' policies with regard to participation changed, often becoming more liberal as in the case of Lyons' CRRP in chapter two which showed that the same agencies' approaches to participation evolved even over the two-year period.

Undeniably, the experiences described in the book vividly represent Habraken's (1981: viii) vision of participation as 'the most ambiguous of terms and the most powerful of concepts', but also different context-based adaptation of participatory practices.

Throughout these experiences practitioners have established norms for practicing 'people-centred reconstruction', acknowledging the social importance of home making after disaster, but despite that, different issues emerge.

Two important types of exclusion emerge from the case studies. The first has to do with the exclusion of people who have no property title from the reconstruction process; the second, with the exclusion of the weak from its full benefits.

First, the reconstruction programmes have privileged financial and logistical support for the construction and reconstruction of housing for people who could show title to land, thus excluding tenants and squatters. This form of exclusion is clearly counter-developmental – and likely to increase vulnerability – since it is generally likely to be the poorer households which rent or squat and whose relative poverty is exacerbated by such reconstruc-

tion processes. It is worth recalling too that these are often the groups most vulnerable to disasters, in the case of tenants, because housing built for them is of poor quality (see the Turkey case in chapter eleven); in the case of squatters and tenants, because often they are reluctant to invest for fear of eviction and the loss of that investment.

Some countries or programmes have eventually embraced the opportunity inherent in the disaster to support the purchase of land for tenants and squatters either through the release of government land or through the disbursement of a land purchase grant. Sri Lanka's ODP was modified in this way, and so was Pakistan's policy in Azad Kashmir and Northwest Frontier Province, although this happened some two years after the start of reconstruction. In Aceh, the lack of secure tenure, or proof of it, was overcome by a community land adjudication process. This was innovative, and might be worth adopting elsewhere. While some agencies, including some of the largest agencies involved, dealt only with households which already had land title, others were able to purchase land themselves to support the resettlement of tenants. It can only be hoped that these multiple examples of the disaster recovery process being employed to reduce economic and social vulnerability will continue to be developed and embraced.

Second, the capture of power in the process by a local élite, or local capture, is often a problem with participation. All the reconstruction projects discussed had built in some safe-guards against the exclusion of marginal households in a given community. However, these were often partial. Formal representative structures, such as neighbourhood groups and development committees, were generally not required to include any particular constituency and therefore tended to be dominated by local leaderships. Community meetings in Muslim areas were generally not attended by women, so that women's influence over that forum was indirect. However, virtually all the cases reported on grouped households for the purpose of construction and approval of phase completion, and vulnerable households were generally assigned to groups with stronger households. Thus mutual interest as well as mutual concern served to ensure that house completion among vulnerable households did not fall behind as much as it might have done.

Freeloading too was largely avoided. Where households or communities were put in charge of construction, materials purchase, supervision and so on, robust and transparent accounting systems were established which prevented capture of resources by some individuals at the expense of others. It appears also that, on the whole, the requirement that households make contributions in cash and kind to the process has not only extended the reach of aid monies, but also created – or reinforced – an atmosphere of shared endeavour within communities.

Empowerment

Central to much development discourse, and to any discussion about participatory development, must be a discussion about power in the reconstruction process and, ultimately, about the enduring political, social and economic value of any power gains made by the poor.

Empowerment in housing is a much abused and over-used concept grounded in Heiddeger's (1962:19–21) term 'human spatiality', Lefebrve's (1991) use of 'lived space of social and political world', and Bauman's (1993: 195) adoption of complex spatial interaction between 'cognitive, moral and aesthetic spaces and products'.

Specifically, decentralization of decision making, for example putting people in charge of the procurement and construction of their own dwellings, requires sufficient technical support if it is to be empowering. There is no power in being placed at the mercy of builders who understand the building far better than the owner. Those cases which were successful depended on the provision by agencies of sufficient technical supervision. As most of the case studies show, and as Duyne Barenstein and Iyengar (chapter seven) explicitly state: 'Cash grants handed out without any technical guidance after recurrent disasters are not sufficient to empower people to rebuild houses that are dignifying and that meet minimum standards of comfort and safety.' Their argument is that an enabling environment (in their case: cash+support+access to subsidized materials) is key to success, and so is strong post-disaster governance by the state. The various case studies display very different mechanisms for providing support and different approaches to subsidy. They also differ, as well as varying over time, in the extent to which control was retained by central government. This raises important questions for programme planners. How far – and how effectively – is a centralized strategy to be decentralized, and is the capacity there at the local level? If not, should governments work with donors to build that capacity? There are complaints in Sri Lanka about local institutions being by-passed, and in several other cases, including Aceh, the issue of inadequate capacity at the local level is mentioned as a constraint (either, because staff were killed, or because those who are there are inadequately trained and had no disaster management experience).

The rates at which agencies provided support varied widely, ranging from one technical officer per 30 households in El Salvador, to one technical officer per 100 households in Sri Lanka's CRRP. The studies reviewed suggest that this is a key element and that, particularly where there is likely to be variation among houses, the former is a better rule-of-thumb than the latter. Hidellage and Usoof's analysis of Sri Lanka's ODP, like Lyons' analysis of the CRRP there, suggest that the number of houses a single technical officer can support also depends on whether they are on one site or scattered; the latter can cause great problems, and can be a disadvantage of owner-driven versus contractor-procured reconstruction, though chiefly because the latter is usually employed on green-field sites for new construction.

Similarly, social mobilization is key to successful community relations and to successful relationships between agency and community; but requires sufficient staffing to work well. One of the successes of the El Salvador project was the daily presence of community mobilizers. Yet it is difficult to forecast whether long-term empowerment will proceed from short-term community mobilization. In the case of Peru as well, mobilizers were seen as key; it was thought there, that they should live within the community, to be better able to do their job. The CRRP has attempted to overcome this by establishing local committees which become local branches of the Sri Lanka Red Cross movement. Although the intervention is relatively recent and it is therefore early to draw firm conclusions, this does not appear to have ensured continuity of local leadership, with committees falling into neglect in most cases once the project is complete. Other, more local 'engines' of local mobilization appeared to offer an advantage for the long term such as religious communities. It also appears to be easier to sustain community structures which are rooted in broader neighbourhood relations, rather than in the sometimes artificial boundaries of reconstruction sites.

Accountability is an element of empowerment. Sri Lanka's ODR was the only national programme reviewed which incorporated an appeals mechanism for individuals who were concerned about their treatment by state actors. This was supported through a campaign of rights education, as well as complaint investigation and representation of complainants by the Disaster Relief Monitoring Unit, in effect an independent ombudsman. Although Bangladesh provides an extreme example of the government's laissez-faire attitude in relation to NGOs and INGOs, no institutional or organizational provision was made to support people and communities in their contracts with NGOs and INGOs in Pakistan and Indonesia, the other examples of countries with state-sponsored ODR programmes. In disasters where the participatory development was an NGO initiative, and no specific government framework had been established for it, none of the projects studied had built-in an appeal mechanism.

In the wake of a disaster, the pressures on donors and NGOs to be accountable for fixed sums over fixed periods undermine their concern for long-term development impacts of their work on the ground. This pressure is compounded by media interest and by pressure from governments anxious to show progress to both donors and voters. Even within ODR programmes, this militates against decentralized decision making and control and, at the very least, means that agencies may find themselves in a conflict of interests over issues of importance to long-term development. While some INGOs have famously returned to, and made good, key design flaws or technical problems in their projects following community pressure, not one of the case study countries had made agency accountability to project residents an obligation or developed an independent institutional or organizational structure for dealing with people's concerns regarding their contracts with agencies.

Livelihoods

The root – and outcome – of much of the vulnerability, suffering and destruction experienced during disasters is poverty. Although poverty and vulnerability are multidimensional, with social, political and physical assets required by people as well as income, income remains a key constituent of livelihoods. Reconstruction processes thus ignore at their peril the need to reinstate – and if possible improve – people's income earning capacity.

In fact virtually every housing reconstruction project and programme reviewed in this book has prioritized housing construction over livelihoods and introduced planning and support for income earning schemes only after housing completion, if at all. In nationally framed programmes this priority has been reflected in national policy. In Bangladesh, Sri Lanka, El Salvador and many other cases this resulted in pressures on construction quality, as the poor struggled to finance materials and labour, the funds for which had been diverted to the necessary business of living. In some cases, this resulted in poor occupancy rates as the need for livelihoods has been realized.

In parallel with Sri Lanka, where houses were relocated in Indonesia this was done without consideration of livelihood issues, such as distance from pre-disaster livelihood centres and opportunities inherent – or absent – in a new location. The policy and practice focus on house reconstruction and settlement planning also discouraged strategic thinking about regional planning and participation in regional economies.

In contrast, in Colombia, rural reconstruction was organized by the Coffee Growers Association. This was a local NGO with no reconstruction experience, but which existed of – and for – local coffee growers, to develop their economic and political status. Here, a more pragmatic approach was taken to reconstruction. In an extremely unusual scheme, funding and technical support were made available for a wide range of housing, infrastructure and livelihoods projects, demonstrating that, with technical support, local people were equal to the task of identifying their own needs and priorities, as well as procuring the necessary materials and construction. An interesting aspect of this project was that help was given as a subsidy, both for housing and livelihoods activities, but in each case beneficiaries could get an additional loan, which gave even more flexibility to their prioritization. On the one hand, this case demonstrates the long-term benefits of strong, locally rooted organizations. On the other, it calls into question the rather formulaic and little questioned requirement for specialized, sector-specific reconstruction. Finally, the fact that the driving organization behind this process was in fact based in livelihood activities, reinforces the interdependence and potential benefits to be gained from an integrated approach to reconstruction.

This question is echoed in the analysis of reconstruction in Kenya more than ten years later, which demonstrates that the current, clustered institutional structure of disaster management militates against not only local and individual variation, but also against the integration of economic reconstruction with

physical reconstruction. This is clearly an issue for the cluster system to address over time.

In addition to addressing the potential for housing reconstruction processes to integrate livelihood considerations, it is relevant here also to consider the cost of participation to the households involved. Where the poor are required to make financial and labour commitments in order to complete their house, this can have severe knock-on effects on their livelihoods. In many projects in Sri Lanka and in at least one of the Bangladesh projects, access to phased payments of aid monies required prior phase completion. Marginal households were forced to borrow at high interest rates or liquidate their savings in order to ensure completion in conditions of spiralling construction-sector inflation and severely disrupted livelihoods. At the same time, the limited claim period imposed by the national programme's timetable added to the pressure. Similarly, the completion schedules imposed by the Red Cross projects in El Salvador meant that households were forced to borrow at high interest rates to participate beyond phase one of the project, as at that point a financial commitment was required from them.

Finally, national institutional frameworks for participatory reconstruction have repeatedly focused pragmatically on very local, village-level work. At least partly driven by international, national and inter-agency politics, evidence is emerging that this leads to fragmentation, vulnerability and long-term costs and results in lost opportunities for establishing an institutional infrastructure to coordinate and provide a strategic overview for disaster preparedness and vulnerability reduction. Thus, the case study of Sri Lanka's ODP demonstrates the costs of ignoring long-term planning of infrastructure; the CRRP case study demonstrates the local economic importance of links to a broader world of expertise and markets; and the Pakistan case demonstrates the failure to overcome local-government corruption.

Sustaining the gains

The potential for gains to be sustained is important in assessing the benefits of the aid in cash and kind received through reconstruction for the longer term. Lizzaralde makes the case for decentralized reconstruction, as the best way to add value to the local economy and, indeed, the programme generated 10,000 direct or indirect jobs (from 14,000 housing or livelihood activities). In Kenya, the potential to incorporate temporary shelter materials in the construction of permanent housing and, indeed, to transport them to distant final sites, was a way of minimizing the wasted investment in temporary shelter. In El Salvador, training provided to beneficiaries led to them getting jobs in the construction sector after the reconstruction, and opening independent businesses. The CRRP, although like many reconstruction programmes, delayed the start of livelihood activities until after housing reconstruction was at least well underway, undertook a wide range of small-scale, local livelihood development projects. There is little tradition in the sector of long-term follow-up

of the benefits of such interventions. Preliminary evidence from Sri Lanka suggests that the withdrawal of reconstruction funds has coincided with the end of a construction boom, leaving many trained and experienced construction workers unemployed, while local loyalties limit the potential for labour mobility to new reconstruction sites. Early experience from recent Sri Lankan livelihood generation projects among people who have lost their livelihoods through displacement or bereavement suggests that short-term investment is not enough to develop the adaptability and links necessary to recognize and overcome changing markets, changing barriers to markets and other vulnerabilities in the long run.

Finally, up to eighteen years after reconstruction, those Peruvian villages which adopted – or were helped to adopt – a participatory approach to reconstruction, had better local governance, better local infrastructure and townscape and better local services than those which didn't.

Some cases (Pakistan, Peru, Kenya, Gujarat, one of the Turkey cases) were notable for the promotion of improved vernacular construction. With the exception of Kenya, sufficient time has elapsed to demonstrate that, if it comes with some capacity building, this makes the best use of local skills and materials, and achieves sustained improvements in the housing stock. In contrast, in some parts of the Sri Lankan reconstruction programme – both owner-driven and contractor-procured – long-term sustainability of the very much improved housing stock is unlikely due to a combination of cost and expertise limitations.

The minimum standards set varied considerably. Take, for instance house size, from 20 m² in Kenya, through 36 m² in Aceh and Nias, to 45 m² in Sri Lanka. Clearly, this may have less to do with a desire to build back better, but more with how much aid money was available after particular disasters. There was perhaps too much after the tsunami in Sri Lanka, and not enough in Kenya.

The inadequacy of financial resources begs the question whether every deserving household be afforded some help, or some form of selection should be employed. As is clear from the case studies, the development of policy over the lengthy period necessary for reconstruction often involves policy switches, as political realignments and market fluctuations may cause priorities to change. It is important for stakeholders in the formulation of large-scale policies to be aware of the local and international influences on such negotiations.

There is also an interesting tendency for incremental processes, which authors identified at various scales in, for example Kenya (from transitional to reconstruction), El Salvador – at a very modest scale as, in one case, in Turkey, and, in some cases, for more prosperous households on a larger scale in the CRRP in Sri Lanka. All these cases suggest that this helped agencies to make their money go further and reach more people; but also that this approach allows the reconstruction process to take into account the technical requirements for future expansion and may thus result in construction which is less vulnerable in the longer term.

Schilderman argued in chapter one that, by setting standards too high, there is a risk these cannot be maintained at a later stage, and people fall back to their old ways of building, and becoming more vulnerable again. This has happened for instance in Maharashtra. The cases that have reverted to improved vernacular technologies tend to offer the cheaper solutions, and build on local skills. These technologies are more likely to survive. Finally, as several of the studies show, quality has often depended on both quality of support and on owners' ability to contribute to raise or maintain minimum standards. For long-term maintenance of quality, the ability of people to afford, understand and manage their building process effectively must be a goal of reconstruction.

Barriers to expansion

In chapter one of this book, Schilderman also argued that ideas about power and rights have evolved differently in the housing world and in post-disaster reconstruction. In the former, such thinkers and practitioners as Turner (1972), Choguill (1996), and Hamdi (1991) have helped to forge an approach to housing development for the poor which emphasizes the superiority of participatory, people-centred approaches in technical terms but also in terms of the transformatory potential of the process. In the reconstruction arena, where financial support has been made available, post-disaster reconstruction has favoured a less active role for affected people and communities, and participation has only relatively recently been widely applied. Schilderman's argument is that this disparity must be understood in terms of the political economy of post-disaster aid. It is the outcome of a combination of circumstances which have militated against decentralization and participation, including the transient, ad hoc partnerships of actors who come together after a disaster; the pressing need of governments to be seen to exert control; the involvement of humanitarian agencies specializing in the emergency phase, with a legacy of service and goods delivery; the involvement of long-term development agencies with little experience of the behaviour of markets and systems under the pressure of a disaster; and the pressures of time and budget imposed not only by governments, but also by donors and agencies themselves.

The case studies in this book have shown that the large-scale practice of participation in reconstruction requires the involvement or support of multiple actors and institutions. The barriers to continued expansion therefore need to be reviewed from more than one perspective. At the very least, barriers must be considered among donors, NGOs and INGOs, governments and local people.

Several chapters gave particular attention to the development of national or regional frameworks for participatory reconstruction: Sri Lanka's owner-driven programme following the 2004 tsunami; Pakistan's housing reconstruction programme for Azad Kashmir and Northwest Frontier Province following its 2005 earthquake; and Indonesia's programme for Aceh and Nias

following the tsunami and earthquakes of 2004 and early 2005. In addition, India's evolving reconstruction policy was explored. These chapters traced the evolution of national programmes, identifying the influences which resulted in the adoption of participatory approaches and the influences which resulted in particular biases.

Through commission and omission, these cases demonstrate clearly the importance of a government steer in establishing a successful participatory programme, and the potential for developing national institutions. It is very interesting to reflect that in each case the government defined minimum space and technical standards for houses. Yet the emphasis and outcomes of the programmes varied widely.

The importance of a steer from government over process was brought into sharp focus by Alam's study (chapter ten) of post-disaster housing reconstruction in Bangladesh, where the complete abdication of responsibility by the state from guidance over the processes of reconstruction, has meant affected people are more dependent than ever on the policies of aid agencies and on their priorities. In turn, this appears to discourage agencies from overcoming their internal barriers to adoption of more open and people-centered processes.

Duyne Barenstein and Iyengar's (chapter seven) detailed study of influences on Indian reconstruction policies argues that both popular and élite attitudes to post-disaster reconstruction policy need to be understood in the context of attitudes to both private and social housing. Their argument is that the reversal of participatory approaches to social housing in favour of contractor-built, state-procured housing is central to understanding why, despite the locally and internationally acknowledged success of Gujarat's participatory reconstruction policies in 2001, other states and the Government of India as a whole have been reluctant to adopt participatory policies in subsequent disasters. In this analysis they also highlight the importance of popular and élite cultural attitudes, in particular, the reluctance to accept and modernize folk technologies and a preference for 'modern', reinforced concrete technologies, as a contributing factor for favouring centralized, contractor-built procurement. In effect, this can be seen as a strong call to adapt, recognize and draw upon the *normal*, rather than introducing the *abnormal* – institutionally, technologically, normatively.

In fact international agencies and national governments rarely pay attention to the way housing is delivered out of emergencies, making the assumption that developing countries have no background of low-cost housing schemes, social housing and finance mechanisms. Instead of talking to line ministries in charge of planning and construction works, they mostly deal with the rather volatile 'task forces' set up by governments in the aftermath of a disaster for an interim period. Sri Lanka, for instance, benefited from a history of participatory construction. The National Housing Development Agency (NHDA) implemented housing programmes based on cash grants to improve conditions of slum dwellers on a large scale. The experience gained from the Million Houses Programme developed in the 80s by NHDA could have

provided expertise that many other government agencies and foreign agencies lacked, including expertise in implementing 'owner-driven' programmes.

On the other hand, although the Sri Lankan government distanced itself from the country's historic experience of participatory housing development through the Million Houses Programme and, particularly, from its executive government body, the NHDA, the undoubted overall success of its ODR programme is almost certainly due at least in part to popular and bureaucratic familiarity with participatory housing principles. The success of the CRRP in taking participatory reconstruction to a large scale without losing either community or individual identity was certainly due in some measure at least to the employment of project managers with a life-time's experience of participatory social housing development.

Usman Qazi (chapter five) tracks two very interesting influences in the evolution of Pakistan's reconstruction strategy following the 2005 earthquake. First, he notes that the adoption of participatory approaches was in part an outcome of the effectiveness, independence and resilience shown by affected people during the temporary shelter period. Donors and government alike were influenced by this evidence of capability to support participatory strategies.

A second important trend to observe is the development of a rural bias in the housing reconstruction programme, with urban areas, where relocation has been an important part of reconstruction, more or less excluded from any significant influence over planning and design and, indeed, much delayed in the reconstruction of their own dwellings. This leads easily into discussion of ideas about professionalism and bureaucracy. The important issue here is that two trends must coincide for a more flexible approach to town planning and infrastructure planning. The first is an acceptance by professional bodies and schools that people's opinions and preferences matter. The second is an acceptance by bureaucracies that such approaches can and should be incorporated into formal government processes. All over the world today, opposing positions on these issues are being enacted in the political, administrative and legal arena.

In this connection it is interesting to return to Arslan and Johnson's study of NGO housing in Turkey following the 1991 earthquake. Since tenants were explicitly excluded by law from government support for housing reconstruction, their case was taken up by NGOs. While housing reconstruction by the government is centrist and top-down, NGOs, working with tenants outside that system, were able to implement participatory and integrated reconstruction successfully. This of course leaves an open question over the issues of mainstreaming such an innovation. As in India, advocacy needs to be undertaken in the broader housing and social housing arenas, to develop a culture of participatory development of which post-disaster reconstruction is a part.

Da Silva and Batchelor (chapter six) examined the experience of international agencies working on housing reconstruction in Aceh and Nias, highlighting the common post-disaster dilemma of agencies with little local or housing expertise

confronting unfamiliar technologies, societies and construction sectors. While state policy favoured participation in general terms, it was not a policy priority, and the steer given was mainly in terms of minimum and maximum standards. Thus, most agencies sought to improve construction quality and scale-up their programmes through direct implementation or contractor-built approaches rather than self- or community-build programmes. Most successful, were those who were geographically focused, and combined community engagement with construction expertise through partnerships with the private sector or specialist NGOs. Certainly, their experience suggests that increasing a hundredfold the production of a house to technologically satisfactory standards, is a different and separate matter from increasing by the same factor the number of families whom an agency engages in meaningful participation.

Another inhibiting factor has been referred to as the 'control paradigm' embedded in the culture of the aid industry where organizations struggle against the resistance of conservative supporters, unwilling to invest in anything different from what they have funded before, and regulators may be reluctant to approve anything they lose control over. In addition, often the private sector flags its interests in the reconstruction process lobbying for prefabricated solutions or introducing unfamiliar technologies that limit the level of participation and prove to be unsustainable. Moreover, all the cases show the difficulties of scaling-up 'owner driven' moving from small-scale interventions, especially when large resettlement plans pose a real challenge in terms of infrastructure, land tenure, inclusion of host communities in planning, layout and typology design and disruption of social structures.

For all these reasons, cultural acceptability of an active role for the poor in the implementation and activation of the aid they receive for housing reconstruction, is an issue for advocacy outside the post-disaster arena, and concerns the state's relationship with the poor more generally.

In conclusion

As Sen (quoted in Cornwall and Brock, 2005: 1056) argues, what makes a concept valuable is precisely that which gives it broad-based appeal. To have that appeal, it needs to speak to the people involved in the practice and speak about their preoccupations, their hopes, their values. To become hegemonic, in Gramsci's terms, is to move beyond contests over meaning to unquestioned acceptance. Thus, what the different cases profoundly show was the centrality of multiple, adaptable and flexible people-driven post-disaster practices rather then an unquestioned adoption of the labels: a multiplicity of recurring and concurring practice in configuration with words like social justice, redistribution and rights. Processes where individuals, households and community are not merely labelled users, consumers, clients, or beneficiaries, nor recipients of exogenous acts of empowerments through the commodification of services that were once their basic rights.

While the critical presentation of eleven case studies, both projects and programmes, has raised a number of important caveats and identified threats to effective, large-scale people-centred reconstruction, it has also identified forms of sound practice. Above all, it has affirmed the practicability of people-centred reconstruction on a meaningful scale. In other words, it has affirmed the practicability of programmes and large projects which allow people support over the reconstruction of their homes, while adopting strategies to reduce economic and social vulnerability, developing a sound building stock rooted in local construction culture and markets, and increasing institutional capacity – without drowning out the voices of ordinary people.

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Index