Tarpaulins, transitional shelters or permanent houses: how does the shelter assistance provided affect the recovery of communities after disaster?

Two case studies in Indonesia: Aceh, 2004 and Yogyakarta, 2006

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Abstract

Between 2004 and 2010, a series of large-scale disasters, requiring a significant shelter response, catalysed a resurgent interest in shelter after disasters, on a scale not seen since the 1980s. The emergence of the UN cluster system also highlighted the importance of both ‘emergency shelter’ and ‘early recovery’ after disasters. During this period two major earthquakes took place in Indonesia: Aceh in 2004 and Yogyakarta in 2006. Each triggered a significant response from both the national and international humanitarian community. In each situation a different strategy for shelter assistance was adopted with varying impacts on both the short-term recovery and long-term development of affected communities. This research investigates what happened in each situation, why it happened, and what impact the shelter assistance provided had on the recovery of affected communities.

This study starts by providing a review of the literature in the field of early recovery and shelter after disaster - discussing key issues in current thinking such as the introduction of the transitional shelter approach and the relationship between shelter strategies, livelihood recovery and participation. A brief introduction to the context is then provided, before a description of the two case studies and the different shelter strategies adopted. Further analysis examines the key actors involved and the reasons behind the shelter strategies adopted as well as investigating the impact of the shelter strategies on the recovery of affected communities. The study concludes by comparing the two case studies, identifying key lessons and providing recommendations for future responses.
**Author’s note**

The research topic and key questions stem from the author’s work with UN-Habitat after the Indian Ocean Tsunami. Engaged in work very much ‘in the field’ – working with local staff and communities often in remote areas – the author was filled with questions that often couldn’t be answered at the time. These ranged from the practical ‘Which building regulations should we be following?’ to what turned out to be the political ‘Why must all the houses be 36m²? And why are they made out of concrete?’ Although UN-Habitat’s exemplary participatory approach sought to work with communities and reflect and respond to their needs and priorities, at all times it seemed that powers beyond the control of the organisation had significant influence on their work.

This feeling was reinforced through the author’s time spent working at the Shelter Centre in Geneva where the complex negotiations over appropriate international policies, standards and guidelines for the ‘Shelter Sector’ and the importance of funding cycles and donor priorities began to shed light on some of the things she had experienced on the ground. Working with Jo da Silva, Director of Arup’s International Development Group, gave the author the opportunity to answer some of her questions through working with da Silva to research and author ‘Lessons from Aceh’ (da Silva, 2010). This dissertation intended to build on the author’s understanding of reconstruction after the Indian Ocean tsunami by comparing and contrasting the shelter strategies adopted following the Yogyakarta earthquake in 2006 to see what could be learned from ‘one of the most rapid and largest humanitarian shelter responses ever’ (MacRae and Hodgkin, 2011:244).
Acknowledgements

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Acronyms

BAKORNAS  National Coordinating Board for Disaster Management
BAPPENAS  National Development Planning Board
BNPB     National Disaster Management Agency
BPN      National Land Agency
BPS      Central Statistics Bureau
BRR      Agency for the Rehabilitation and Reconstruction of Aceh-Nias
CHF      Cooperative Housing Foundation
CWGER    Cluster Working Group on Early Recovery
DfID     UK Department for International Development
EC       European Commission
ECHO     European Commission - Humanitarian Aid & Civil Protection
EM-DAT   The OFRA/CRED International Disaster Database
ESC      Emergency Shelter Cluster
EU       European Union
GAM      Free Aceh Movement
GDP      Gross Domestic Product
GoI      Government of Indonesia
HBE      Home Based Enterprise
HDI      Human Development Index
IASC     Inter-Agency Standing Committee
IDNDR    International Decade for Natural Disaster Reduction
IDP      Internally Displaced Person
IDS      Institute of Development Studies, University of Sussex
IFRC     International Federation of Red Cross and Red Crescent Societies
IOM      International Organization for Migration
JRF      Java Reconstruction Fund
NFI      Non-food item
NGO      Non-governmental organisation
ODI      Overseas Development Institute
PMI      Indonesian Red Cross
RALAS    Reconstruction of Land Administration Systems in Aceh and Nias
SATLAK   District or municipal level co-ordinating unit of BAKORNAS
SATORLAK Provincial level co-ordinating unit of BAKORNAS
TNI      Indonesian Military
TTN      National Technical Team
TSPA     Temporary Shelter Plan of Action
UN       United Nations
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<td>UNDHA</td>
<td>UN Department for Humanitarian Affairs</td>
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<td>UNDP</td>
<td>UN Development Programme</td>
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<td>UNDP BCPR</td>
<td>UN Development Programme Bureau for Crisis Prevention and Recovery</td>
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<td>UNDRO</td>
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<td>UNISDR</td>
<td>UN International Strategy for Disaster Reduction</td>
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<td>USAID</td>
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1 Introduction

1.1 Background and rationale

Between 2004 and 2010, a series of large-scale disasters, requiring a significant shelter response, catalysed a resurgent interest in shelter after disasters, on a scale not seen since the 1980s. The emergence of the United Nations (UN) cluster system also highlighted the importance of both ‘emergency shelter’ and ‘early recovery’ after disasters. Renewed interest in shelter is matched by a greater understanding of its complexity: the wider role of shelter in the recovery of communities affected by disaster; the interrelationship between shelter, livelihoods, participation and disaster risk reduction; and the long-term impact of emergency shelter and permanent reconstruction.

While significant efforts have been made to improve coordination between humanitarian organisations and to standardise responses, typically different shelter strategies are adopted in each situation with varying impacts on both the short-term recovery and long-term development of affected communities. While this is understandable as shelter strategies must be appropriate for their social and environmental context; political, institutional and economic factors are also at play.

Despite the renewed interest in shelter after disaster, it is still an under-researched area of disaster response (Peacock, Dash and Zhang, 2007). This is at least in part due to the fact that shelter has traditionally been viewed as items (‘sticks and plastic sheets’) which can be distributed as part of a logistics package and ‘not as an important element in its own right’ (Zetter, 1995:32).

Recovery is also the least researched phase of emergency management (Berke et al, 1993, and Rubin et al, 1985, cited in Olshansky, 2005) and, although it is widely understood that without the security offered by somewhere to call ‘home’ the ability of families to return to normality is limited, and that delays in shelter recovery often delay all other aspects of recovery (Peacock, Dash and Zhang, 2007), the relationship between shelter and the recovery of families and communities has had little research.

Olshansky (2005) also argues that:

*more research is needed on recovery decision processes following large disasters. We need more information regarding recovery decisions: Who makes them? When? What parties participate in the decision? Which decisions are most critical? Each large disaster is a potential data point, and it will take many more disasters to begin to systematically address these issues.*
1.2 Aims and objectives

This study aims to examine the relationship between the shelter assistance provided after large-scale disasters and the recovery of affected communities.

The objectives of this study are to:

• Understand what is meant by ‘early recovery’
• Examine the role of shelter in early recovery
• Identify the shelter assistance provided in each case study
• Investigate why this shelter strategy was adopted
• Examine the impact of the shelter strategy adopted on the recovery of affected communities

1.3 Research questions and hypothesis

The research questions guiding this study are:

• What is ‘early recovery’?
• What is the role of shelter in early recovery?
• What shelter assistance was provided in each case study?
• What key decisions were made and why?
• How did the shelter strategy adopted affect the recovery of affected communities?

This study is based on the hypotheses that the shelter assistance provided after large-scale disasters is guided not only by local needs, culture, climate and geography but by complex range of national and international factors including politics, policies and funding. Also, that the speed of recovery from disasters is dependent upon ‘the availability of external resources, innovative national leadership, the existence of prior plans, community consensus, and wide dissemination of information’ (Haas, Kates and Bowden, 1977: 262).

1.4 Methodology

To answer the research questions above two case studies in Indonesia were examined; the response to the earthquake and tsunami in Aceh, 2004 and the Yogyakarta earthquake, 2006. These case studies were chosen because of the author’s field experience during the response to the Indian Ocean tsunami and because they are two of the most significant natural disasters to have occurred over the past ten years.

Analysis of two case studies, in one country, only 17 months apart, meant that the questions above could be examined within a relatively confined context and timescale. This enables meaningful conclusions to be drawn and may provide insights into similar
situations in other contexts. An inductive approach to the research was adopted in an attempt to build up an evidence base through understanding the shelter strategies adopted in each of the case studies, the reasons behind the strategies adopted and the impact of the decisions made.

Research was based solely on secondary sources. Initially, a broad-ranging literature review was undertaken to establish a conceptual basis for the study covering a wide range of more theoretical approaches to early recovery and shelter after disaster. Sources of literature included academic books, journal articles and conference papers as well as ‘grey literature’ from humanitarian organisations and UN Clusters.

Case study research focussed increasingly on literature from implementing organisations, although some academic articles still provided useful insights. A large number of humanitarian organisations’ assessments, reports and evaluations were consulted to provide information regarding specific aspects of the case studies and these were combined, wherever possible, with information from academic publications.

1.5 Limitations

The limited timescale of a Masters dissertation meant that it was necessary to identify an extremely focussed topic for research. Research could have focussed on just one case study but there is already a surplus of literature on the tsunami-response and the value of this research lies in its comparative approach.

Decisions regarding the appropriate shelter strategy have both short and long-term impacts and trade-offs often have to be made between the two (Lizarralde, Johnson and Davidson (eds), 2010). However, within the limitations of this study it was decided to focus only on the short term impacts on the recovery of communities. This is because both disasters happened relatively recently so there is little available research into the long-term impacts and the timescale of this research did not allow for the collection of additional primary data.

Although both case studies took place in Indonesia only literature in English could be included and existing literature regarding the two case studies is varied in quantity and quality. The tsunami-response in Aceh has been heavily documented and there have been numerous national and international publications on this topic. There is more limited literature regarding the response to the Yogyakarta earthquake – and this is mostly ‘grey’ literature from within humanitarian organisations. The quantity of non peer-reviewed ‘grey’ literature in this research was identified by the author as a potential weakness, but this has been mitigated through comparison of many different sources of information, with preference given to well respected organisations and academic publications where possible.
1.6 Structure of the report

This study starts by providing a review of the literature in the field of early recovery and shelter after disaster (Section 2). This forms a conceptual basis for the research and identifies key issues in current thinking such as the introduction of the transitional shelter approach and the relationship between shelter strategies, livelihood recovery and participation. A brief introduction to the context is then provided (Section 3) – giving the reader an overview of the natural hazards, vulnerabilities and current trends in disaster management in Indonesia.

The two case studies are introduced in Section 4 and the different shelter strategies adopted are described. Section 5 examines the key actors involved and the reasons behind the shelter strategies adopted as well as investigating the impact of the shelter strategies on the recovery of affected communities. The study concludes by comparing the two case studies, identifying key lessons and providing recommendations for future responses.
2 Literature review

2.1 What is ‘early recovery’?

Linking Relief, Rehabilitation and Reconstruction

The links between disaster relief and development have been discussed for as long as organisations have provided relief. However, the most recent debate stemmed from the humanitarian response to the African food crises in the 1980s, based on the recognition that disasters were increasingly man-made and that prevention was better than cure (Lindahl, 1996).

In the late 1980s several organisations participated in the International Relief/Development Project which culminated in ‘Rising from the Ashes: Development Strategies in Times of Disaster’ (Anderson and Woodrow, 1989). This book set the scene for the debate in the 1990s and introduced several concepts which continue to be fundamental to the way in which humanitarian organisations conceive their work today. The authors argued that disasters are a result of the underlying vulnerability of populations and that relief operations should build on local capacity to reduce the risk of disasters in the long term.

The links between relief and development received renewed interest in the aftermath of the cold war. This was driven by recognition that the increasing number of disasters (particularly conflicts) required increased resources but were still not meeting needs; an increase in complex and prolonged emergencies; and mounting evidence that relief can have negative long-term impacts. This prompted a need to look at the root causes of disasters and discussions regarding the effectiveness of relief versus development aid (Lindahl, 1996).

In the early 1990s humanitarian organisations adopted certain developmental approaches (Lindahl, 1996) while organisations more concerned with development (such as UNDP and the World Bank) became involved in rehabilitation and reconstruction (Buchanan-Smith and Fabbri, 2005). In the mid-1990s several conferences were held on the topic – these included ‘Linking Relief with Development’ (IDS in 1994), ‘Programming Relief for Development’ (IFRC, Danish Red Cross and the EU in 1995) and ‘Aid under Fire’ (UNDHA and ODI in 1995).

In 1992 the UN established the UN Department of Humanitarian Affairs (UNDHA) with the ‘explicit objective of linking relief with development’ (Lindahl, 1996:9). In 1995 the UN Secretary General made this topic the focus of his policy statement stating that ‘emergency relief and development should not be regarded as alternatives; one provides a starting point and a foundation for the other. Relief requirements must be met in a way which from the outset provides a foundation for lasting development’ (Boutros-Ghali, 1995 cited in Lindahl, 1996:11).
The UN conceptualised recovery from disasters through their **relief-development continuum** model. This was based on the idea that recovery from disasters followed a standard path from relief through rehabilitation to development and that ‘at each distinct stage there would be specialised agencies to take and then pass on responsibility’ (Barakat, 2007:14). As this concept was applied to conflict-related or complex emergencies it became clear that this was not always the case. In 1995 ECHO suggested that **contiguum** might better describe the simultaneous co-existence of the different phases of response (Lindahl, 1996). In practice, however, ‘continuum thinking has continued to implicitly underpin much aid programming’ (Buchanan-Smith and Fabbri, 2005:5).

In 1994 the IFRC and seven international humanitarian organisations developed and agreed ‘The Code of Conduct for The International Red Cross and Red Crescent Movement and NGOs in Disaster Relief’ (IFRC, 1994). In addition to the ‘humanitarian’ principles of adherence to the humanitarian imperative and impartiality ‘The Code of Conduct’ also makes ‘developmental’ commitments such as ‘build disaster response on local capacities… involve programme beneficiaries in the management of relief aid… [and] strive to reduce future vulnerabilities to disaster as well as meeting basic needs’.

These principles can be seen to lie behind the term **developmental relief** which the IFRC introduced in 1996 (IFRC, 1996); an approach which has been adopted by many NGOs (particularly those with dual ‘humanitarian’ and ‘development’ mandates) including World Vision, CARE, Oxfam and Save the Children (Barakat, 2007). Action Aid uses the term **recovery plus** to describe an intervention ‘whereby people are in some way better off than before the emergency’ (Twigg, 2004:320).

**Box 1: Nine features of developmental relief**

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<td>Building on local institutions</td>
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<td>Setting sustainable standards for services</td>
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(IFRC, 1996, quoted in Twigg, 2004)
In both the relief-development continuum and developmental relief rehabilitation is of critical importance as ‘better relief enhances the opportunity for development, better development reduces the need for relief, and better rehabilitation eases the transition between the two’ (Humanitarianism and War Project cited in Barakat, 2007:14). Additionally, ‘rehabilitation is seen by many as an opportunity to bring about positive socio-economic change, and not merely a return to the status quo’ (Buchanan-Smith and Fabbri, 2005:27).

In the late 1990s the debate split between recovery from natural disasters and recovery from conflicts. The focus of the conflict debate shifted towards ‘man-made’ emergencies and later to the links between aid and security policy in response to the post-9/11 security situation. Several large-scale natural disasters at the end of the 1990s focussed attention on disaster risk reduction through development and these issues were picked up by the UNISDR, established in 2000 after the International Decade for Natural Disaster Reduction (Buchanan-Smith and Fabbri, 2005).

The United Nations Development Programme (UNDP) was mandated in 1998 with the responsibility for disaster management, prevention and vulnerability reduction and UNDP established a specific Bureau for Crisis Prevention and Recovery (BCPR) in 2001. UNDP’s response to the Gujarat earthquake in January 2001 saw them pilot their concept of transition recovery (UNDP, 2001), an ‘unprecedented’ approach to disaster-response which they saw as ‘essentially a development activity, which grasps the opportunities offered by crises to make the transition from unsustainable to sustainable development’ (UNDP, 2001:1). ‘The period of transition… not only determines whether people attain recovery or rebuild risk: it also determines whether the process of recovery leads to sustainable development or hastens a downward spiral’ (UNDP, 2001:1).

**Humanitarian Reform and the ‘early recovery cluster’**

The Humanitarian Response Review in 2005 (UN, 2005) highlighted a number of gaps in the current system and ‘the need to improve the predictability, timeliness and effectiveness of humanitarian response’ (CWGER, 2006:2). One of their recommendations ‘that UN agencies and partners adopt a ‘lead organization concept’ to cover critical gaps’ (CWGER, 2008:7) led to the formation in of nine ‘clusters’ focussed on specific sectors or themes; nutrition; water and sanitation; health; camp coordination and management; emergency shelter; protection; logistics; emergency communications and early recovery.1 Each cluster includes UN agencies, NGOs and other international organisations working in a particular sector of humanitarian response and each has one organisation (typically a UN Agency) designated as cluster lead.

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1 Education and Agriculture were added later, while other areas such as Food and Refugees did not display gaps in response and so did not require reorganisation. www.humanitarianreform.org
The early recovery cluster, or Cluster Working Group on Early Recovery (CWGER), led by UNDP, continued the long-running debate on the link between relief, rehabilitation and development – albeit under a new name – and can be seen to incorporate many of the concepts from the ‘relief-development continuum’ ‘developmental relief’ and ‘transition recovery’. From 2006-2008 UNDP and the CWGER produced several documents in an attempt to define the early recovery concept, their role within the cluster and the place of early recovery within the wider humanitarian system.² By 2008 early recovery had become:

*a multidimensional process of recovery that begins in a humanitarian setting. It is guided by developmental principles that seek to build on humanitarian programmes and catalyse sustainable development opportunities. It aims to generate self sustaining, nationally owned, resilient processes for post crisis recovery. It encompasses the restoration of basic services, livelihoods, shelter, governance, security and rule of law, environment and social dimensions, including the reintegration of displaced populations.*

CWGER, 2008:6

The CWGER understands early recovery as being part of the relief-development continuum, occurring in parallel with relief operations and laying the foundations for recovery and further development. Figures 1 and 2 show the development of this concept between 2006 and 2008. Figure 1 still shows the strict division between the ‘humanitarian phase’ and the ‘development phase’, while in Figure 2 the distinction between humanitarian and development have blurred, key actors at each stage have been mapped out and preparedness has been added – recognising the link between recovery and disaster risk reduction.

The principles of early recovery were also rapidly established between 2006 and 2008. While UNDP state clearly that ‘early recovery is the application of development principles in a humanitarian setting, these principles include: national ownership; capacity utilisation and support; and people’s participation’ (UNDP, 2008:5) (see box 2), the CWGER now have fifteen principles (box 3). When compared to the nine principles of ‘developmental relief’ established a decade earlier it appears that it is still the case that ‘institutional changes have not kept pace with conceptual ones’ (Humanitarianism and War Project cited in Barakat, 2007:16). This is confirmed by UNDP themselves when stating that ‘implementation of the Policy on Early Recovery… represents a significant challenge to the organisation… [and] requires substantial changes to the way in which UNDP currently conducts its business in crisis situations’ (UNDP, 2008:24) although they themselves had been implementing transitional recovery since 2001.

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² These included CWGER (2006), UNDP (2008) and CWGER (2008)
Box 2: Six principles of early recovery

1. Ensure national ownership
2. Support and utilise national capacity
3. Adopt a community-centred approach
4. Integrate conflict prevention and risk reduction
5. Promote gender equality
6. Ensure transparency and accountability

UNDP, 2008
Box 3: Fifteen principles of early recovery

1. Ensure national ownership
2. Promote local and national capacities
3. Use and promote participatory practices
4. Develop capacities for building constructive and inclusive working relationships
5. Ensure that interventions ‘do no harm’
6. Maximise efficient coordination
7. Include risk reduction and conflict prevention measures
8. Build capacity to strengthen accountability systems
9. Base interventions on a thorough understanding of the context
10. Ensure integration of cross-cutting issues such as gender, environment, security, human rights and HIV/AIDS
11. Promote equality and develop local capacities to prevent discrimination
12. Promote gender equality
13. Conduct effective assessments of need and capacity
14. Monitor, evaluate and learn
15. Build on and/or reorient ongoing development initiatives to ensure they contribute to building resilience and capacity in affected communities.

CWGER, 2008

Figure 3: Early recovery coordination mechanism

CWGER, 2008
The role of the early recovery cluster in disaster response is to ‘influence, mainstream, and establish early recovery as a cross-cutting approach to be adopted by all clusters’ (CWGER, 2006:3) – in other words to advocate for a development relief approach. If recovery requirements (such as basic services, livelihoods, shelter, governance, security and rule of law, environmental and social dimensions, reintegration of displaced populations and disaster risk reduction) are not adequately addressed by other clusters the responsibility lies with the CWGER to form specific working groups to tackle these issues and implement early recovery programmes (CWGER, 2006). Figure 3 illustrates the CWGER’s understanding of early recovery as both a theme within each cluster and a stand-alone cluster should the need arise.

**Challenges to implementing an early recovery approach**

Throughout the literature on linking relief, rehabilitation and development three key challenges emerge which limit the wider application of this concept. One is Lindahl’s ‘moral dilemma’ ‘between saving lives and letting people take care of their own affairs and build local capacities’ (Lindahl, 1996:16) or Smillie’s ‘tradeoff between outsiders doing things themselves – meeting needs in the midst of humanitarian emergency – and working to build longer-term capacities among local organisations so that people will be better able to deal with their own problems’ (cited in Buchanan-Smith and Fabbri, 2005:30).

Funding is also a recurrent theme with issues such as the short-term nature of relief funding, the lack of explicit funding for rehabilitation and funding gaps between relief and development activities, the inflexibility of donor requirements and the perception of preparedness and mitigation activities as costs rather than investments all contributing to the lack of progress in linking relief and development on the ground (Buchanan-Smith and Fabbri, 2005).

A final consideration, particularly in conflict situations, is the fundamental dilemma between providing impartial, neutral and independent humanitarian assistance or engaging in more long-term developmental activities requiring broader social, economic, environmental or political intervention. Eide et al draw attention to this ‘humanitarian dilemma…a tension between the partiality involved in supporting a political transition process and the impartiality needed to protect humanitarian space’ (cited in Buchanan-Smith and Fabbri, 2005:34).
2.2 What is the role of shelter in early recovery?

Shelter after disasters

The role of shelter after disasters first received significant interest in the late 1970s and early 80s. Oxfam undertook an internal review of eight years of shelter provision (Howard, 1977) and co-sponsored the first international conference on post-disaster housing: ‘Disasters and the Small Dwelling’ in 1978. The Disasters Emergency Committee held a seminar on ‘Emergency Housing and Shelter’ in 1976 and USAID published ‘Transition Housing for Victims of Disasters’ in 1981. Three of the most significant publications to come out of this period were ‘Reconstruction following Disaster’ (Haas, Kates and Bowden, 1977), ‘Shelter after Disaster’ (Davis, 1978 and UNDRO, 1982) and ‘Disasters and Development’ (Cuny, 1982).

According to Olshansky (2005), ‘Reconstruction following Disaster’ was the first comprehensive research into shelter and the recovery process. While, he argues, the authors may have been overconfident in stating that ‘the reconstruction process is ordered, knowable, and predictable’, they make several important points which are relevant to international humanitarian response today:

- cities are almost always rebuilt in the same place and typically follow their pre-disaster form
- the speed of reconstruction is dependent upon the availability of external resources, innovative national leadership, the existence of prior plans, community consensus, and wide dissemination of information
- pre-disaster trends (such as decentralisation) accelerate after a disaster
- recovery rebuilds or exacerbates pre-disaster inequalities
- comprehensive re-planning is rarely fulfilled because of limited time and pressure for certainty

‘Shelter after Disaster’ (UNDRO, 1982) covered the relationship between disasters and shelter through the entire disaster spectrum, with the emphasis on the needs of the survivors rather than the desires of donors or implementing organisations. Although the phrase ‘early recovery’ was yet to exist, the link between relief, rehabilitation and development, and the role of shelter in catalysing recovery, was a key theme. Both ‘Reconstruction Following Disaster’ and ‘Shelter after Disaster’ consider disaster management in terms of four phases (see table 1) – with UNDRO showing a much clearer relationship to the ‘Linking Relief, Rehabilitation and Development’ debate at the time. UNDRO also proposed fourteen principles for shelter after disaster and these can be seen to contain the essence of ‘early recovery’ thirty years before its time (see table 2).
Table 1: Phases of disaster management: Haas et al. (1977) versus UNDRO (1982)

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-disaster</strong></td>
<td>Phase 0 – Pre-disaster phase</td>
</tr>
<tr>
<td><strong>Immediate Relief Period</strong></td>
<td>Phase 1 – Immediate Relief Period (lasting days or weeks)</td>
</tr>
<tr>
<td><strong>Rehabilitation Period</strong></td>
<td>Phase 2 – Rehabilitation Period (impact to five days)</td>
</tr>
<tr>
<td><strong>Reconstruction Period</strong></td>
<td>Phase 3 – Reconstruction Period (day 5 to 3 months)</td>
</tr>
<tr>
<td><strong>Reconstruction</strong></td>
<td>Phase 3 – Reconstruction Period (month 5 onwards)</td>
</tr>
<tr>
<td></td>
<td>Reconstruction for commemoration or development (up to 10 years)</td>
</tr>
</tbody>
</table>

| **Pre-disaster** | Phase 0 – Pre-disaster phase                                                 |
| **Immediate Relief Period** | Phase 1 – Immediate Relief Period (lasting days or weeks)                  |
| **Rehabilitation Period** | Phase 2 – Rehabilitation Period (impact to five days)                      |
| **Reconstruction Period** | Phase 3 – Reconstruction Period (day 5 to 3 months)                        |
| **Reconstruction** | Phase 3 – Reconstruction Period (month 5 onwards)                          |
|                | Reconstruction for commemoration or development (up to 10 years)            |

Haas, Kates and Bowden, 1977

Table 2: Shelter after Disaster Principles versus Early Recovery Principles

<table>
<thead>
<tr>
<th>Principle</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources of survivors</td>
<td>UNDRO, 1982</td>
</tr>
<tr>
<td>Allocation of roles for assisting groups</td>
<td>UNDRO, 1982</td>
</tr>
<tr>
<td>The assessment of needs</td>
<td>UNDRO, 1982</td>
</tr>
<tr>
<td>Evacuation of survivors</td>
<td>UNDRO, 1982</td>
</tr>
<tr>
<td>The role of emergency shelter</td>
<td>UNDRO, 1982</td>
</tr>
<tr>
<td>Shelter strategies</td>
<td>UNDRO, 1982</td>
</tr>
<tr>
<td>Contingency planning (preparedness)</td>
<td>UNDRO, 1982</td>
</tr>
<tr>
<td>Reconstruction: the opportunity for risk reduction and reform</td>
<td>UNDRO, 1982</td>
</tr>
<tr>
<td>Relocation of settlements</td>
<td>UNDRO, 1982</td>
</tr>
<tr>
<td>Land use and land tenure</td>
<td>UNDRO, 1982</td>
</tr>
<tr>
<td>Financing shelter</td>
<td>UNDRO, 1982</td>
</tr>
<tr>
<td>Rising expectations</td>
<td>UNDRO, 1982</td>
</tr>
<tr>
<td>Accountability of donors to recipients of aid</td>
<td>UNDRO, 1982</td>
</tr>
<tr>
<td>Guidelines for the local level</td>
<td>UNDRO, 1982</td>
</tr>
<tr>
<td>Promote local and national capacities</td>
<td>CWGER, 2008</td>
</tr>
<tr>
<td>Use and promote participatory practices</td>
<td>CWGER, 2008</td>
</tr>
<tr>
<td>Develop capacities for building constructive and inclusive working relationships</td>
<td>CWGER, 2008</td>
</tr>
<tr>
<td>Maximise efficient coordination</td>
<td>CWGER, 2008</td>
</tr>
<tr>
<td>Conduct effective assessments of need and capacity</td>
<td>CWGER, 2008</td>
</tr>
<tr>
<td>Ensure that interventions ‘do no harm’</td>
<td>CWGER, 2008</td>
</tr>
<tr>
<td>Include risk reduction and conflict prevention measures</td>
<td>CWGER, 2008</td>
</tr>
<tr>
<td>Ensure integration of cross-cutting issues such as gender, environment, security, human rights and HIV/AIDS</td>
<td>CWGER, 2008</td>
</tr>
<tr>
<td>Promote equality and develop local capacities to prevent discrimination of any kind</td>
<td>CWGER, 2008</td>
</tr>
<tr>
<td>Promote gender equality</td>
<td>CWGER, 2008</td>
</tr>
<tr>
<td>Build capacity to strengthen accountability systems</td>
<td>CWGER, 2008</td>
</tr>
<tr>
<td>Monitor, evaluate and learn</td>
<td>CWGER, 2008</td>
</tr>
<tr>
<td>Build on and/or reorient ongoing development initiatives to ensure they contribute to building resilience and capacity in affected communities.</td>
<td>CWGER, 2008</td>
</tr>
<tr>
<td>Base interventions on a thorough understanding of the context</td>
<td>CWGER, 2008</td>
</tr>
<tr>
<td>Ensure national ownership</td>
<td>CWGER, 2008</td>
</tr>
</tbody>
</table>

CWGER, 2008
Drawing on the debate in low-income housing at the time \(^3\) UNDRO also proposed that ‘shelter is a ‘process’ rather than a ‘product’ - a fundamental concept behind humanitarian shelter response today. Principle six (shelter strategies) stated that ‘between emergency shelter provision and permanent reconstruction lies a range of intermediate options. However, the earlier the reconstruction process begins, the lower the ultimate social, economic and capital costs of the disaster’ (UNDRO, 1982:3).

UNDRO argues that in developing countries most emergency shelter is provided by affected communities themselves and that ‘the spontaneous reconstruction of housing begins extremely rapidly after a disaster, and often during the emergency phase itself’ (UNDRO, 1982:55), assisting organisations should support ‘rapid reconstruction’ of permanent housing – assuming that people will look after their own immediate shelter needs. ‘Rapid reconstruction’, it is claimed, ‘accelerates full recovery and makes optimal use of local resources, human and material’ (1982:34) while of all the relief and reconstruction options is ‘likely to obtain the most positive and far-reaching results’ (UNDRO, 1982:55).

Following this period of intense activity, publications on post-disaster housing and settlements waned as the attention of the humanitarian community focussed on the food crises, complex emergencies and refugee crises in Africa in the 1980s and 90s. Although some publications addressed reconstruction\(^4\) most focussed on shelter assistance for refugees and displaced populations with the emphasis on distribution of tents or non-food items (NFIs) such as timber and plastic sheeting.\(^5\)

UNHCR convened a conference on the topic of shelter for displaced populations in 1993 and this led to the publication of ‘Shelter Provision and Settlement Policies for Refugees: A State of the Art Review’ (Zetter, 1995). In this document Roger Zetter returned to the relief-development continuum just over a decade after ‘Shelter after Disaster’. He argued that shelter ‘is both a durable commodity and developmental in its impact’ (1995:33) and proposed that humanitarian organisations should move from relief to developmental responses to refugee crises, supporting refugees throughout their ‘transition from relief to development’ (1995:33).

The focus on shelter assistance for displaced populations continued to be significant in the first half of this decade in publications such as the ‘Report on the Transitional Settlement Sector’ (ShelterProject, 2003), ‘From Roofs to Reintegration’ (Zetter, Hamdi and Ferretti, 2003), ‘Field Manual of Best Practices in Shelter Provision’ (Dublin, 2003) and ‘Transitional Settlement: Displaced Populations’ (Corsellis and Vitale, 2005).

However, the scale of devastation and the extent of damage to housing caused by the Indian Ocean Tsunami in 2004 and the Pakistan earthquake in 2005 highlighted the

\(^{3}\) Particularly Habraken (1972) and Turner (1972 and 1976)


\(^{5}\) Such as Howard and Spice (1981), ODI (1998) and IFRC (1996)
importance of shelter and housing for non-displaced populations – prompting an increased interest in the role of shelter after disasters on a scale not seen for two decades.

Recent literature on post-disaster shelter has shown an increased understanding of the complexity of shelter and housing, the long-term impact of shelter programmes (Lizzaralde, Johnson and Davidson eds, 2010) and the challenges of urban disasters (O’Donnell, Smart and Ramalingam, 2009). Further to the humanitarian reform in 2005, and in line with other sectors, there has also been an increased focus on the professionalisation of disaster response, the importance of capturing lessons learned, the need for increased coordination, the development of agreed standards and indicators, and the role of the private sector.

Shelter plays a key role in all aspects of early recovery. Key themes in current debates which specifically relate to the role of shelter in early recovery are the relationship between shelter, livelihoods and disaster risk reduction, the participation of affected populations in their shelter recovery and the introduction of the ‘transitional shelter and settlement’ approach (Corsellis & Vitale, 2005).

**Shelter and livelihoods**

The ‘sustainable livelihoods approach’ first appeared in Chambers and Conway (1992) and was promoted in the UK by DfID (Carney, 1998) and others in the late 1990s. This approach describes how a person obtains a livelihood by drawing upon and combining five types of ‘capital’ (human, social, physical, financial, natural) to access communal resources (such as natural resources or financial systems). A livelihood is sustainable when a household can build their asset capitals, reduce their vulnerability to ‘shocks’ or ‘stresses’ (disasters) and their capacity to cope and recover.

Shelter can be understood as both a physical or financial asset of a household. It can also provide a healthy and secure living environment for people to build their human and social assets (health, education and social networks) and can contribute positively or negatively to a family and communities’ natural assets or resources (e.g. through consumption of timber for construction or pollution of water resources through poor quality sanitation).

Shelter in developing countries is not just a home or an asset but ‘a shop, a market place and showroom, a factory, an entertainment centre, a meeting place, a financial institution, a granary, a barn or a warehouse’ (Setchell, 2001:11). According to Setchell (2001) UNCHS-ILO estimates that up to 25% of all households in cities in developing countries use their home for economic activity (home-based enterprises or HBEs) while others

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6 Such as IASC Emergency Shelter Cluster (2009) and Leon et al (2009)
7 Such as Sphere Project (2004) and Saunders (2004)
8 Such as RedR/HFP (2009) and Max Lock Centre (2009)
estimate that this is between 60-85%. Sheppard and Hill (2005) emphasise that HBEs are ‘the single most important income source for the populations most affected by disaster’ (2005:10), that they are enabled through the provision of shelter, and that the contribution of shelter to the development of HBEs ‘is often considered the most important way that shelter can support economic development in post-disaster societies’ (2005:8).

Beyond what shelter can contribute as a location for home-based enterprises, Setchell argues that as ‘construction is particularly good in absorbing unskilled and semi-skilled workers’ (2001:9-10) and that the majority ‘of shelter provision and improvement is typically conducted by small-mid-sized informal sector construction firms, which keep costs low by substituting labour for capital equipment’ (2001:9) investment in shelter provision and improvement ‘can promote the rapid [economic] recovery of affected households and communities in post-disaster settings’ (2001:13).

Setchell (2001) argues that for every livelihood opportunity created directly in shelter construction, two additional livelihoods are created in backward linkages while one more is created in forward linkages, in addition to two livelihood opportunities in HBEs. This, he argues, can generate an overall multiplier effect of six and quite possibly more in disaster-affected economies. Thus ‘shelter improvements and provision can assume a leading role in promoting both household livelihoods and community recovery in disaster-affected areas’ (2001:2).

**Figure 4: Livelihoods generated from shelter construction**

<table>
<thead>
<tr>
<th>Backward linkages:</th>
<th>Shelter construction</th>
<th>Forward linkages:</th>
<th>Home-based enterprises (HBEs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>e.g. production of construction materials, materials transport, and related services</td>
<td></td>
<td>e.g. spending on fixtures and fittings, cleaning, repair, maintenance and security</td>
<td></td>
</tr>
</tbody>
</table>

**Disaster Risk Reduction**

The concept of disaster risk reduction first came to prominence in ‘The International Decade for Natural Disaster Reduction (IDNDR)’ from 1989-99. However, the approach at this time was felt by many to place too much emphasis on hazard mitigation and technology (Wisner et al, 2004). ‘At risk: natural hazards, people’s vulnerability and disasters’ (Wisner et al, 2004) aimed to move the discussion on disaster mitigation towards a more people-centred approach as Wisner et al argued that disasters were not ‘natural’ but a result of the vulnerability of people generated by their social, political, economic and physical conditions and their resilience and capacity to respond.1011

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9 70% in Lima, Peru, 85% in San Salvador, El Salvador, ‘universal’ in Port-au-Prince, Haiti and over 60% in Delhi, India
10 This can be expressed in the ‘pseudo-equation’ R=HxV (Wisner et al, 2008:49)
Twigg (2004) described several approaches to risk reduction after disaster in ‘Disaster risk reduction: mitigation and preparedness in development and emergency programming’. These included rebuilding livelihoods, implementing public works projects through cash- or food-for-work programmes, changing attitudes to risk reduction by taking advantage of the ‘window of opportunity’ and building safer housing in safer locations. Shelter can be a key component in all of these approaches: livelihoods as described in the previous section; infrastructure in relation to houses and changing attitudes through safe building programmes in addition to building houses. However, ‘the main challenge for decision-makers [in post-disaster reconstruction programmes] is to integrate and balance the needs of the emergency with long-term requirements of sustainability’ (Lizarralde, Johnson and Davidson (eds.), 2010:19) but ‘rushed by the urgency of attending to immediate needs, reconstruction projects rarely develop into sustainable solutions in the long-term’ (2010:21).

The ‘Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters’ called for governments, development and humanitarian organisations, donors, civil society, the scientific community and the private sector ‘to support the implementation of disaster risk reduction at all levels’ (UNISDR, 2005:13). Several UK based agencies implemented disaster risk reduction initiatives, including the promotion of the Hyogo Framework, however, these initiatives suffered from the lack of framework to monitor success at a community level. This led to a research programme by six agencies and the development of the ‘Characteristics of a Disaster-Resilient Community’ in 2007 (Twigg, 2007). These characteristics were published for testing in 2007 and the final version published in 2010, however, they have yet to gain widespread usage within the development and humanitarian community.

In ‘Building Back Better: Creating a Sustainable Community After Disaster’, Monday (2002) proposed six principles (along with options and tools) for the sustainable recovery of communities following disaster (see box 4) including the incorporation of disaster resilience and mitigation into all actions and decisions. The phrase ‘building back better’ came to define the response to the Indian Ocean Tsunami12 and ‘was used to imply the need to link humanitarian relief and post-disaster reconstruction with longer term disaster mitigation and vulnerability reduction efforts’ (Kennedy et al, 2009:297). The phrase was enshrined in Clinton’s ‘Key Propositions for Building Back Better’ (Clinton, 2006) (see box 5) - propositions 3, 9 and 10 of which specifically cover disaster risk reduction by addressing the root causes of vulnerability through connecting relief and development (Kennedy et al, 2008). However, they lack Monday’s holistic perspective – placing risk reduction within a broader social, economic and environmental perspective.

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11 These ideas were first expressed by Wisner, Westgate and O’Keefe (1976)
Box 4: The six principles of sustainability

1. Maintain and enhance quality of life
2. Enhance economic vitality
3. Ensure social and intergenerational equity
4. Maintain and enhance environmental quality
5. Incorporate disaster resilience and mitigation into actions and decisions
6. Use a consensus-building, participatory process when making decisions

Monday, 2002

Box 5: Clinton’s Key Propositions for Building Back Better

1: Governments, donors, and aid agencies must recognize that families and communities drive their own recovery.

2: Recovery must promote fairness and equity.

3: Governments must enhance preparedness for future disasters.

4: Local governments must be empowered to manage recovery efforts, and donors must devote greater resources to strengthening government recovery institutions, especially at the local level.

5: Good recovery planning and effective coordination depend on good information.

6: The UN, World Bank, and other multilateral agencies must clarify their roles and relationships, especially in addressing the early stage of a recovery process.

7: The expanding role of NGOs and the Red Cross/Red Crescent Movement carries greater responsibilities for quality in recovery efforts.

8: From the start of recovery operations, governments and aid agencies must create the conditions for entrepreneurs to flourish.

9: Beneficiaries deserve the kind of agency partnerships that move beyond rivalry and unhealthy competition.

10: Good recovery must leave communities safer by reducing risks and building resilience

Clinton, 2006
The phrase ‘build back better’ was of particular concern in the shelter sector where differing interpretations of ‘better’ led to problems with beneficiary acceptability of the shelter and housing provided and raised expectations over the timescale of delivery and a almost exclusive focus on reducing the risk of future tsunami meant that wider risk-reduction activities were overlooked (Kennedy et al, 2009). Frustration with the phrase ‘build back better’ (Kennedy et al, 2008) as it was implemented led to the suggestion that ‘build back safer’ or ‘build back sustainably’ (Kennedy et al, 2009) would have been preferable.

**Participation**

In 1982 UNDRO stated that ‘the key to success [of post-disaster shelter programmes] ultimately lies in the participation of the local community – the survivors – in reconstruction’ (UNDRO, 1982:55). Participation is now one of the sphere standards - ‘The affected population actively participates in the assessment, design, implementation, monitoring and evaluation of the assistance programme’ (Sphere Project, 2004:28). The importance of participation has been reiterated by many authors such as Twigg (2004), with Leon et al adding ‘most post-disaster reconstruction for settlements and shelters is completed by people affected by those disasters... emphasising the importance of local response’ (Leon et al, 2009:247).

However, while ‘it is now well established to say that participation in reconstruction projects is a good way for enhancing vulnerability reduction, technological transfer and sustainable development... various authors have shown how these objectives can fail’ (Lizarralde, Johnson and Davidson (eds.), 2010:184). Additionally, while ‘most reconstruction projects claim that they are participatory... there is usually an element of agency propaganda in this, and the extent and nature of such participation are often hotly disputed’ (Twigg, 2004:332).

In 1969 Arnstein introduced the ‘Ladder of Participation’ – describing how community participation can range from ‘manipulation’ to ‘empowerment’ through various other levels and in 1996 Choguil developed a similar concept for developing countries. Authors such as Duyne Barenstein have described a number of very different ‘participatory’ approaches in post-disaster situations; including consultation of village elites, consultation with beneficiaries regarding the design of their houses but little else and the manual labour of beneficiaries (Lizarralde, Johnson and Davidson (eds.), 2010:184). Recently, recognition that ‘decision-making’, rather than simply ‘involvement’, is a key aspect of participation has driven the development of an ‘owner-driven approach’ [to reconstruction] ‘in which agencies provide housing finance and technical expertise and the rest is up to owners to manage’ (Lizarralde, Johnson and Davidson (eds.), 2010:13).
While da Silva argues that participation of beneficiaries in programme design ‘ensures that the response is appropriate, meets the needs of the affected population and establishes ownership in the longer term’ (da Silva, 2010:46), she notes that ‘communities with weak social networks or limited building skills do not readily lend themselves to self- or community build approaches’ (da Silva, 2010:74). In contrast to authors such as Duyne Barenstein, da Silva argues that contractor-build programmes can involve communities ‘in physical planning, design or monitoring the quality of construction’ and that this type of participation ‘allows an owner-driven approach while enabling households to balance their commitment to housing reconstruction with livelihood recovery’ (da Silva, 2010: 75). Da Silva also states that participation in post-disaster reconstruction ‘helps the community re-focus after the disaster, take ownership of the situation and begin to think about their future development’ (da Silva, 2010:54) – catalysing the early recovery process.

Transitional Shelter and Settlement

Concurrent with UNDP’s work on transitional recovery, Corsellis and Vitale introduced the term *transitional shelter and settlement* in the early 2000s\(^{13}\). Building on Tom Corsellis’s doctoral research into shelter for refugees during the 1990s, the transitional settlement approach was a move away from the ‘sticks and plastic sheeting’ approach of the previous decades. It aimed to ‘broaden the focus of shelter responses’ (Corsellis and Vitale, 2005:10) for displaced populations to encompass communities and settlements rather than individual family solutions, and emphasise ‘the position of emergency shelter and settlement response within the wider continuum of relief, reconstruction/rehabilitation, and development’ (Corsellis and Vitale, 2005:10).

Transitional settlement was a process rather than a product and included several different shelter ‘options’ for displaced families - such as staying with ‘host families’ or staying in ‘self-settled camps’ (see figure 5). It recognised the right of individual households to chose their ‘transitional settlement’ option and that they frequently move between options throughout the course of their recovery. Transitional shelter was defined as:

> shelter which provides a habitable living space, a secure, and healthy living environment with privacy and dignity to those within it, over the interim period between being forced to leave their home and achieving a durable shelter solution

Corsellis and Vitale, 2005:11

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\(^{13}\) through their work with the Shelter Project (www.shelterproject.org) and the publication of Corsellis and Vitale (2005)
The first large-scale application of the transitional shelter and settlement approach was in Sri Lanka after the Indian Ocean Tsunami where more than 55,000 transitional shelters were built within the first nine months (UNHCR, 2005) after the tsunami. Transitional shelters in Sri Lanka served two main purposes; for non-displaced families the transitional shelter bridged the gap between a tent and the time taken to reconstruct their permanent house; for families who were displaced it provided a temporary living space which could be reused, relocated or sold once they returned to their permanent home.

Corsellis and Vitale (now Shelter Centre) further developed the transitional approach for non-displaced populations in ‘Transitional settlement and reconstruction after natural disasters’ (UN, 2008) - the field edition of their updated and revised version of ‘Shelter after Disaster’ for UN/OCHA. They introduced six options for the reconstruction of housing following a disaster (see figure 6) and 12 methods of assistance (only one of which is transitional shelter) which can be provided by humanitarian organisations to support families on their journey to durable solutions (see figure 7). The latest Shelter Centre publication on transitional shelter (Shelter Centre, 2009) develops the transitional shelter approach – identifying four types of transitional shelter; upgradable, reusable, resellable and recyclable.

Corsellis and Vitale’s work over the past decade has successfully shifted the emphasis within the shelter sector from distribution of ‘sticks and plastic sheets’ towards the support of families through their transitional recovery, however, the focus on transitional shelter may have been at the expense of permanent reconstruction. With many agencies now unwilling to support permanent housing after negative experiences in the tsunami response,14 rather than the supported journey envisaged by Shelter Centre (see figure 8) for many, shelter support finishes abruptly at the end of the transitional shelter stage. Thus in the thirty years since Davis first published Shelter after Disaster the shelter sector has moved about as far away from ‘rapid reconstruction’ as it is possible to go.

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14 see da Silva (2010) for a discussion of the challenges faced
Figure 5: Six transitional settlement options

- Host families
- Collective centres
- Urban self-settlement
- Self-settled camps
- Rural self-settlement
- Planned camps

Figure 6: Six transitional reconstruction options

- Occupancy with no legal status
- House tenant
- Apartment tenant
- House owner-occupier
- Apartment owner-occupier
- Land tenant

Figure 7: Transitional settlement on the journey to a durable solution

- Hazard: Windstorm
- Impact: Storm damage

<table>
<thead>
<tr>
<th>Transitional settlement</th>
<th>Transitional reconstruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>If displaced</td>
<td>If not displaced</td>
</tr>
<tr>
<td>Host families</td>
<td>House owner-occupier</td>
</tr>
<tr>
<td>Information centre</td>
<td>Repair</td>
</tr>
<tr>
<td>Cash assistance</td>
<td>Information centre</td>
</tr>
<tr>
<td>Household NFIs</td>
<td>Technical expertise</td>
</tr>
<tr>
<td></td>
<td>Community labour</td>
</tr>
<tr>
<td></td>
<td>Shelter NFIs</td>
</tr>
</tbody>
</table>

Figure 8: Transitional Shelter Timeline

- first week: basic NFIs such as plastic sheeting
- first week: further NFIs such as basic building materials and tools
- first month: programme integration; such as water and sanitation
- six months: further building materials allow upgrading and reconstruction
- durable solution: upgrading and reconstruction is completed
- durable solution reached
3 Context

3.1 Indonesia

Straddling the equator, Indonesia consists of more than 17,000 islands covering over 1.8 million square kilometres. It has a hot, humid tropical climate with little temperature variation, although most of the country has a rainy season between December and March (Library of Congress, n.d.). With 230 million (UNDESA, 2009) inhabitants, Indonesia has the world’s fourth largest population: average life expectancy is 70 years and 28% of the population are under 15 (CIA, 2010). It also has the world’s largest Muslim population and more than 300 local languages are spoken by the diverse ethnic groups (BBC, 2010). 113 million people form the world’s fifth largest labour force: 42% of whom are employed in agriculture, 18% are employed in industries such as oil, gas or manufacturing and 39% are in services (CIA, 2010).

The Dutch occupied Indonesia from the 17th century and unified the country around 1900 but after Japanese occupation during the Second World War Indonesia gained independence in 1949. General Suharto ruled the country for 32 years from 1965 to 1998 under an authoritarian regime, involving the military in all levels of government, fostering corruption and increasing ethnic conflict through his ‘transmigration’ programmes (BBC, 2010). Suharto’s regime fell in 1998 and since then Indonesia held its first free parliamentary elections in 1999 and presidential elections in 2004. Increasing democracy has been coupled with decentralisation of power to the provinces, but some provinces still demand independence (BBC, 2010).

3.2 Natural hazards

Indonesia is one of the world’s most disaster-prone countries (EM-DAT, n.d.) and is subject to a wide range of natural hazards (see figure 9). Located at the boundary of three tectonic plates, earthquakes and landslides are common and there are over 70 ‘very active’ volcanoes (BAPPENAS and International Partners, 2006). Flooding tends to have the highest impact on GDP and mortality while droughts and wildfires also pose a threat (BAPPENAS and International Partners, 2006). The size and geographic diversity of the country means that the distribution of risk is uneven. The island of Java faces the highest likelihood in terms of casualties while Sumatra and Java have the greatest negative economic impact (BAPPENAS and International Partners, 2006). Indonesia is vulnerable to the impacts of climate change and rising sea levels, flooding and saltwater intrusion are becoming increasingly common hazards as are changing rainfall patterns leading to erratic planting/harvesting seasons and droughts (UNDP, 2007).
3.3 Vulnerability

Factors contributing to the vulnerability of people in Indonesia to the impact of natural hazards include poverty, rapid urbanisation, environmental degradation, weak governance structures and cultural attitudes.

Poverty

Human development (as measured in the Human Development Index or HDI) has risen steadily in Indonesia since the 1970s from around 0.45 in the 1970s to 0.66 in 2003. In general over this period income levels, life expectancy and literacy levels have increased while infant mortality has decreased. Despite progress, there are still high levels of poverty. In 2002, 18% of the population (about 38 million people) were living in income poverty and it is estimated that approximately one third to one half of the population are capable of falling below the national poverty line at any point (BPS, BAPPENAS and UNDP, 2004).

Income poverty does not identify lack of basic services, illiteracy and low life expectancy and these are better reflected in the Human Poverty Index. While the Human Poverty Index has also shown improvement in Indonesia significant numbers of people still lack access to safe water and healthcare (figure 10).

Rapid urbanisation

Since 1950 Indonesia’s population has grown from 77 to 232 million (roughly tripling in size) and this is projected to increase to 288 million by 2050. However, over the same period the number of people living in urban areas has increased from 9.5 to 94 million (going from 13% to 44% of the entire population). The current population of the capital city Jakarta (9 million inhabitants) is equivalent to the urban population of the entire country in 1950 and the urban population is expected to double again by 2050 to 190 million inhabitants (UNDESA, 2010).

Environmental degradation

80% of timber in Indonesia is estimated to come from illegal logging. Global demand for palm oil, timber and wood pulp has driven massive deforestation over recent years (WWF, n.d.) and overall forest cover has halved from 129 million hectares in 1990 to around 68 million in 2008 (UNDP, 2007). Approximately 96% of Indonesia’s population live within 100km of the coast and this places significant stress on the coastal environment. Most of Indonesia’s fisheries are fully or overexploited. This is compounded by destructive fishing practices, which combined with sewage and industrial pollution is leading to the decline of many coral reefs. Air pollution, traffic congestion and levels of solid waste are also increasing as a result of rapid urbanisation and economic development (UNDP, 2007).
Figure 9: Degree of exposure to natural hazards

Figure 10: Map of human poverty index by district, 2002

Figure 11: Human poverty index – 1999 to 2002
Governance and cultural attitudes
Since the fall of Suharto’s regime governance structures in Indonesia have been
strengthening and there have been changes to make leaders more accountable.
However, Indonesia has been ranked the 12th most corrupt country in the world and this
poses problems both for macro investment and also for the poor ‘who often have to pay
bribes just for basic services’ (BPS, BAPPENAS and UNDP Indonesia, 2004:2). At a
local level weak governance structures and corruption lead to insecure land tenure and
lack of enforcement of building codes – building in vulnerability to future disasters.

The government has traditionally been authoritarian and patronage based, leading to an
unpredictable response to disasters. This has often left those affected by disasters with
expectations that they will be assisted but without rights or entitlement (Willitts-King,
2009). This is compounded by the traditional fatalistic attitude of many Indonesians
towards disasters. ‘The view that disasters are ‘from God’ has driven a sense that
nothing can be done to reduce risks or prepare to respond better’ (Willitts-King, 2009:8).

3.4 Disaster management
The government of Indonesia (GoI) has had a legal structure for disaster response since
1966 (see box 6), however, there have been significant changes over the last five years.
Although disaster management featured in a number of other regulations and laws, there
was no overarching legislative framework until the introduction of the Disaster
Management Law in 2007 and ‘this marked a significant step in the strengthening of
national disaster management capacity’ (Willitts-King, 2009:10).

Since 1979 the National Disaster Management Coordinating Board (BAKORNAS) had
been responsible for coordinating disaster management. This was an ad hoc committee
chaired by a senior cabinet minister and reporting directly to the president. Members
came from the Ministries of Social Affairs, Home Affairs, Public Works and Transportation
as well as the commander of the armed forces. At a provincial level Bakornas was
supported by Provincial Coordinating Units for Disaster Management (SATORLAK) and at
a district level by the District Coordinating Unit (SATLAK) (Willitts-King, 2009).

Prior to the introduction of the Disaster Management Law in 2007 there were three main
problems with the existing disaster management system. Firstly, Bakornas came together
in an ad hoc manner to respond to disasters and thus its role in prevention or
preparedness was limited. Secondly, it had a very small permanent secretariat but its role
was not clear, not supported financially and consisted mainly of officials on secondment.
Thus there was limited continuity between responses or development of standard
procedures etc. Thirdly, it experienced difficulties coordinating with provincial and district
disaster authorities (SATORLAK and SATLAK) as these were also formed in response to
disasters and had significantly varied capabilities between regions (Willitts-King, 2009).
The passing of the National Disaster Management Law and formation of the National Disaster Management Agency (BNPB) in 2007 marked a significant shift in understanding. Firstly, that disasters could be prepared for as well as just responded to and secondly that government could and should play a more significant role. Three important concepts behind the new law are:

- Disaster management now includes all aspects of risk management including prevention
- Protection from disasters is a basic human right and must be provided by the government
- Responsibility for disaster management is shared between all elements of society (Willitts-King, 2009)

**Box 6: Major changes in disaster management legislation in Indonesia**

<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1966</td>
<td>National coordination of disaster management begins with the establishment of the Advisory Board of Natural Disaster Management – focusing mainly on emergency relief</td>
</tr>
<tr>
<td>1979</td>
<td>National Disaster Management Coordinating Board established (BAKORNAS PBA)</td>
</tr>
<tr>
<td>1990</td>
<td>Name changed to BAKORNAS PB and responsibility for man-made disasters added</td>
</tr>
<tr>
<td>2001</td>
<td>Name changed to Bakornas PBP and scope extended to include complex emergencies and IDPs added</td>
</tr>
<tr>
<td>2005</td>
<td>Bakornas restructured and its name changed back to BAKORNAS PB</td>
</tr>
<tr>
<td>2007</td>
<td>Disaster Management Law No. 24 enacted, creating the National Disaster Management Agency (BNPB).</td>
</tr>
</tbody>
</table>

Willitts-King, 2009
4 Case studies

The two case studies analysed as part of this research are:

- The earthquake and tsunami in Aceh province, 26 December 2004
- The earthquake in Yogyakarta and Central Java provinces, 27 May 2006

These are two of the most significant natural disasters in Indonesia since 1900 whether measured in terms of number of people killed or affected, or economic damages (see table 3) and they each received significant international assistance.\textsuperscript{15}

Figure 12: Case study locations

Table 3: Ten most significant natural disasters in Indonesia from 1900-2010

<table>
<thead>
<tr>
<th>By number of people killed</th>
<th>By number of people affected</th>
<th>By cost of damage (000 US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disaster</td>
<td>Date</td>
<td>Killed</td>
</tr>
<tr>
<td>Earthquake</td>
<td>26/12/04</td>
<td>165,708</td>
</tr>
<tr>
<td>Earthquake</td>
<td>21/1/17</td>
<td>15,000</td>
</tr>
<tr>
<td>Drought</td>
<td>Jan-66</td>
<td>8,000</td>
</tr>
<tr>
<td>Earthquake</td>
<td>27/5/06</td>
<td>5,778</td>
</tr>
<tr>
<td>Volcano</td>
<td>1909</td>
<td>5,500</td>
</tr>
<tr>
<td>Volcano</td>
<td>May-19</td>
<td>5,000</td>
</tr>
<tr>
<td>Earthquake</td>
<td>12/12/02</td>
<td>2,500</td>
</tr>
<tr>
<td>Storm</td>
<td>Jun-73</td>
<td>1,650</td>
</tr>
<tr>
<td>Volcano</td>
<td>3/1/63</td>
<td>1,584</td>
</tr>
<tr>
<td>Volcano</td>
<td>1930</td>
<td>1,369</td>
</tr>
</tbody>
</table>

\textsuperscript{15} External donations were approximately US$ 6 billion for Aceh and US$ 200 million for Yogyakarta (Manfield, 2007).
4.1 Earthquake and tsunami, Aceh Province, 2004

**Context**

The province of Aceh is situated at the westernmost tip of Indonesia, on the island of Sumatra. The centre of the province is mountainous and the majority of the 4.4 million inhabitants, plus the settlements and infrastructure, are located in a narrow strip along the coast (da Silva, 2010). While the GDP of the province was above average because of its natural resources – oil, gas, timber and palm-oil plantations – these were exploited by stated-backed companies or outside-owned business interests (Oxfam International, 2006) and the majority of the population were employed in agriculture and fishing (BAPPENAS and International Partners, 2005a). While poverty rates in the rest of Indonesia had dropped over the last 40 years, ‘the people of Aceh became dramatically poorer: between 1980 and 2002 poverty in the province increased by 239 per cent’ (Oxfam International, 2006:2).

At the time of the tsunami Aceh had experienced almost 30 years of conflict between the Free Aceh Movement (GAM) and the Indonesian military (TNI). Approximately 10,000 people had lost their lives as a result of the conflict, 35,000 people were displaced and infrastructure, health and education services had also been destroyed (BAPPENAS and International Partners, 2005a). Aceh had been under military and then civil emergency rule since May 2003, with the result that foreign access and information was restricted (Willitts-King, 2009).

Before the tsunami, officially 83% of people owned their own homes, 8% rented (25% in Banda Aceh) and 3% lived in government provided housing. Of these houses 7% were classed as ‘traditional’, 90% were ‘semi-modern’ and 3% were ‘modern’ (BAPPENAS and International Partners, 2005a). Only 25% of land in Aceh was formally registered with the National Land Agency (BPN) while 75% was unregistered and governed by traditional (adat) processes (Oxfam International, 2006). Oxfam highlighted that ‘many poorer members of coastal communities in Aceh did not own their land pre-tsunami, but rented it from wealthier Acehnese or ‘squatted’ on state land’ (Oxfam International, 2006:7).

**Impact**

At 07:58 on Sunday 26 December 2004 a Mw 9.3 earthquake struck off the coast of Aceh province, followed within minutes by a tsunami with waves up to 9m (Guardian, 2004). 165,708 people lost their lives and over 500,000 were affected (EM-DAT). Total damage and losses were estimated at Rp 41.4 trillion (US$ 4.4 billion) and 32% of this was housing with 127,325 houses destroyed and 151,652 damaged (BAPPENAS and International Partners, 2005a).

Over 800km of coastline was affected and in several areas no buildings, roads or trees were left standing. Large areas of land were permanently lost and it was estimated that 10,000 households needed relocating because their land had been destroyed. More than
1,500 square km of agricultural land was made unfit for agriculture, about 75% of the small-scale fishing fleet was destroyed, and the unemployment rate rose from 6.8% to around 30% as approximately one quarter of the population lost their jobs (Oxfam International, 2006).

Destruction from the tsunami was compounded by a second Mw 8.7 earthquake on 28 March 2005 which killed a further 1,000 people on the island of Nias (Oxfam International, 2006) and destroyed up to 14,000 additional houses (BRR, 2005).

**Emergency shelter**

At the time of the tsunami, Aceh was under military rule and in the first few days after the disaster only the military and the police could assist survivors in search and rescue activities. Indonesia requested international assistance two days later and only then could international humanitarian and military personnel assist with relief activities (Eye on Aceh, 2005).

Actors such as UNHCR, IOM and the IFRC distributed tents and shelter materials while Oxfam and UNICEF provided water and sanitation support. UN/OCHA estimated that 170,000 people were living in tents in May 2005 but that this decreased to 120,000 by July 2005 as people chose to live with host families as a result of the onset of the rainy season (UNHIC, 2005b). Oxfam International (2005) estimated that 67,500 people remained in tents by September 2005 and BRR (2006) stated that no families remained in tents by December 2006.

**Host Families**

Rather than waiting for external assistance many families chose to stay with extended family or friends and it was estimated that around 260,000 people were staying with host families by the end of January (UN/OCHA, 2005a). Although this was by far the largest proportion of the displaced population, and remained fairly constant at around 290,000 until September 2005 (Oxfam International, 2005), there is little evidence in the literature reviewed of humanitarian organisations providing support to host families, although monthly cash grants of Rp. 90,000 per person were provided by government.

**Barracks**

Within two weeks of the tsunami the Indonesian government with support from UN Agencies was already planning for the Indonesian Military (TNI) and contractors to construct ‘relief camps’ for 100,000 IDPs at 24 relocation sites around Banda Aceh (UN/OCHA, 2005a). These ‘barracks’ as they later became known were timber military-style buildings accommodating 12-20 families in 20m² rooms with a connecting porch area under which meals could be cooked (Eye on Aceh, 2005).

The government initially aimed to house up to 150,000 IDPs in barracks for up to two years while permanent housing was under construction (Eye on Aceh, 2005). Barracks
were completed at the 24 relocation sites by 15 February and ‘some of those who lost
their homes in the tsunami were being moved – under military escort – to what would be
their new home for the next two years’ (Eye on Aceh, 2005:23). By the end of March 686
barracks had been completed: accommodating over 8,400 families or 42,000 people
(UNHIC, 2005b). By September 2005 the number of people living in barracks peaked at
around 75,000 (Oxfam International, 2005), roughly 70,000 people remained in barracks
in December 2006 (BRR, 2006) while only 5,200 families remained at the end of 2007
(EC, 2007) and around 500 at the end of 2008 (BRR, n.d.).

Transitional Shelter

While some humanitarian organisations attempted to provide transitional shelters (which
could be easily moved from one location to another) in the early stages of the response
this was not supported by the government as they wanted everyone to be housed in the
barracks. Transitional shelter was also not popular with affected communities as
households preferred to design and reconstruct their own houses and ‘some agencies
[responded] to this by providing building materials and tools’ (Eye on Aceh, 2005:23).

Recognition of the complexity of rebuilding permanent housing and the time required led
to a change in policy and the launch of the ‘Temporary Shelter Plan of Action’ in
September 2005. As a result of this 25m² transitional shelters began to be imported and
distributed by the IFRC and erected by partner NGOs. Delays in material supply chains
meant that the first IFRC transitional shelter was erected in December 2005 (American
Red Cross, 2005) and it took until December 2007 for all 19,920 shelters to be completed
(van Dijk, 2009).

Permanent housing

Although many agencies started building ‘semi-permanent’ or ‘permanent’ houses in the
first year, only 16,200 permanent houses had been completed by December 2005 (BRR,
2005) while a year later, 57,000 permanent houses had been completed (BRR, 2006).
During 2006 and 2007 the permanent housing programmes of many agencies were at
peak production, with around 40,000 houses completed per annum, but it took until
December 2008 to meet BRR’s target of 127,000 permanent houses (da Silva, 2010).

Many humanitarian organisations in Aceh had limited construction experience and thus
the housing programmes of each agency were small. Typically the Disaster’s Emergency
Committee member agencies built between 500 and 1,500 houses each, with larger
programmes of up to 5,000 (da Silva, 2010) while the IFRC collectively built 20,000
permanent houses, 85% of which were completed by December 2008 (IFRC, 2008b).
Figure 13: Number of families in shelter options over time

**Tents**

<table>
<thead>
<tr>
<th>Date</th>
<th>No. of families</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec-04</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Jun-05</td>
<td>48,571</td>
<td>IDP Workshop, 7 July 2005</td>
</tr>
<tr>
<td>Dec-06</td>
<td>18,571</td>
<td>BRR (2005)</td>
</tr>
<tr>
<td>Dec-06</td>
<td>0</td>
<td>BRR (2006)</td>
</tr>
</tbody>
</table>

**Baracks**

<table>
<thead>
<tr>
<th>Date</th>
<th>No. of families</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec-04</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Mar-05</td>
<td>3,281</td>
<td>UNOCHA (2005a) Situation Report No. 30</td>
</tr>
<tr>
<td>Dec-06</td>
<td>21,429</td>
<td>BRR (2005)</td>
</tr>
<tr>
<td>Dec-06</td>
<td>20,000</td>
<td>Oxfam International (2005)</td>
</tr>
<tr>
<td>Jun-07</td>
<td>14,280</td>
<td>Fitzpatrick (n.d.)</td>
</tr>
<tr>
<td>Dec-07</td>
<td>5,287</td>
<td>EC (2007)</td>
</tr>
<tr>
<td>Dec-08</td>
<td>500</td>
<td>BRR (n.d.)</td>
</tr>
</tbody>
</table>

**Host families**

<table>
<thead>
<tr>
<th>Date</th>
<th>No. of families</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
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<td>0</td>
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<tr>
<td>Jan-05</td>
<td>74,286</td>
<td>UNOCHA (2005a) Situation Report No. 20</td>
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<tr>
<td>Jun-05</td>
<td>85,714</td>
<td>IDP Workshop, 7 July 2005</td>
</tr>
<tr>
<td>Dec-05</td>
<td>85,714</td>
<td>BRR (2005)</td>
</tr>
<tr>
<td>Dec-06</td>
<td>83,920</td>
<td>Oxfam International (2005)</td>
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</tbody>
</table>

**Transitional Shelter**

<table>
<thead>
<tr>
<th>Date</th>
<th>No. of families</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec-04</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Jun-05</td>
<td>0</td>
<td></td>
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<tr>
<td>Dec-05</td>
<td>1</td>
<td>American Red Cross (2005)</td>
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<tr>
<td>Jun-06</td>
<td>9,452</td>
<td><a href="http://www.reliefweb.int">www.reliefweb.int</a></td>
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<tr>
<td>Dec-06</td>
<td>15,000</td>
<td>BRR (2006)</td>
</tr>
<tr>
<td>Dec-07</td>
<td>19,920</td>
<td>IFRC (2006a)</td>
</tr>
<tr>
<td>Dec-08</td>
<td>19,920</td>
<td>Estimate</td>
</tr>
</tbody>
</table>

**Permanent Housing**

<table>
<thead>
<tr>
<th>Date</th>
<th>No. of families</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec-04</td>
<td>0</td>
<td>BRR (2005)</td>
</tr>
<tr>
<td>Dec-06</td>
<td>16,200</td>
<td>BRR (2005)</td>
</tr>
<tr>
<td>Jun-06</td>
<td>35,000</td>
<td>UN Habitat Shelter Newsletter, 4 May 2006</td>
</tr>
<tr>
<td>Dec-06</td>
<td>57,000</td>
<td>BRR (2006)</td>
</tr>
<tr>
<td>Dec-07</td>
<td>102,691</td>
<td>Gil (2007)</td>
</tr>
<tr>
<td>Dec-08</td>
<td>127,000</td>
<td>Batchelor and da Silva (2010)</td>
</tr>
</tbody>
</table>

3.5 assumed number of people per household
Figure 14: Photos of the context and different shelter strategies adopted

800km of coastline was affected

Traditional housing in Aceh

Tents distributed in the emergency phase

Collective centres ‘barracks’ built by GoI

Transitional shelters provided by the IFRC

Permanent houses built by UN-Habitat

A new village built by the IFRC

A new village built by the IFRC
4.2 Earthquake, Yogyakarta and Central Java provinces, 2006

Context
Yogyakarta and Central Java Provinces have a total population of 4.5 million and are one of the most densely populated areas in Asia (JRF, 2007). With the exception of the city of Yogyakarta and the district of Sleman most people are poor – with average income levels around half of the national average (BAPPENAS and International Partners, 2006).

Before the disaster the average house size was approximately 54m² with 3 to 4 rooms including a living area, toilet and kitchen. A typical house had clay tile or iron sheet/bamboo roof, bricks, 8-9 mm steel reinforcement, concrete flooring, and a basic WC with septic tank (BAPPENAS and International Partners, 2006). In Yogyakarta, the minimum cost of construction of a typical house was Rp. 900,000 (approx. US$ 94.74) per m² (Raharjo, 2006).

Impact
At 05:53 on Saturday the 27 May 2006 a Mw 6.3 earthquake struck off the coast of Bantul, causing destruction in 11 districts of Yogyakarta and Central Java provinces. 5,716 people lost their lives, 37,927 were injured and more than 3 million were affected. The worst damage was concentrated in two districts (Bantul in Yogyakarta province and Klaten in Central Java province). Total damage and losses were estimated at Rp 29.15 trillion (US$ 3.1 billion) (BAPPENAS and International Partners, 2006).

52% of damage was housing (BAPPENAS and International Partners, 2006). Approximately 300,000 houses were destroyed or damaged beyond repair with minor damage to a further 200,000 houses, leaving 1.6 million people without homes (UN, 2007). The worst damage was to low income housing in densely populated rural villages and most people in these areas lived in closely spaces masonry houses which were not earthquake resistant (Wilson and Reilly, 2007).

The large scale damage to housing led to the characterisation of the earthquake response as a ‘shelter-led’ emergency. However, many households pursued home-based enterprises and in many cases also lost their livelihoods as the houses and belongings lost in the earthquake were vital in earning their living (Wilson and Reilly, 2007).

Damage by the earthquake was compounded by a second earthquake and tsunami which affected West and Central Java provinces on 17 July in which 650 people died, 28,000 were displaced and 2,414 houses were destroyed or heavily damaged (JRF, 2007).
Emergency Shelter: June - August 2006

In the first three months after the earthquake the Emergency Shelter Cluster (led by the IFRC) distributed over 350,000 tarpaulins and tents, as well as 45,000 toolkits: supporting over 300,000 households in more than 750 villages (UN, 2007). By August 2006, 80% of homeless people were reported to have received emergency shelter roofing materials and many were in temporary shelters although 40% of them were living in conditions below Sphere minimum standards (UN/OCHA, 2006).

The cluster also developed strategies to standardise beneficiary selection criteria, methods of community engagement and material assistance packages, as well as creating a stockpile of tarpaulins and allocating contingency funding in case more durable housing could not be provided before the start of the rainy season. An information management unit was established to monitor gaps and overlaps and information was shared regularly with local government (UN, 2007).

The activities of the humanitarian community were matched by civil society and government. Surrounding communities were the first responders to the earthquake. By the end of June 60% of people had received government relief assistance consisting of 10Kg of rice and Rp. 90,000 (US$ 9.6) per person (Wilson and Reilly, 2007) and 34% of people who had lost their homes were rebuilding from existing materials (Wilson and Reilly, 2007). The government also provided free healthcare for earthquake victims, supplied emergency accommodation for schools and provided tents to enable market traders to resume their activities (JRF, 2007).

Transitional Shelter: August 2006 – May 2007

8,000 transitional shelters were built within the first three months of the disaster (UN/OCHA, 2006) but the but transitional shelter construction began in earnest in September (MacRae, 2008) coordinated by the Early Recovery: Shelter and Reconstruction Cluster. By the end of November (six months after the earthquake) 30,000 transitional shelters had been completed (UN/OCHA, 2006) and within a year the Early Recovery: Shelter and Reconstruction Cluster had built a total of 80,000 bamboo transitional shelters and 4,500 concrete frame core houses – providing shelter to over 420,000 people at a cost of over US$ 28 million (UN, 2007).

The Cluster also developed a series of technical guidelines, in partnership with several universities, regarding safe and sustainable use of materials and these were distributed to over 400,000 families (UN, 2007). A disaster risk reduction public information campaign and construction skills training programme was also undertaken to enable families to make better informed housing and settlement choices (UN, 2007).

None of the literature reviewed included any information on the support of other transitional shelter options such as host families, camps or collective centres.
Permanent Housing: November 2006 – June 2008

The number of permanent houses requiring reconstruction varied, initial estimates stated that 358,693 houses were either damaged or destroyed (BAPPENAS and International Partners, 2006) but housing need was later reduced to 345,000 (IASC, 2006) and then to 281,555 by March 2007 (JRF, 2007).

The government funded the construction of 258,000 permanent houses (US$ 600 million) and the Java Reconstruction Fund funded an additional 23,500 houses (US$ 70 million) (Manfield, 2007). Both began to disburse grants to families in November 2006 (UN, 2007). Good weather conditions and late rains meant that the progress of construction over the first five months of 2007 was rapid (UN, 2007). One year after the earthquake 140,000 permanent houses were either complete or nearing completion through the government funding scheme in addition to 6,500 JRF funded houses (Manfield, 2007).

Government reports state that as of December 2007 approximately 279,000 houses were reconstructed and 97.3 % of the people resettled. While this statistic is likely to be more representative of housing funds disbursed than houses completed (as this is very difficult to track with self-build reconstruction) the 15,153 houses funded by the JRF were completed by June 2008 (JRF, 2008) and it is likely that reconstruction for the majority of households was completed by this date.

---

16 Mr.Djoko Kirmanto, the Minister of Public Works quoted in the JRF (2008)
Figure 15: Number of families in shelter options over time

### Emergency Shelter

<table>
<thead>
<tr>
<th>Date</th>
<th>No. of families</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jun-06</td>
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<td></td>
</tr>
<tr>
<td>Jul-06</td>
<td>117,000</td>
<td>Wilson and Reilly (2007)</td>
</tr>
<tr>
<td>Aug-06</td>
<td>210,000</td>
<td>Wilson and Reilly (2007)</td>
</tr>
<tr>
<td>Sep-06</td>
<td>300,000</td>
<td>LIN (2007)</td>
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<tr>
<td>Jun-07</td>
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<td>Dec-07</td>
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### Transitional Shelter

<table>
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</tr>
</thead>
<tbody>
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<td>Sep-06</td>
<td>8,200</td>
<td>UNOCHA (2006) Situation Report No. 23</td>
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<td>UNOCHA (2006) Situation Report No. 28</td>
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<td>LIN (2007)</td>
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<tr>
<td>Dec-07</td>
<td>94,500</td>
<td>Estimate</td>
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<tr>
<td>Jun-08</td>
<td>94,500</td>
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### Permanent Housing

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Figure 16: Photos of the context and different shelter strategies adopted

Destruction of one village in Bantul

Indonesian Military search through rubble

Transitional shelter provided by CHF

Transitional shelter provided by PMI

A transitional shelter in front of a reconstructed house

Inside a transitional shelter
5 Analysis

In order to investigate why each shelter strategy was adopted and what impact this had on the recovery of affected communities the following research questions will be considered:

- Who were the key actors and what was their relationship?
- What key decisions were made and why?
- How did the shelter strategy adopted affect the recovery of affected communities?

5.1 Earthquake and tsunami, Aceh Province, 2004

Who were the key actors and what was their relationship?

The Government of Indonesia (GoI) responded immediately to the disaster, declaring a national emergency and appointing the National Disaster Management Agency (BAKORNAS PBP) to coordinate the emergency relief effort (da Silva, 2010). After securing a ceasefire from the Free Aceh Movement (GAM) they requested assistance from the international humanitarian community. With 40,000 troops stationed in the province at the time of the tsunami and little international presence due to the ongoing conflict, the Indonesian Military (TNI) and the police were the first to support local people in responding to the disaster (Eye on Aceh, 2005).

The National Planning Agency (BAPPENAS) played a key role in the first three months in their development of ‘The Master Plan for the Rehabilitation of Aceh and Nias’ (BAPPENAS, 2005) but both BAKORNAS PBP and BAPPENAS handed over responsibility to the newly created Agency for Rehabilitation and Reconstruction (The Badan Rehabilitasi dan Rekonstruksi or BRR) upon its establishment in April 2005. BRR had a four-year mandate and was responsible for the coordination and implementation of the ‘Master Plan’, reporting directly to the president. At the end of 2005 their mandate was expanded to include implementation and their actions dominated the tsunami response (da Silva, 2010).

30 years of civil conflict meant that at the time of the tsunami very few national or international humanitarian organisations had a presence in Aceh. In the first few months UNHCR coordinated the shelter response but it handed over this responsibility to UN-Habitat who established and coordinated a Shelter Working Group from April 2005 until May 2007. With no UN cluster system in place coordination was very limited while more than 100 organisations began implementing shelter programmes – many with little or no experience (Dercon and Kusumawijaya, 2007). The International Federation of Red Cross and Red Crescent Societies (IFRC) – including both the Indonesian Red Cross (PMI) and dozens of other national societies – played a major role in advocating for, and providing, transitional shelter in the first two years of the response.
By far the largest actor in terms of numbers were the affected and host populations of Aceh itself. Within both the affected and host populations there were significant numbers of vulnerable households – both as a result of pre-tsunami poverty and the number of female-headed, elderly, or orphan-headed households created by the disaster. The Free Aceh Movement (GAM) had been active in Aceh for almost thirty years and as such was deeply embedded in Acehnese life. Some households and communities had been displaced by violence while others had lost the male members of their household as they left home to join GAM, leaving women, children and the elderly to maintain the home. Further conflict arose during reconstruction through inequity of assistance to conflict and tsunami-affected populations and also when GAM members returned after the September peace agreement to claim houses.

What key decisions were made and why?

A key decision, made within the first two weeks of the tsunami (but affecting the entire timeline of the shelter response) was to house more than 100,000 IDPs in ‘barracks’ while permanent housing was reconstructed (see figure 17 ‘decision 1’). This decision, made by the GoI with support from the Indonesian Military (TNI) and UN agencies, was a response to the scale of shelter need (with over 500,000 people displaced), the perceived need by the GoI and TNI to contain/control the displaced population (both in the context of the insecure conflict environment and to prevent people returning to the coast) and the perceived ease of providing assistance to collective centres by the humanitarian actors.

Barracks were the government’s response in effect, out of panic and hysteria that people would return to the dangerous coastal areas.

Dercon and Kusumawijaya, 2007:2

If they want help, they must come to live in a camp. From a public health perspective, we would rather help those people who shelter in public IDP camps, it’s easier for us; we can treat more people and more quickly.

MSF Logistics Officer quoted in Eye on Aceh, 2005:19

A seemingly contradictory decision, also made in the early stages of the response, was that the reconstruction of Aceh would be a ‘people-centred and participative process’ (see figure 17 ‘decision 2’) (BAPPENAS and International Partners, 2005b:2). Although Indonesia has a strong tradition of gotong royong (or mutual assistance within communities) it is unclear if this was a response to that tradition. Given that the BAPPENAS document was produced for the Consultative Group on Indonesia it seems possible that this was a result of World Bank support for community-based approaches based on their ongoing programmes in the rest of Indonesia, and highlights the difference between policy and practice in the early stages of the tsunami response as the government attempted to respond to donor concerns while applying a more militaristic approach on the ground.
Meanwhile, unaccustomed to external assistance, wary of the GoI and the TNI and with strong family and social networks, more than half of the displaced population (260,000 people) had chosen to live with family or friends (‘host families’) by the end of January 2005 (see figure 17 ‘decision 3’) (UN/OCHA, 2005a). More families chose to move from tents to ‘barracks’ or ‘host families’ from tents in May/June 2005 with the onset of the rainy season (UNHIC, 2005b), and with barracks at full capacity, no progress on transitional shelter and very slow progress on permanent housing, it is estimated that the majority of families stayed with host families or opted for ‘early return’\textsuperscript{17} to their own villages with little support for 18 months to two years.

\textit{We do not want to be relocated to the barracks by the government... if we are forced to move to the barracks, so far from the place of our friends and relatives, the memories will die, just as the people have.}

Interview with tsunami survivor quoted in Eye on Aceh, 2005:23

\textsuperscript{17} living on their own land either in tents or in self-built transitional shelters
Figure 17: Key decisions affecting the shelter response

**Tents**

**Barracks**

1. **Date:** 9-11.01.2005  
   **Actor/Decision:** Gov/UNHCR  
   Over 100,000 IDPs to be housed in 'relief camps' or 'barracks' as they later became known.

**Host families**

2. **Date:** 24.01.2005  
   **Actor/Decision:** Affected population  
   Around 260,000 people had decided to live with friends or relatives - host families.

**Transitional Shelter**

3. **Date:** Sep-05  
   **Actor/Decision:** IFRC  
   Transitional Shelter Plan of Action launched to provide transitional shelter for people living in tents.

**Permanent Housing**

4. **Date:** 19.01.2005  
   **Actor/Decision:** BAPPENAS and International Partners  
   The reconstruction of Aceh would be a 'people-centred and participative process'.

5. **Date:** Jun-05  
   **Actor/Decision:** BRR  
   BRR announced that each affected household would be eligible for a permanent house of 36 sqm.

6. **Date:** Aug-05  
   **Actor/Decision:** World Bank/IBPN  
   The Reconstruction of Land Administration Systems in Aceh and Nias (Ralas) established.

7. **Date:** Jun-06  
   **Actor/Decision:** BRR  
   BRR Regulation No. 21/2006: Renters and squatters to be given cash assistance rather than housing.

8. **Date:** Sep-06  
   **Actor/Decision:** BRR  
   BRR announced a joint land titling policy to ensure that women have the same rights as men to own land.

9. **Date:** Feb-07  
   **Actor/Decision:** BRR  
   BRR Regulation No. 5/2007: Pre-tsunami renters and squatters to be given land by BRR.
In June 2005, BRR announced that families should be encouraged to return to their own land, or to voluntarily resettle on land purchased by communities themselves or by BRR, and that each affected household would be eligible for a permanent house of 36sqm (see figure 17 ‘decision 4’). This was based on an expectation that permanent housing could be constructed within a year and ‘the belief that in the interim affected communities were adequately housed in barracks, transitional shelter or with host families’ (da Silva, 2010:30).

Although this decision put in place the policy framework for return, resettlement, and the provision of permanent housing, progress was delayed by lack of land tenure. The tsunami destroyed not only the physical environment but personal identification documents, land boundary markers and almost all records of land ownership. Oxfam International (2006) estimated that 300,000 parcels of land were affected by the tsunami (170,000 in urban areas) and that less than 25% of these were secured by title deeds. To address this problem, the Indonesian government, in partnership with the World Bank, set up the Reconstruction of Land Administration Systems in Aceh and Nias (RALAS) programme in August 2005 which involved a process of ‘community-driven adjudication’ and land titling through the National Land Administration Agency (see figure 17 ‘decision 5’) (Oxfam International, 2006).

Recognition of the large numbers of people still living in tents (around 67,500), that ‘the rebuilding of lost homes would take many years’ (IFRC, 2008) ‘while tents and temporary barracks are beginning to degrade’ (Dercon and Kusumawijaya, 2007: 2) led to the formation of a temporary shelter working group by UN/OCHA and IFRC and the development of the Temporary Shelter Plan of Action (TSPA) (OCHA, 2005). Launched in September 2005 (see figure 17 ‘decision 6’), with the IFRC as the lead agency, the aim of the shelter programme was to provide transitional accommodation for people living in tents before they moved to a permanent structure.

The needs of renters and squatters were overlooked in BRR's initial policy regulations, but an increased understanding of the numbers of renters and squatters in need of assistance, demonstrations by renters and squatters still housed in barracks (September 2006) and advocacy by various organisations (notably Oxfam) led BRR to introduce and then revise their policies on assistance to renters and squatters in June 2006 and February 2007 (see figure 17 ‘decisions 7 & 9’). BRR also announced a joint land titling policy in September 2006 to ensure that women had the same rights as men to own land and to benefit from land-based income (see figure 17 ‘decision 8’).
How did the shelter assistance provided affect the recovery of communities?

Barracks

The GoI’s decision to house up to 150,000 IDPs in ‘barracks’ (see figure 17 ‘decision 1’) was widely criticised by the humanitarian community. Although implemented very quickly, 70,000 people (20,000 families or roughly 15% of families in need of permanent housing) remained housed in barracks at the end of 2006. Housing people in barracks encouraged aid dependency and delayed social, economic, environmental and institutional recovery.

With barracks typically located at a distance from people’s villages, displaced families struggled to return to their homes and re-establish social networks, institutions and livelihoods. People living in barracks were also dependent on cash grants from government for their basic needs18 with no means of making a living and no work other than possible participation in food-for-work schemes’ (Age, 2005:22). The number of barracks provided was not sufficient for all IDPs and consequently families and communities were split - placing social relations under strain, causing conflict and eroding social capital (Mahadi, 2007).

People living in barracks were more likely to be the most vulnerable (people only moved to the barracks to start with if they had no other option and one third of those remaining in barracks eighteen months after the tsunami were renters and squatters) and living in densely packed accommodation with strangers in a culture where this is not common resulted in stress and increased risk of harassment, particularly for women (Age, 2005).

‘People-centred’

BAPPENAS’s statement that the reconstruction of Aceh would be ‘a people-centered and participative process’ (see figure 17 ‘decision 2’) (BAPPENAS and International Partners, 2005b) and the inclusion of this principle in their Master Plan in April 2005, UNHIC’s Shelter Data Pack in July 2005 and the RALAS land titling programme had a significant impact both on the shelter strategies adopted and on the recovery of families and communities affected by the tsunami. Many implementing organisations adopted participatory, community-based, or ‘owner-driven’ approaches to shelter provision and involved communities, ‘to varying degrees, in the selection of eligible households, cadastral mapping and verification, spatial planning, design of housing, construction and monitoring of implementation’ (Batchelor and da Silva, 2010:143).

While participatory processes required significant amounts of time prior to and during construction they had significant benefits in terms of social and institutional recovery, reintegration of displaced populations and local ownership of the reconstruction process.

---

18 a monthly grant of Rp. 90,000 (US$9) per person was provided by the GoI
Based on their experiences in Aceh, Dercon and Kusumawijaya (2007) state that community-based housing reconstruction can:

- respond quickly to urgent needs and thus can achieve relief at an early stage
- mobilise solidarity among the members of a community and create social capital
- allow women to be a part of the reconstruction work
- strengthen local institutions
- achieve good planning which leads to high quality results
- limit disaster vulnerability
- include good monitoring and thus achieve transparent accountability.

Families involved in self-build programmes stated that even though it took a long time to complete their finished house they felt a sense of ownership and achievement from the moment they laid the foundations. This helped them overcome the effects of trauma and rebuild their lives sooner than had they lingered in barracks, tents or with host families away from their villages.

*da Silva, 2010:75*

The few housing projects that have involved homeowners in the construction process have been completed more quickly, with far fewer problems, than the majority of projects that took a ‘turnkey’ approach to housing provision.

*ACARP, 2007:152*

**Host families**

An assessment by the International Organization for Migration (IOM) in February 2005 (IOM, 2005) indicated that the priorities of almost all of those affected by the tsunami were to return home, resume their jobs and re-establish their communities. Consequently, more than half of the displaced population (260,000 people) had chosen to live with host families (see figure 17 ‘decision 3’). Some ‘host families’ were nearby the affected areas while other displaced families travelled to stay with relatives in more distant provinces. In either situation, staying with friends or family supported social recovery and provided a support mechanism for overcoming trauma.

*A couple days after tsunami we all went back to our village in Pidie. Although we had to live at my mother in laws place with another twenty one persons from my wife extended family who also lost their houses in Banda Aceh and Aceh Besar, it was good for us, especially children, to get together with family and other villagers and feel safe with the support of one another.*

*Mahadi, 2007:16*
The ‘invisibility’ of IDPs staying with host families made identifying them and providing support more challenging, while most agencies focussed their efforts on supporting people in camps. Although IDPs staying with host families didn’t require relief assistance, they did require education for their children, psychosocial support and assistance in tracing relatives. They also placed a significant burden on host families who were sometimes sheltering up to 40 additional people in their homes, yet were largely excluded from the distribution of aid. (Hudspeth, 2005 and Eye on Aceh, 2005)

After about a month, we realized that we will not get enough help if we stayed in Pidie. So all of us move back to Banda Aceh and we had to stay in family and relative places, or some have to go to barracks. Some choose to commute every other week or so between Banda Aceh and Pidie. This way, we get relief supplies.

Mahadi, 2007:17

The GoI supported IDPs living with host families through the provision of individual cash grants which ‘provided both a useful mechanism of direct support and a vital injection of cash into the local economy’ (Hudspeth, 2005:20). However, participation in the scheme required IDPs to register their status and there may have been reluctance to do so for cultural or political reasons as evidenced by the September 2005 census where more than 300,000 people identified themselves as ‘not IDPs any more’.

36sqm house

In the first six months after the tsunami humanitarian organisations adopted a wide range of shelter strategies to respond to the needs of the communities they were assisting and the capacity of their own organisation. With BRR’s announcement in June 2005 that affected households would be eligible for a ‘Type 36’ permanent house many of these strategies had to be dropped. Several agencies had to upgrade or replace ‘semi-permanent’ housing they had already provided (da Silva, 2010). Community participation in repair of their own houses, using recycled materials and support such as tools and building materials, also became more challenging as other affected families/communities received promises of new-build permanent houses at no cost.

This ‘one size fits all’ policy...led to an emphasis on providing houses rather than assistance to reconstruct. The focus was on physical construction rather than responding to the way that the process of rebuilding can lead to economic activity, or the role that shelter plays in meeting needs and allowing families to return home and carry out their livelihoods.

da Silva, 2010:31

Agencies with little or no experience engaged in permanent housing construction and found it to be much more challenging than they anticipated. Difficulty in sourcing materials and quality control of workmanship during construction all contributed to
significant delays, leaving most households living with host families, in barracks or in transitional shelter for two to three years. Even after the application of BRR's policy there were significant variations in the size and quality of houses provided, with agencies choosing to include or exclude toilets and bathrooms from the calculated area and provide ceilings, floor finishes, roof gables or not on an individual agency basis.

*Not only does the size of house between villages differ, but without a "one provider, one village" policy, the size of houses in one village can also vary. Depending on the materials used, the different quality of houses built in one village can also exacerbate tensions.*

Eye on Aceh, 2006:21

BRR’s focus on the construction of permanent housing, rather than the recovery of communities, meant that more strategic options to provide assistance through skills development, establishing information or resource centres, or setting up manufacturing plants were overlooked (da Silva, 2010). It also encouraged the provision of housing assistance in standalone programmes and this further delayed recovery as people chose to remain in barracks rather than to return to houses without services.

*In several communities... people are reluctant to leave the barracks to return to their villages even though houses are becoming available. This is particularly true of locations that do not yet have electricity connections, or where drinking water is still a problem.*

ACARP, 2007:152

The level of public infrastructure varies from community to community, as some NGOs and agencies build only the physical structure of the house, while others repair access roads, repair or build schools and clinics, and provide other amenities. In cases where such sharp discrepancies exist in close proximity, within or between communities, social jealousy and conflict are likely to ensue.

Eye on Aceh, 2006:21

RALAS

Although BRR’s 36sqm housing policy clarified the shelter strategy, in many cases permanent housing construction could not be undertaken until land tenure was established. The activation of RALAS in October 2005 (see figure 17 ‘decision 5’) was a significant step in enabling implementing organisations to begin permanent housing construction. It also had a significant psychological impact on affected families. According to Bruno Dercon of UN-Habitat the fact that RALAS was signed before the peace agreement gave out a very clear public signal that ‘your land is safe. BPN officials have no right to come into your village to stop construction. That released the resources of the people and a tremendous amount of energy’ (Palmer, n.d.).
Transitional Shelter

Although individual family transitional shelters were discouraged by the GoI in the initial stages in the response, and the implementation of the Transitional Shelter Plan of Action (TSPA) has been widely criticised for slow implementation (many families did not receive transitional shelters until 18 months after the tsunami), Transitional shelters, when they did arrive had a significant impact on recovery.

In many cases the provision of transitional shelters enabled people to return to their villages from barracks or host families or move out of tents which were over a year old. When permanent housing was complete many households re-used their shelter as additional living space or for small businesses supporting economic recovery, or re-sold the materials to generate cash. ‘This demonstrates that transitional shelters are not just a temporary post-disaster housing solution, but are a valuable asset which can be used by beneficiaries to further improve their lives’ (van Dijk and van Leersum, 2009).

Those communities that received temporary housing allowing them to move out of barracks and back to their village have fared better than those that did not receive similar assistance. All aspects of recovery have advanced more successfully in these villages.

ACARP, 2007:152

If IFRC transitional shelters were provided earlier within the original villages of the survivors, all the permanent houses would have been completed earlier. Transitional shelters in original villages would have given some time for proper planning and would have facilitated the participatory process.

Dercon and Kusumawijaya, 2007:2-3

Living in a tent made life really hard for the entire family. There was no privacy and it caused a lot of stress. Receiving a transitional shelter has helped to get me and my family started again. It gave the family more comfort and relieved some pressure. My husband was more relaxed and more capable of taking care of the family again.

Ms. Isrijal, Banda Aceh quoted in van Dijk and van Leersum, 2009
Vulnerable groups

Decisions 7, 8 and 9 in figure X can be seen as putting in place policies to meet the needs and protect the interests of vulnerable groups, once early recovery for the majority of the population was underway. The policy of cash grants for renters and squatters (approximately 10% of the pre-tsunami population) in June 2006 (see figure 17 ‘decision 7’) proved to have little impact on recovery for these groups. Inflation levels of 40 percent in 2006 meant that the cash grant was not sufficient to enable families to purchase land or housing (Oxfam International, 2006) (possibly when combined with the fact that they had been living in barracks for over 18 months and the majority of their assets may well have already been eroded).

However, the policy of free land and housing for renters and squatters announced in February 2007 (see figure 17 ‘decision 9’) did support recovery though. Renters and squatters were finally able to leave the barracks and begin rebuilding their lives. They could either return to their villages (if land could be identified) or move to new settlements developed by BRR. Relocating renters, squatters, and other permanently displaced households to new-build resettlement sites still did not immediately catalyse recovery as these sites were often far from livelihood opportunities and families’ existing social networks and took significant time to develop, if at all. The long-term impact of the decision to provide free land and housing is outside the scope of this study but may well have been significant as the most vulnerable families were provided with a solid financial base on which to rebuild their lives.

In a situation of increasing conflict over land and where many women had been denied the right to own and inherit land since the tsunami, BRR’s policy for joint land titling, announced in September 2006, (see figure 17 ‘decision 8’) also supported women in recovering their lives and livelihoods, providing them with long-term security and the ability to benefit from land-based income. ‘Ensuring women’s rights to land, not only guarantees a roof over their head, but also provides livelihoods and a safety net for women to take control of their future and prevent inheritance disputes’ (Oxfam Canada, 2007, cited in Palmer, n.d:71).
5.2 Earthquake, Yogyakarta and Central Java provinces, 2006

Who were the key actors and what was their relationship?

With little or no displacement, the first responders to the earthquake were affected families, supported by their neighbours, friends and family, who provided food, water and relief assistance as well as assisting in search and rescue. ‘Truckloads’ of volunteers came from surrounding cities and universities (Wilson and Reilly, 2007) and local and national NGOs mobilised quickly to provide water, relief assistance and emergency shelter (MacRae and Hodgkin, 2011).

The Government of Indonesia (GoI) reacted immediately to the disaster and was the largest responder, ‘deploying personnel from all government departments as well as the military’ (Wilson and Reilly, 2007:5). The president arrived in Yogyakarta within hours and the National Disaster Management Agency (BAKORNAS PBP) coordinated the emergency relief and rescue activities (BAPPENAS et al, 2006). The government declared a ‘provincial emergency’ (not a national disaster) and this ‘limited the power of the international community to act as it saw fit’ (MacRae, 2008:193). The majority of funding for relief, recovery and reconstruction also came from the government (US$ 600 million) supported by cluster agencies (US$ 175 million) and the Java Reconstruction Fund (US$ 75 million). Of this US$ 120 million was spent on emergency shelter, US$ 60 million on transitional shelter and US$670 million on permanent housing (Manfield, 2007).

After the emergency phase, recovery and reconstruction was coordinated by the provincial governments of Yogyakarta and Bantul provinces. BAKORNAS PBP allocated funds through the provincial governments (UN/OCHA, 2006) and at the beginning of July the president established a coordination team for rehabilitation and reconstruction which comprised two provincial implementing teams (each chaired by their respective governor), a steering team (led by the Coordinating Minister for Economic Affairs) and a National Technical Team (TTN).19

Several international agencies had pre-positioned staff and relief supplies in Yogyakarta prior to the earthquake in preparation for a possible eruption of Mount Merapi and so were able to respond immediately to the earthquake (Wilson and Reilly, 2007). Other agencies redeployed staff from Aceh and within a few weeks there were more than 100 operational agencies in Yogyakarta (MacRae and Hodgkin, 2011).

The response to the Yogyakarta earthquake was one of the first implementations of the ‘Cluster Approach’ following the Humanitarian Reform in 2005 and the cluster approach was activated on 28th May 2006 (UN, 2007). UN/OCHA led coordination between clusters for the first six months of the response followed by the UN Resident Coordinator’s Office until the end of May 2007. At this point most of the large NGO...
programmes had either completed or were in the closing stages and all remaining coordination activities were handed over to the provincial and district governments, supported by UNDP (UN, 2007).

The Emergency Shelter Cluster (ESC) was activated in the immediate aftermath of the disaster and ran until mid-September 2006, when it handed over coordination activities to the government, supported by the Early Recovery (Shelter and Reconstruction) cluster (led by UNDP) (UN, 2007). The ESC, led by the IFRC, included approximately 60 national and international organisations, undertaking the provision of basic materials for the construction of emergency shelters. Within the ESC a ‘Technical Working Group’ focussed on the design of appropriate transitional shelter, based on the simple vernacular bamboo structures. A Public Outreach Working Group prepared posters to instruct communities how to build these shelters. The ‘Strategic Advisory Group’ negotiated with the Indonesian government ‘while trying to formulate overall direction within the uncertain and shifting framework of government policy’ (MacRae, 2008:194).

<table>
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<td>2,846</td>
<td>August 2007</td>
<td>JRF, 2009</td>
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<tr>
<td>CRSSP (JRF Funding)</td>
<td>2,300</td>
<td>Unknown</td>
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<td>IOM (JRF Funding)</td>
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<td>June 2007</td>
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<td>307</td>
<td>August 2007</td>
<td>Wilson and Reilly, 2007</td>
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<tr>
<td>CRS</td>
<td>300</td>
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Critical to the recovery of affected communities was the decision to divide the Early Recovery Cluster into two sub-clusters: Early Recovery – Shelter and Reconstruction and Early Recovery – Livelihoods. The Shelter and Reconstruction sub-cluster focussed on providing transitional shelter before the onset of the rainy season. It was initiated in late July 2006 and ran until June 2007, led by UNDP and included 91 national and international organisations (UN, 2007). The Livelihoods sub-cluster aimed to provide assistance to affected businesses and the informal sector to enable economic recovery; however, it struggled to make significant impact on the humanitarian response.

Following the precedent set by the Multi-Donor Reconstruction Fund in Aceh the Java Reconstruction Fund (JRF) was established in October 2006 to channel funding from six major European donors (the European Commission and the governments of Netherlands, UK, Canada, Denmark and Finland) (Manfield, 2007, MacRae and Hodgkin, 2011). The JRF was administered by the World Bank who chose for ‘reasons of speed of implementation’ (JRF, 2007:28-29) to work only though their existing system of
implementing partners IOM (International Organisation for Migration) and CHF (Community Housing Foundation). Their priorities were provision of additional T-shelter, earthquake resistant design assistance, supplementation of the government's reconstruction programme for vulnerable groups and subsequently livelihood rebuilding (Manfield, 2007).

**What key decisions were made and why?**

With Telford et al (2006) published in the early weeks of the Yogyakarta response, a key driver in decision-making in response to the Yogyakarta earthquake was ‘lessons-learned’ from the tsunami response. This influenced both humanitarian and government policy – although often in different directions (MacRae, 2008).

Following the Humanitarian Reform in 2005, the UN launched the ‘cluster approach’ in the immediate aftermath of the earthquake, activating the Emergency Shelter Cluster (ESG). Coordinated activities of agencies within the ESG and a focus on the distribution of shelter NFIs in addition to tents (see figure 18 ‘decision 1’), reflecting shifting understandings of international best practice, meant that more than 300,000 households were provided with assistance in the first three months. The humanitarian community also began building transitional shelters (around 8,000 were constructed in the first three months) in recognition that transitional shelter was an essential step which had been left too late in Aceh (see figure 18 ‘decision 2’) (MacRae and Hodgkin, 2011).

Recognition that international resources would cover only around 20% of the transitional shelter need and that additional funding from government would be required (MacRae, 2008), led to the Early Recovery: Shelter and Reconstruction Cluster advocating for a ‘Roof First’ policy and this was adopted by the government in mid-September 2006 (see figure 18 ‘decision 3’). From the literature reviewed it is unclear if this policy had a significant impact on the funding of transitional shelters (due to delays in disbursement of funds) but it at least provided government support to the transitional shelter strategy.

Around 45,000 households still required transitional shelter in September 2006 and advocacy from the Shelter and Reconstruction Cluster also led to the reallocation of funds from the Java Reconstruction Fund from permanent to transitional shelter. In November 2006 US$ 6.64 million was allocated to IOM, CHF and GoI to construct 24,000 transitional shelters (see figure 18 ‘decision 4’) (JRF, 2007). However, in March 2007 the targets for transitional shelter were reduced as demand had reduced due to the successful implementation of the government’s permanent housing programme and by June 2007 only 6,923 transitional shelters had been constructed with JRF funding (see figure 18 ‘decision 5’) (JRF, 2008).

The Indonesian government viewed ‘transitional shelter’ as a dirty word as a result of widespread local, national and international criticism of their ‘barracks’ approach to transitional shelter in Aceh. Instead they proposed a ‘one-step’ strategy (or ‘rapid
reconstruction’ to use Davis’s term) where affected families would move directly from emergency shelter provided by humanitarian organisations to government-funded permanent housing (MacRae and Hodgkin, 2011). Recognising that the construction of permanent housing in Aceh had been time-consuming and costly, the government proposed the provision of cash grants to families to enable them to re-build their own houses and requested the provision of tools and technical assistance from NGOs (see figure 18 ‘decision 6’) (Wilson and Reilly, 2007). However, delays in allocation of funding and establishment of disbursement mechanisms meant that grants did not begin to be disbursed until November 2006 (see figure 18 ‘decision 7’).
Figure 18: Key decisions affecting the shelter response

**Emergency Shelter**

1. May-06
   - **Actor/Decision**: Emergency Shelter Cluster
   - **Action**: Quick mobilisation to distribute tents and shelter NFIs

- [Graph showing emergency shelter trends over time]

**Transitional Shelter**

2. Jun-06
   - **Actor/Decision**: Emergency Shelter Cluster (some agencies)
   - **Action**: Began providing transitional shelters

3. Sep-06
   - **Actor/Decision**: ERC/Provincial Governments
   - **Action**: Roof First' policy announced: "allowing residents to use a proportion of their allocated funds to buy roofing materials for use in a Transitional Shelter and subsequent re-use in permanent reconstruction"

4. Nov-06
   - **Actor/Decision**: Shelter and Reconstruction Cluster/JRF
   - **Action**: JRF allocated US$ 6.64 million to IOM, CHF and the GoI to construct 24,000 transitional shelters

5. Mar-07
   - **Actor/Decision**: JRF
   - **Action**: Transitional shelter targets reduced by two thirds as demand for transitional shelters had decreased

- [Graph showing transitional shelter trends over time]

**Permanent Housing**

6. Jun-06
   - **Actor/Decision**: GoI
   - **Action**: The government announces plans to provide Rp. 30 million ($3,225) to those whose houses were severely damaged and Rp. 18 million ($1,975) for houses with minor structural damage

7. Nov-06
   - **Actor/Decision**: Provincial governments
   - **Action**: Beginning of cash-grant disbursements for permanent housing to affected families

- [Graph showing permanent housing trends over time]
How did the shelter strategy adopted affect the recovery of communities?

Emergency shelter cluster and shelter NFIs

The activation of the ‘cluster approach’, the quick mobilisation of the Emergency Shelter Cluster, and the distribution of shelter NFIs (see figure 18 ‘decision 1’), immediately supported recovery as families could start rebuilding their homes, rather than being given tents which immediately start to deteriorate. The distribution of shelter NFIs encouraged households to re-use materials from their existing houses, supporting environmental recovery.

Transitional shelters

It is likely that transitional shelters built within the first three to six months (see figure 18 ‘decision 2’), had a significant impact on the families who received them – in advance of the rainy season and before government cash grants for permanent housing began to be distributed.

From the documentation reviewed it is unclear if the ‘roof first’ policy (see figure 18 ‘decision 3’), significantly impacted on recovery as government funds did not begin to be distributed until 6 months after the disaster, by which time the rains had stopped and families wanted to rebuild their permanent houses, rather than transitional shelters. However, it did make transitional shelter an official strategy, enabling humanitarian organisations to push on with their transitional shelter programmes, and providing families with the option to use the first payment from their cash grant for a roof and transitional shelter if they wanted to.

Allocation of JRF funds to transitional shelter in November 2006 (see figure 18 ‘decision 4’) probably had little impact on recovery of communities as the government cash disbursements for permanent housing began at the same time and good weather conditions meant that permanent house construction in the first few months of 2007 was very fast. This is reflected in the JRF’s decision to scale-back their transitional shelter programme in March 2007 by two thirds (see figure 18 ‘decision 5’) due to decreased demand for transitional shelters.

*By the time [the JRF T-shelter programme] was rolled out, the situation had changed and what most people really needed was cement, sand and reinforcing steel, not bamboo and gedeg.*

MacRae and Hodgkin, 2011: 256
Permanent housing

The government’s policy of providing cash grants to affected households was initially announced in June (although details were unclear) (see figure 18 ‘decision 6’) but disbursements did not begin until November (see figure 18 ‘decision 7’). However, the knowledge that families and communities themselves would be responsible for reconstruction, and that they should not wait for external assistance, encouraged people to begin rebuilding using their own resources, rather than waiting for help from NGOs.

Suginem, who lives in Pleret, is tired of promises of housing assistance. Her family could not sleep forever under the ramshackle tent where they currently live, so she finally brought her land certificate to the pawnshop and received a Rp 2 million loan. According to Suginem this was enough to start rebuilding.

JRF, 2007:23

Instead of waiting for assistance that might never come, Edhi Gandhok from Sleman took the initiative and used existing materials. He uses all usable materials, including timber, bamboo, nails and roof tiles. Even then, he can only rebuild one of the three rooms his family previously occupied, but at least he now has a habitable house. ‘Just wait for the finishing touch’, he says.

JRF, 2007:23

The provision of grants to individual households or communities meant that they could make their own decisions on how to spend the money (see box 8), take control of their own situation and develop a shelter solution to meet their own specific needs. This self-determination of a shelter solution enabled social recovery as people were not left waiting for external actors to decide their fate but at the centre of their own recovery process.

### Box 7: Yogyakarta transitional shelter timeline

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Number of Transitional Shelters Built</th>
<th>Permanent Houses Built</th>
</tr>
</thead>
<tbody>
<tr>
<td>First three months after the earthquake (June to August 2006)</td>
<td>8,000</td>
<td></td>
</tr>
<tr>
<td>Three to six months after the earthquake (September to November 2006)</td>
<td>22,000</td>
<td></td>
</tr>
<tr>
<td>Six to twelve months after the earthquake (December 2006 to May 2007)</td>
<td>More than 50,000</td>
<td>More than 145,000</td>
</tr>
</tbody>
</table>
Box 8: Differing approaches to cash disbursements by the two provincial governments

<table>
<thead>
<tr>
<th>Yogyakarta</th>
<th>Central Java</th>
</tr>
</thead>
<tbody>
<tr>
<td>The provincial government in Yogyakarta plans to provide all affected households (with either ‘destroyed’ or ‘heavily damaged’ houses) with Rp. 15 million in three stages. <strong>Funds will be dispersed to ‘community groups’</strong> of up to 15 households and each group must decide which are the most vulnerable families and should receive the fund first.</td>
<td>The provincial government in Central Java plans to provide <strong>affected households</strong> with Rp. 12-15 million in three stages: Rp. 4.1 million (by end November) Rp. 4.4 million (early 2007) Final stage (2007) Rp. 500,000 will also be provided to families with ‘lightly damaged’ houses.</td>
</tr>
</tbody>
</table>

An often-cited reason for the success of the Yogyakarta shelter response is the strength of the *gotong royong* tradition in Javanese culture. In fact, perhaps it is not the strength of the *gotong royong* in Java, but the fact that it was not destroyed by the actions of humanitarian organisations. A key lesson from the tsunami response was not to use ‘cash-for-work’ programmes (which eroded existing community structures of self-help and mutual support in Aceh) but to encourage families and communities to take a lead in their own shelter-response (Wilson and Reilly, 2007).

Once funds did begin to be disbursed households were able to use them as they wanted, tailoring their shelter solution to meet their specific needs. This enabled them to incorporate spaces for home-based enterprises into their homes. Also as funds were disbursed locally they would be spent locally, catalysing economic recovery – both for households and for local businesses. The decision to split the early recovery cluster into shelter and livelihoods was not successful in this respect as livelihood impacts of either the transitional or permanent housing programmes were not catalysed upon, with the livelihoods sub-cluster running their own parallel initiatives.
Conclusion

6.1 Outcomes of this study

What is ‘early recovery’?

Early recovery is the application of developmental principles in a humanitarian setting. It builds on the debate around Linking Relief, Rehabilitation and Reconstruction debate in the 1980s and the ‘developmental relief’ and ‘recovery plus’ approaches of the 1990s. Early recovery is the return to ‘normalcy’ of a community affected by disaster. It includes the restoration of basic services, livelihoods, shelter, governance, security and the rule of law but also aims to ‘build back better’ – creating more sustainable communities which are more resilient to shocks and stresses. Ideally early recovery approaches would be adopted as early as possible in a humanitarian setting, however, the short term nature of relief funding, little explicit funding for recovery activities and the gaps between relief and reconstruction funding limit the extent to which this approach has been adopted.

What is the role of shelter in early recovery?

Shelter after a disaster affects all aspects of household and community recovery. Adequate shelter, combined with the provision of basic services provides security and can catalyse livelihood opportunities and economic recovery. The participation of affected families in the planning, design and construction of a shelter programme can develop skills and social networks, enabling families to overcome trauma, catalysing social recovery and supporting the re-establishment of governance structures and the rule of law. An appropriate technical solution to shelter, combined with a participatory process capitalising on raised awareness after the disaster can contribute to disaster risk reduction and the creating of safer communities in the long-term.

Despite significant research into shelter after disasters in the last five years, opinions are still divided over the most appropriate shelter response. In 1982 UNDRO advocated ‘rapid reconstruction’ of permanent housing, leaving families to provide for their own immediate shelter needs, more recently Shelter Centre have introduced the ‘transitional shelter and settlement approach’ in an attempt to bridge the gap between emergency shelter and permanent reconstruction. However, the tendency of agencies to focus on the ‘transitional shelter’ as a ‘product’ over considering the short and long-term ‘process’ of recovery risks leaving beneficiaries permanently in ‘transitional’ shelter where other forms of assistance may have better supported the recovery process.

What shelter assistance was provided in each case study?

Although occurring in the same country, and only 18 months apart, very different shelter strategies were adopted in each of the case studies analysed as part of this study.

A wide variety of emergency and transitional shelter assistance was provided in the first few months of the tsunami response, despite affected households being quite clear that
they strongly wished to return home and be provided with tools and materials to build their own houses (IOM, 2005). The government provided military style ‘barracks’ which were unpopular both with affected households and the humanitarian community. Consequently, many families chose to stay with host families or stay in tents or self-built transitional shelters on their own land. A shift in policy meant that the IFRC could provide off-the-shelf transitional shelters during the second year of the tsunami response, while the construction of permanent housing directly by humanitarian organisation or BRR took up to four years to complete.

In response to the Yogyakarta earthquake, the Emergency Shelter Cluster distributed tents and shelter NFIs in the first three months after the disaster, in addition to beginning the construction of transitional shelters. Meanwhile the government announced a ‘one-step’ strategy, of the provision of cash grants for affected households to rebuild permanent housing, and requested that humanitarian organisations provide tools and technical assistance. Advocacy from the humanitarian community led the government to announce a ‘roof-first’ policy, enabling families to use the first tranche of their housing grant for a transitional shelter. Despite initial delays in disbursement of funds, the success of the government’s permanent housing strategy meant that almost all houses were constructed within two years; roughly twice as many houses as in Aceh, in half the amount of time.

What key decisions were made and why?
Decision-making in the first six months of the tsunami response was hampered by the lack of local capacity – both within humanitarian organisations and local government – as a result of almost 30 years of civil conflict and loss of life in the disaster. Decisions in the first three months of the response were made by government operating from Jakarta or by humanitarian organisations operating on the ground with limited coordination between agencies as the UN ‘cluster approach’ had not yet been adopted.

Once the local Rehabilitation and Reconstruction Agency (BRR) had been established in Banda Aceh, and coordination groups had been established within the humanitarian community, more consistent policies and strategies for recovery and reconstruction began to be put in place over the next 12 months. However, it took more than two years for policies to be put in place for the assistance of vulnerable groups, and four years for housing reconstruction to be completed.

In Yogyakarta, the government acted decisively in the immediate aftermath of the disaster with the vice-president coordinating the first few days of the response. Local government capacity was greater in Yogyakarta before the earthquake and there was relatively little loss of life in the disaster, additionally there was increased national capacity through learning from the tsunami response. Declaration of a ‘provincial emergency’ and not a ‘national disaster’ combined with the establishment of provincial reconstruction teams emphasised that local government would be the key decision makers in the reconstruction
process, rather than Jakarta or international humanitarian organisations as in the tsunami response.

The humanitarian community were also better prepared for the Yogyakarta earthquake (both because they were on alert to respond to the expected eruption Mount Merapi and because they had also learned from the tsunami-response). They were also better coordinated as a result of the implementation of the ‘cluster approach’. Despite complaints from the humanitarian community regarding delays in the government response, key decisions regarding the shelter strategy were made within the first few months after the disaster. Funding was put in place so that they could begin implementation within the first six months and the housing reconstruction process was largely completed within two years.

**How did the shelter strategy adopted affect the recovery of affected communities?**

**Emergency and transitional shelter**

In Aceh more than 50% of the displaced population chose to live with host families within one month of the disaster, while the government began building military style ‘barracks’. Although housing displaced families collectively enabled humanitarian assistance to be provided effectively, people living in barracks were dependent on cash grants to fulfil their basic needs, they were more likely to be the most vulnerable and were placed under stress and increased risk of harassment in a culture where communal living is not common. Housing people in barracks (isolated and remote from their villages, families, social networks and livelihoods) encouraged aid dependency and delayed recovery until families could return home.

Staying with host families enabled recovery to a certain extent as families used social capital to overcome trauma and re-established social networks. However, the ‘invisibility’ of IDPs staying with host families, and the limited support given to families in this transitional settlement option, meant that they placed a significant burden on host families. One of the main bottlenecks in the housing reconstruction process was the identification of suitable land for transitional and permanent shelter. Had host families been provided with transitional shelters, to house ‘hosted’ friends/family on their land, perhaps this problem could have been overcome.

In Yogyakarta, the ESC immediately distributed toolkits, shelter NFIs and tents. Three months after the disaster 80% of homeless households had received roofing materials and many were in temporary shelters. This meant that the majority of the affected population could begin their own recovery activities immediately (only one month after the earthquake 34% of homeless people were rebuilding from existing materials).

Transitional shelters were provided much earlier in Yogyakarta than in Aceh and this was widely reported as a success by the humanitarian community. However, it appears from
the case studies that it is not the overall speed of delivery of transitional shelter but its
timing relative to other shelter options which impacts on the recovery of affected
populations.

In Yogyakarta the majority of transitional shelters were completed 6-12 months after the
earthquake. This is significantly faster than in Aceh (where transitional shelters were
typically completed 18 months to two years after the tsunami) but in Yogyakarta
government grants for permanent housing reconstruction were already underway so the
shelters did not significantly impact on recovery.

In contrast the transitional shelters provided in Aceh had a significant impact on recovery
– both because permanent housing reconstruction was much slower (as agencies were
directly constructing permanent housing rather than providing cash grants) and because it
enabled displaced families (in tents, host families or barracks) to return home.

From the literature reviewed as part of this study it has not been possible to identify which
types of families were prioritised to received transitional shelters in the Yogyakarta case
study. If they were in fact the most vulnerable it is possible that the transitional shelters
had a more significant impact on these households than has been reported in this study.
This is because it is likely the most vulnerable households would have been the last to
complete the reconstruction of their permanent houses and for these families the
transitional shelters would have provided an important bridge over the gap between
emergency shelter and permanent housing.

**Permanent housing**

Permanent housing construction was much faster in Yogyakarta than Aceh, with
approximately 280,000 permanent houses reconstructed in two years rather than 140,000
houses completed in four years. A significant reason for the speed of construction was
the shelter strategy adopted – with the government opting to disburse cash grants to
affected families, enabling them to rebuild, rather than humanitarian organisations or BRR
constructing houses on behalf of the beneficiaries as they did in Aceh.

Both the speed and the shelter strategy adopted after the Yogyakarta earthquake had a
significant impact on the recovery of communities. The provision of cash grants
encouraged households and communities to mobilise their own financial and social
resources for reconstruction purposes – supporting local ownership and social recovery -
at the same time as spending their money on local construction materials and labourers –
supporting the wider economic recovery of the region. The early completion of houses
also meant that families could resume their normal lives up to two years earlier than in
Aceh.

The main drawback of the government's 'one-step' strategy was that funds did not begin
to be disbursed until six months after the disaster. Had emergency funds been
immediately accessible the recovery would have been even faster. However, the
knowledge that the government was going to distribute cash grants (announcements were made in the first few weeks after the disaster) meant that families did not spend time waiting for policy to be develop (as in Aceh) and encouraged them to use their own resources to rebuild.

The transfer of funds for ‘rapid reconstruction’ in Yogyakarta could only work because the construction market and skills existed locally (as did the governance structure to distribute the cash). In Aceh the limited institutional capacity, significant concerns regarding corruption and the lack of a local construction industry would have made this strategy significantly more challenging. However, from the literature reviewed as part of this study, it is unclear if this was even considered in the rush to build permanent housing.

Although outside the scope of this study, the main advantage of permanent houses built by agencies, rather than affected families/communities as in Yogyakarta, may have been the long-term DRR advantage of reducing underlying risk factors through the provision of higher quality completed houses. However, as has already been identified by da Silva (2010), lack of engagement of homeowners during construction, or training on earthquake resilient construction techniques, meant that many homeowners compromised the seismic qualities of their ‘core house’ almost as soon as it was finished by making alterations or adding extensions, so it seems likely that this may not be the case.

6.2 Wider significance of outcomes

Rapid reconstruction

The two case studies analysed as part of this research support Davis’s statement that ‘rapid reconstruction...accelerates full recovery and makes optimal use of local resources, human and material’ and while not covered as part of this study it is possible that it ‘is likely to obtain the most positive and far-reaching results’. Indeed, as with many of his recommendations, Davis appears to have been 30 years before his time. ‘Cash-based’ approaches to humanitarian response have received significant interest in recent years, but are still considered innovative in a sector used to the distribution of ‘sticks and plastic sheets’.

Build back better

As stated by UNDP ‘the period of transition... not only determines whether people attain recovery or rebuild risk’ (2001:1) and this is a critical factor when considering supporting self-built ‘rapid reconstruction’ of permanent housing. Without external support families will naturally re-build what they had before, but their previous living conditions may well have contributed to or even caused the disaster. ‘Rapid reconstruction’ must be matched with adequate training on self-building techniques and regulation to ensure that families do indeed ‘build back better’ and leave themselves less vulnerable to future disasters.
Shelter as a process not a product

Davis’s statement that shelter is a ‘process’ not a ‘product’ was taken up by the Corsellis and Vitale (2005) in their ‘transitional shelter and settlement’ approach as they advocated for the support of families on their journey towards a ‘durable solution’. However, much of the current debate in the shelter sector focuses on the specification and design of transitional shelters (as stockpiled ‘products’) at the expense of permanent reconstruction. With many agencies now unwilling to support permanent reconstruction after negative experiences in the tsunami, rather than the supported journey envisaged by Davis or Shelter Centre, for many, shelter support finishes abruptly at the end of the transitional shelter stage and may leave families more vulnerable than before the disaster.

Minimise displacement

The case studies support Shelter Centre’s principle of minimising displacement of disaster-affected populations (UN, 2008) and that the ‘reintegration of displaced populations’ is a key factor in the recovery process. It appears from the case studies that ‘grouped’ transitional settlement options focus vulnerabilities and vulnerable people into one place, encourage displacement as people are drawn to the locations where assistance is provided, and delay recovery as people become dependent on aid. ‘Dispersed’ options, enable households to choose their own location - maximising their opportunities to capitalise on their own assets and coping strategies to enable recovery.

Transitional shelter for specific groups

Although not covered within this study it is possible that while ‘rapid reconstruction’ may be the most efficient way to support recovery for the majority of an affected population, transitional shelter may be particularly beneficial to displaced populations (enabling them to return home or at least establish some degree of normalcy in a temporary location), vulnerable households (who may need additional support/time to engage in ‘rapid reconstruction’ programmes) or other specific interest groups. This disaggregation of shelter strategies for different groups within the affected population is not common within the shelter sector and would benefit from further research.

Provide holistic support for recovery

The case studies supported Setchell’s statement that ‘shelter improvements and provision can assume a leading role in promoting both household livelihoods and community recovery in disaster-affected areas’ and da Silva’s comment that participation in shelter programmes ‘helps the community re-focus after the disaster, take ownership of the situation and begin to think about their future development’. Shelter assistance best catalysed recovery when it was combined with the restoration of basic services; maximised the positive economic impacts/livelihood opportunities; and gave affected households/communities control over the reconstruction process.
Timing is everything

It appears from the case studies that the timing of shelter assistance is crucial. Not in absolute terms but relative to the implementation of other shelter programmes. As ‘the vast majority of emergency shelters in developing countries are provided by the survivors’ and ‘the spontaneous reconstruction of housing begins extremely rapidly after a disaster, and often during the emergency phase itself’ it is critical to ensure that any external assistance provided meets the needs of the affected population at the specific time when it is provided.

Communicate the shelter strategy adopted

Both cases provided examples of knowledge catalysing early recovery. In Aceh it was the knowledge that there would be a mechanism for securing land tenure and in Yogyakarta it was the knowledge that cash grants would be dispersed to assist households in permanent reconstruction. The speed of decision-making in a post-disaster situation, and risk of raising expectations which may not be met, means that communication of the strategies adopted may not be a high priority for implementing organisations and particularly shelter departments. However, it appears from the case studies analysed that knowledge is an important factor in the recovery of affected populations and should not be overlooked.
6.3 Recommendations

It is important not to over-reach in the conclusions from the analysis of just two case studies; however, findings from this research support those in other publications and indicate that humanitarian actors should:

- **Support cash disbursements for ‘rapid reconstruction’** of permanent housing by families/communities as this is efficient (in terms of speed and cost) and catalyses social and economic recovery (as long as markets can cope or strategic assistance to markets can also be provided).

- Ensure that ‘rapid reconstruction’ is supported by adequate technical assistance, skills training and building regulation to ensure that communities do not re-build the situation which caused the disaster.

- **Minimise displacement** and support ‘dispersed’ (host families, individual transitional shelters) rather than ‘grouped’ transitional settlement options (‘barracks’, collective centres or camps), unless communal living is common.

- **Employ transitional settlement/shelter judiciously** to support specific groups not able to participate in ‘rapid reconstruction’ or the wider shelter assistance programme.

- **Support the recovery of communities holistically**: combine shelter assistance with the restoration of basic services; maximise positive economic impacts/livelihood opportunities; and give affected households/communities control over the reconstruction process.

- **Ensure appropriate timing of shelter assistance** relative to other shelter strategies being adopted and ensure that time and money is not spent designing and implementing an approach which, although it may be implemented quickly, arrives once recovery is already underway.

- **Communicate the shelter strategy adopted** to affected communities so that they can make informed decisions regarding their own recovery process rather than waiting for external assistance to be provided.

6.4 Areas for further research

A significant limitation of this study was the lack of time to undertake first hand research and an important area for further research would be to verify the results of this study through the completion of key informant interviews and/or beneficiary consultation and fieldwork. With both case studies having taken place within the last six years, consultation with beneficiaries would also provide an opportunity to research the longer-term impact of the shelter strategies adopted as there is very little existing literature on this topic.
The research methodology adopted could be applied to additional case studies to provide more comprehensive analysis and recommendations. The addition of a case study on the response to the earthquake in Padang, West Sumatra, in September 2009, would provide significant insights into the latest strategy adopted by the Indonesian government and humanitarian community in the shelter response to disasters in Indonesia. The response to the tsunami had many unique characteristics and the response to the Yogyakarta earthquake was very much shaped in comparison to the Aceh response, so Padang would perhaps provide a more measured case study.

Additional case studies from different countries would also add significant insights, particularly if each could reflect the implementation of a different shelter strategy. One example would be the response to the Pakistan earthquake in October 2005, where the shelter response was through resource centres providing technical assistance to support families in rebuilding their own homes. Other examples could include the Sri Lankan response to the Indian Ocean Tsunami (2004) or Cyclone Sidr in Bangladesh, 2008, examples from developed countries such as Hurricane Katrina in the USA, 2005, or ‘real-time’ research in current disaster-response operations such as Pakistan and Haiti.

Specific themes in the links between shelter and early recovery could also be investigated. Particular questions which have emerged as part of this study include: how does transitional shelter affected the recovery of different groups within the affected population (displaced/vulnerable etc)? How can each of the different transitional settlement options (host families, transitional shelters, camps, collective centres etc) be designed to maximise the recovery of affected communities? And what is the long-term impact on the underlying causes of disasters of the shelter strategy adopted?

Finally, many of the recommendations in section 6.3 have been made in earlier publications, so it seems that perhaps what is needed is not further research but support to individuals and organisations in implementing the recommendations which have already been made. A potential area of further work would be the development of a decision-making tool/framework to support shelter practitioners in balancing the wide variety of requirements from a shelter response and making the best decisions on the ground.


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