Shelter Projects 2015-2016

Published in April 2017 by the International Organization for Migration (IOM), on behalf of the Global Shelter Cluster

Available online from www.shelterprojects.org

Copyright for this book is retained by IFRC, IOM and UNHCR. Reproduction for non-profitable objectives is encouraged.

The copyright for the photographs and images remains with the photographers or entities whose names appear on each picture or in the caption. The Global Shelter Cluster and its members may use the pictures, if appropriately credited.


DISCLAIMER

The maps contained in this publication are for illustrative purposes only and should not be considered authoritative. Whilst every effort has been made to ensure the accuracy and completeness of the content of this booklet, no liability can be accepted for any errors or omissions contained within it.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Global Shelter Cluster concerning the legal status of any country, territory, city or area, or of its authorities, or concerning delimitation of its frontiers or boundaries, or regarding its economic system or degree of development.

Approximate prices are given in US Dollars (USD), based on exchange rates around the time of the project.

Copyright for front cover photo: © Muse Mohammed / IOM.

Copyright for back cover photos:
© Frederic Noy / UNHCR. Democratic Republic of the Congo. Returnees in Northern Kivu;
© Deepesh Das Shresta / UNHCR. Nepal, one year after the earthquake;
© Catianne Tijerina / UNHCR. Ethiopia, refugee children help their families;
© Wan S. Sophonpanich. Nepal, Agricultural fields used as temporary settlements.
Winners of the Shelter Projects Photo Competition for the categories: 1) Shelter as a process; 2) Building Back Safer; 3) Protecting crisis affected populations; and 4) Settlements for displaced populations.
The year 2015 marked the 10th anniversary of the Global Shelter Cluster, the inter-agency coordination mechanism for shelter response. During these ten years, coordination has improved in consistency, shelter responses have grown in scale, and there are more people with experience in shelter programming, but people continue to lose their dwellings and be displaced due to conflict and natural disasters. Global humanitarian shelter needs continue to greatly exceed the capacity and resources to respond.

In recognition of the need for better shelter programming at scale, often with limited resources, Shelter Projects 2015-2016 has been developed as a core product of the Global Shelter Cluster, to help us learn from the past so that we may better respond in the future. It has been developed through a truly collaborative effort of a working group composed of international shelter experts from several humanitarian organizations and institutions.

This is the sixth edition in the series of publications that started in 2008. It contains 31 new shelter case studies and 12 overviews of responses, contributing to a repository of over 200 project examples and response overviews, from programmes of over 50 agencies in around 70 countries overall. As in past editions, the case studies in this book vary greatly in scale, cost, duration and project design. Although they are not statistically representative of all shelter projects, this growing body of knowledge represents a source of learning, includes many years of experience of nearly 400 field practitioners who have contributed, and reflects the highly contextual nature of individual shelter and settlements responses.

The objective of this publication is to share experiences of humanitarian shelter and settlement responses, paying close attention to the strengths, weaknesses and potential lessons that can be extracted from each. We hope that this edition will represent a source of inspiration and reflection, and that it will contribute to having to “reinvent the wheel” a little less.

Previous case studies have been used for several purposes by a diverse audience working in humanitarian shelter and settlements. In reviewing past editions, the primary uses of Shelter Projects were found to be:

- As a reference or set of examples to inform shelter programming or strategy development;
- For advocacy purposes, using precedents in discussions with governments and local stakeholders in affected countries;
- For workshops and training of national staff of several organizations, as well as cluster coordination and technical teams;
- For research purposes, both by academics and students.

Beyond the case studies themselves, the process and inclusion used to develop them are important. Engaging those who implemented projects to draft case studies encourages not only self-reflection and learning, but also helps to ensure that practical and operational challenges are included in the case studies. Engaging agencies and many people in their production and review ensures broader inclusion and investment in their learnings.

By examining the shelter-related needs of populations affected by natural disasters and conflict, compared to the total people reached with shelter and non-food items (NFI) interventions and the funding received by the sector in the past two years, it is clear that there is a gap between the scale of needs and the funding and capacity of the humanitarian community to respond to such needs. Although shelter actors universally recognize that affected people remain the first responders (and should be supported to address their own shelter needs), lack of resources clearly hinders agencies from supporting people to help themselves.

The introduction of this edition of Shelter Projects contains a discussion of the major natural disasters, conflict-induced and complex crises in 2015 and 2016. Although natural disasters continue to affect millions of people worldwide, responses to conflict are assuming a much larger scale, both in terms of displaced individuals and shelter needs for the affected populations, primarily due to the protracted nature of several ongoing crises. These include, but are not limited to, the Syrian crisis, Iraq, Yemen, South Sudan, Lake Chad and Ukraine. The Shelter Sector recognizes the need to be better prepared to respond to such crises, which in some cases have significant, regional, impacts.

The website (www.shelterprojects.org) has been updated with the new case studies and overviews in this edition, and provides an easy way of searching through the large repository of examples and opinions collected since the first edition.

Whether you are reading Shelter Projects as a reference to work on a particular response, to inform better programming, are studying it for research or are merely looking at the pictures, we hope that you find it as informative as we have done in compiling it. However you read it, reflect on how the projects described within it represent an enormous amount of work by many hundreds of humanitarian workers, often working in challenging situations and with crisis-affected people, who find themselves in unexpected circumstances and often in extreme hardship.

The Global Shelter Cluster
Shelter Projects Working Group,
April 2017.
This project was coordinated and overseen by the Shelter Projects 2015-2016 Working Group of the Global Shelter Cluster, including Alice Obrecht (ALNAP), Amelia Rule (CARE International UK), Brenda Rose Daniel (World Vision International), Charles Parrack (Oxford Brookes), Charles Setchell (USAID-OFDA), Eddie Argerial (USAID-OFDA), Jake Zarins (Habitat for Humanity), Jamie Richardson (CRS), Jim Kennedy (Independent), Joseph Ashmore (IOM), Joshua Weber (Habitat for Humanity), Miguel Urquia (UNHCR), Øyvind Nordlie (NRC), Sandra D’Urzo (IFRC), Seki Hirano (CRS), and Tom Newby (CARE International UK).

Compiled and edited by IOM: Alberto Piccioli with additional editorial support from Joseph Ashmore, Kaylee Kosareff and Jessica Mamo. Additional contributions from Crystal Whitaker (UNHCR/IMPACT).

Graphic design and layout: Aurélie Portier and Alberto Piccioli, with further layout support by Jessica Mamo.

Shelter Projects 2015-2016 has been funded by the following contributors:

- European Commission Humanitarian Aid and Civil Protection (ECHO) through the Global Shelter Cluster;
- The Office of U.S. Foreign Disaster Assistance (USAID-OFDA);
- Habitat for Humanity International;
- International Federation of the Red Cross and Red Crescent Societies (IFRC);
- International Organization for Migration (IOM);
- World Vision International (WVI);
- United Nations High Commissioner for Refugees (UNHCR);

The case studies have been provided from the programmes of the following organizations:

- ACTED;
- CARE International;
- Catholic Relief Services (CRS);
- Concern Worldwide;
- Cordaid;
- Danish Refugee Council (DRC);
- German Red Cross (GRC);
- Habitat for Humanity;
- International Committee of the Red Cross (ICRC);
- International Federation of the Red Cross and Red Crescent Societies (IFRC);
- International Organization for Migration (IOM);
- Norwegian Refugee Council (NRC);
- Fundación PROGAD;
- Save the Children;
- Shelterbox;
- United Nations High Commissioner for Refugees (UNHCR);
- United Nations Human Settlements Programme (UN-Habitat);
- World Vision International (WVI).

Case studies from government programmes or full-cluster responses were provided by individuals directly or indirectly involved in the programmes.

The editors would like to express their gratitude to the following individuals, who wrote for or contributed content to this edition:


Photo credits appear over each figure or in the captions.

We would also like to thank those who contributed to previous editions of Shelter Projects; those who made suggestions for case studies that were not included in this edition and the many hundreds of people who have implemented the projects that are contained in this book, but who have not been individually credited.

Our thoughts go to all the humanitarian workers and volunteers who have lost their lives while on duty in the countries covered by this edition and worldwide, and to their families.

This book has been written in recognition of the inestimable amount of work done by crisis affected people themselves, who have been the main shelter responders despite the adversity that they have suffered.

For comments, feedback or questions, please visit the website or contact info@shelterprojects.org.
## CONTENTS

**Foreword**

**Acknowledgements**

**Contents**

**Introduction**

### A / CASE STUDIES AND OVERVIEWS

#### ASIA-PACIFIC

<table>
<thead>
<tr>
<th>Case Study</th>
<th>Country</th>
<th>Year Range</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1</td>
<td>Myanmar</td>
<td>2013-2016</td>
<td>Cluster coordination</td>
</tr>
<tr>
<td>A.2</td>
<td>Myanmar</td>
<td>2014-2016</td>
<td>Conflict</td>
</tr>
<tr>
<td>A.3</td>
<td>Nepal</td>
<td>2015</td>
<td>Earthquake / Overview</td>
</tr>
<tr>
<td>A.4</td>
<td>Nepal</td>
<td>2015</td>
<td>Earthquake / Coordination</td>
</tr>
<tr>
<td>A.5</td>
<td>Nepal</td>
<td>2015</td>
<td>Earthquake</td>
</tr>
<tr>
<td>A.6</td>
<td>Nepal</td>
<td>2015-2016</td>
<td>Earthquake</td>
</tr>
<tr>
<td>A.7</td>
<td>Philippines</td>
<td>2013</td>
<td>Typhoon / Overview</td>
</tr>
<tr>
<td>A.8</td>
<td>Philippines</td>
<td>2013-2017</td>
<td>Typhoon Haiyan</td>
</tr>
<tr>
<td>A.9</td>
<td>Philippines</td>
<td>2014-2015</td>
<td>Typhoon Haiyan</td>
</tr>
<tr>
<td>A.10</td>
<td>Philippines</td>
<td>2013-2015</td>
<td>Typhoon Haiyan</td>
</tr>
<tr>
<td>A.11</td>
<td>Philippines</td>
<td>2013-2015</td>
<td>Typhoon Haiyan</td>
</tr>
<tr>
<td>A.12</td>
<td>Philippines</td>
<td>2013-2015</td>
<td>Typhoon Haiyan</td>
</tr>
<tr>
<td>A.13</td>
<td>Vanuatu</td>
<td>2015</td>
<td>Cyclone Pam / Overview</td>
</tr>
<tr>
<td>A.14</td>
<td>Fiji</td>
<td>2016</td>
<td>Cyclone Winston / Overview</td>
</tr>
</tbody>
</table>

#### AFRICA

<table>
<thead>
<tr>
<th>Case Study</th>
<th>Country</th>
<th>Year Range</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.16</td>
<td>Benin</td>
<td>2010-2011</td>
<td>Floods</td>
</tr>
<tr>
<td>A.17</td>
<td>DR Congo</td>
<td>2008-2016</td>
<td>NFI voucher fairs</td>
</tr>
<tr>
<td>A.18</td>
<td>Nigeria</td>
<td>2015-2016</td>
<td>Conflict</td>
</tr>
<tr>
<td>A.19</td>
<td>Malawi</td>
<td>2015</td>
<td>Floods / Overview</td>
</tr>
<tr>
<td>A.20</td>
<td>Malawi</td>
<td>2015</td>
<td>Floods</td>
</tr>
<tr>
<td>A.21</td>
<td>Malawi</td>
<td>2015-2016</td>
<td>Floods</td>
</tr>
<tr>
<td>A.22</td>
<td>Somalia</td>
<td>2011-2013</td>
<td>Drought and Conflict</td>
</tr>
<tr>
<td>A.23</td>
<td>South Sudan</td>
<td>2013-2016</td>
<td>Overview</td>
</tr>
<tr>
<td>A.24</td>
<td>South Sudan</td>
<td>2014-2016</td>
<td>Complex</td>
</tr>
<tr>
<td>A.25</td>
<td>South Sudan</td>
<td>2014-2016</td>
<td>Complex</td>
</tr>
<tr>
<td>A.26</td>
<td>Ethiopia</td>
<td>2014-2016</td>
<td>South Sudan crisis</td>
</tr>
</tbody>
</table>

#### MENA REGION

<table>
<thead>
<tr>
<th>Case Study</th>
<th>Country</th>
<th>Year Range</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.28</td>
<td>Gaza (Palestine)</td>
<td>2014-2016</td>
<td>Conflict</td>
</tr>
<tr>
<td>A.29</td>
<td>Whole of Syria</td>
<td>Conflict / Overview</td>
<td></td>
</tr>
<tr>
<td>A.30</td>
<td>Syrian Arab Rep.</td>
<td>2015-2016</td>
<td>Conflict</td>
</tr>
<tr>
<td>A.31</td>
<td>Lebanon</td>
<td>2015-2016</td>
<td>Syrian crisis</td>
</tr>
<tr>
<td>A.32</td>
<td>Lebanon</td>
<td>2015-2016</td>
<td>Syrian crisis</td>
</tr>
<tr>
<td>A.33</td>
<td>Iraq</td>
<td>2014-2016</td>
<td>Conflict / Overview</td>
</tr>
<tr>
<td>A.34</td>
<td>Iraq</td>
<td>2015-2016</td>
<td>Conflict</td>
</tr>
<tr>
<td>A.36</td>
<td>Iraq</td>
<td>2015-2016</td>
<td>Conflict</td>
</tr>
<tr>
<td>A.37</td>
<td>Yemen</td>
<td>2015-2016</td>
<td>Conflict / Overview</td>
</tr>
</tbody>
</table>

#### AMERICAS

<table>
<thead>
<tr>
<th>Case Study</th>
<th>Country</th>
<th>Year Range</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.38</td>
<td>Chile</td>
<td>2014-2016</td>
<td>Fire</td>
</tr>
<tr>
<td>A.39</td>
<td>Ecuador</td>
<td>2016</td>
<td>Earthquake / Overview</td>
</tr>
<tr>
<td>A.40</td>
<td>Ecuador</td>
<td>2016</td>
<td>Earthquake</td>
</tr>
</tbody>
</table>

#### EUROPE

<table>
<thead>
<tr>
<th>Case Study</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.41</td>
<td>Europe refugee crisis / 2015-2016 / Overview</td>
</tr>
<tr>
<td>A.42</td>
<td>Germany / 2015-2016 / Refugee crisis</td>
</tr>
<tr>
<td>A.43</td>
<td>Ukraine / 2014-2016 / Conflict / Overview</td>
</tr>
</tbody>
</table>

### B / OPINION PIECES

<table>
<thead>
<tr>
<th>Opinion</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.1</td>
<td>GBV mainstreaming for good shelter programming.</td>
</tr>
<tr>
<td>B.2</td>
<td>Enabling post-disaster shelter recovery</td>
</tr>
<tr>
<td>B.3</td>
<td>Scale, quality, coverage and impact in shelter and settlements projects</td>
</tr>
</tbody>
</table>

### C / ANNEXES

<table>
<thead>
<tr>
<th>Annex</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.1</td>
<td>List of case studies by country</td>
</tr>
<tr>
<td>C.2</td>
<td>Acronyms and conversion tables</td>
</tr>
<tr>
<td>C.3</td>
<td>Further reading</td>
</tr>
</tbody>
</table>
ABOUT THE BOOK

This book contains case studies of the field implementation of humanitarian shelter projects, written by shelter practitioners with specific interests and experience of each of them. As many larger crises have occurred on a regional or international scale in 2015 and 2016, there is also a number of overviews, contextualizing the group of case studies for each of those regional crises. In some cases, overviews give the background and present the national shelter response for a given crisis, within one country. These operational case studies and overviews are all included in Section A.

In Section B, there are three “opinion” pieces on shelter and settlements-related issues, written by individuals with experience in the sector and a specific interest in the subject.

The case studies in this book deal with projects implemented by many different organizations, a full list of which can be found in the acknowledgements section. Some were implemented by governments or a number of agencies under a cluster. In order to allow strengths and weaknesses of projects to be openly shared, the case studies are not directly attributed to individual organizations. As a result of the projects being implemented in diverse and often challenging conditions, they illustrate both good and bad practices. From every case study there are lessons that can be learned, and aspects that may be repeated or avoided. These are highlighted at the end of each case study. The objective of this publication has always been to encourage the learning process and to advocate for following good practices.

WARNING - PROJECTS ARE CONTEXT DRIVEN

Any shelter project should take into consideration the local context and the needs of the affected population, which will differ in each case. Projects should not be directly replicated without proper consideration of the specific context, or there will inevitably be programmatic weaknesses and failures.

CASE STUDY SELECTION

The case studies were selected using the following criteria:

• The project must have been a) wholly completed, or b) solid conclusions could be gained from its implementation by late 2016. Some of the projects in this edition, being in response to protracted crises or during a post-disaster recovery process, are ongoing and/or fall into category (b).

• Given the scale of emergency shelter needs every year, case studies must have had large-scale impacts. Discontinued trials, pilot projects or design concepts were not included.

• The majority of the project must be implemented within the first two years following a natural disaster. For conflict-induced crises, chronic emergencies and return processes, longer time scales are considered.

• Accurate project information is available from staff or individuals involved in the implementation of the project.

• The case studies should illustrate a diversity of approaches to meet shelter and settlements needs. Providing shelter is more than simply designing architecturally impressive structures, and looks beyond the construction of individual houses. In this edition, two case studies deal with the set-up and coordination activities of national and subnational Shelter Clusters.

For this edition, after a pre-selection based on the above criteria, case studies were drafted by contributors on an improved data collection form, which allowed to expand on several points, increase the focus on the context and challenges encountered, and attach supporting documents that were used as evidence. Further, each case study was peer-reviewed by members of the Shelter Projects Working Group. The review enabled an additional level of critical analysis of the strengths and weaknesses of each project, as well as pointed out what learnings to highlight and what aspects to expand on, ultimately increasing the quality of each case study.
GLOBAL DISPLACEMENT

As of the end of 2015, 65.3 million people were forcibly displaced from their homes, with 21.3 million being refugees, 40.8 million internally displaced and 3.2 million asylum seekers. Figure 1 shows that in 2015 the number of people displaced was the highest since over two decades, mainly due to the nature of several protracted crises, particularly those in the Middle East. More than 75% of the total displacement was within 10 countries, as shown in Figure 2.

Over the course of the same year, there were 19.2 million new displacements by natural disasters, less than the average of 25.2 million in the previous decade, but almost twice as much as the number of people displaced by conflict and violence in the same year (8.6 million new displacements).

Over half of the refugees under UNHCR’s mandate in 2015 came from three countries, the Syrian Arab Republic (4.9 million), Afghanistan (2.7 million) and Somalia (1.1 million).

CONFLICTS IN 2015 AND 2016

Yemen, the Whole of Syria and Iraq accounted for more than half of the new displacements in 2015 caused by conflict and violence, followed by Ukraine, Nigeria and the Democratic Republic of the Congo (DR Congo). Given changing access and violence, followed by Ukraine, Nigeria and the Democratic Republic of the Congo (DR Congo). Given changing access and needs in 2015 and 2016, the conflicts in Yemen and Nigeria have required the most significant scaling-up effort of humanitarian activities.

PROTRACTED AND REGIONAL CRISIS

Colombia, DR Congo, Iraq, Sudan and South Sudan accounted for almost 40% of population displacement at the end of 2015, and all have had major displaced populations for over 10 years. Many protracted crises have been at a regional scale. The main examples include the Syrian refugee crisis in the Middle East (see A.29); the South Sudan crisis (see A.23 to A.26); and the Lake Chad crisis (see A.18) in sub-Saharan Africa.

In 2015 and 2016, the protracted crises in the Middle East had a major impact on the influx of refugees into the European area, with arrivals through the “Balkan Route” reaching peaks of 200,000 monthly in Greece in October 2015. Overview A.41 paints the picture of the migration flows towards Europe for those two years and focuses on the shelter response along the Eastern European route. Case study A.42 gives an example of temporary reception facilities set up in Germany at the height of the crisis, to cope with the number of arrivals.

3 IDMC (2016).
5 International Organization for Migration, 2016 (migration.iom.int/Europe). Data collated from national governments, IOM and UNHCR.
NATURAL DISASTERS IN 2015 AND 2016

In 2015, there were 371 reported natural disasters (the highest value in the previous five years), affecting over 108 million people (more than 2013 but less than 2014). However, the numbers of people affected is not the same as those with shelter needs.

In terms of displacement, India, China and Nepal accounted for the highest numbers of internally displaced people caused by natural disasters during 2015 (3.7 million, 3.6 million and 2.6 million respectively), mainly due to two floods and storms, three typhoons and a flood, and two earthquakes respectively. These were followed by the displacement caused by multiple typhoons in the Philippines (2.2 million displaced) and the impacts of Cyclone Komen in Myanmar (1.6 million displaced).

As it has been shown with the Nepal earthquakes in 2015, the high numbers of people affected in the largest disasters in the world continue to represent a source of concern (see A.3-A.7). Figure 3 shows clearly that Asian countries are consistently the worst affected by natural disasters.

Tropical storms in the Pacific are the subject of several reports in this book (see A.14 and A.15), due to their large impacts relative to the total population size, with coastal communities being disproportionately affected. Other natural disasters covered in this edition include the floods in Malawi (ranking seventh in 2015 in terms of affected population after flooding – see A.19-A.21) and the Ecuador earthquake (ranking first in terms of affected population after an earthquake for the year 2016 – see A.39-A.40).

Statistically, floods were the most common type of reported natural disaster in 2015 (154) and 2016 (145). However, droughts affected a much larger population (over 400 million people in 2015 and 2016) than floods (over 46 million people in 2015 and 2016). Storms and earthquakes affected fewer people worldwide but, as the case studies show, the nature of damage to shelter and housing was different and required differing responses.

---

7 IDMC (2016).

---

Figure 3. Total people affected by natural disasters, in millions, from 2007 to 2016 (source: CRED). Asian countries are disproportionately more affected.

Figure 4. This chart shows the cumulative number of households reached with the main modalities of assistance in response to the Nepal earthquakes (Source: Shelter Cluster Nepal). It can be observed how emergency shelter items and NFIs were distributed in significantly larger scale and sooner in the response, while recovery shelter items, training and cash took longer to be implemented, and with lower totals. Notably, cash-based assistance had a peak approximately eight months after the disaster.
MAJOR SHELTER RESPONSES IN 2015-2016

In 2015, the Global Shelter Cluster reported that 18.1 million people had been reached with shelter-NFI assistance, with a total of USD 509 million received by the sector worldwide. The major shelter-NFI responses from the humanitarian community in 2015 were Nepal (see A.3-A.7), the Whole of Syria (see A.29-A.32) and Iraq (see A.33-A.36).

In 2016, 13.1 million people were supported, with a total of USD 478 million received for the shelter-NFI sector, and the major responses continued to be Iraq and the Whole of Syria, followed by South Sudan (see A.23-A.25), Yemen (see A.37) and Nigeria (see A.18), all conflict-affected countries.

Figures 4 to 6 show the shelter / NFI assistance provided over time between different responses. From these analyses we can observe the following:

• Responses to rapid onset natural disasters tend to happen in a span of a few months, with a much steeper curve, and tend to decrease significantly and nearly run out after less than six months (see Fig 5).

• In protracted emergencies, the response increases over time, and the total is reached incrementally, with variations that can happen due to specific crises (see Fig 6).

• In natural disasters responses, there are clearer phases of assistance, and a greater variety of modalities, than it is the case for conflict crises (see Fig 4 and Fig 6).

Visit www.sheltercluster.org. These figures do not include refugee responses.

For the comparison (Fig 5), we used the monthly cumulative data for four different responses in 2015 and 2016. We used cumulative percentages, instead of absolute values, in order to make different datasets comparable, both due to the fact that the responses have different scales and the definition of the modalities of assistance vary between different countries. For Iraq, emergency shelter was defined as: provision of tents and emergency shelter kits / sealing-off kits (distribution of plastic sheeting or seasonal shelter items, either separately or as part of NFI kits, is not included). For the Whole of Syria: provision of tents, emergency shelter kits or individual emergency shelter items (including cash/voucher for these items), rehabilitation of emergency spaces (in-kind, cash/voucher or physical repair). For Nepal and Ecuador emergency shelter figures are obtained using only distributions of tarpaulins and tents.

In response to the Nepal earthquakes in 2015, humanitarian organizations adopted a variety of response modalities, including distribution of CGI sheeting to repair damaged structures, particularly to prepare for the harsh winter season.

PEOPLE REACHED WITH EMERGENCY SHELTER - COMPARISON

NUMBER OF PEOPLE REACHED MONTHLY PER INTERVENTION TYPE IN IRAQ (2015-2016)

NFI: Non-food items
ES: Emergency Shelter
M/L S: Medium / Long-term Shelter

Figure 5. Comparison of emergency shelter cumulative assistance (percentage of the total) for four shelter responses in 2015 and 2016 (as per data reported to the Shelter Clusters in country). The start for natural disasters are set on the month before the crisis on the year of the disaster.

Figure 6. This chart shows the number of people assisted monthly in Iraq, in 2015 and 2016, with the three main modalities of assistance, as defined in the country (Source: Global Shelter Cluster). The chart highlights the different scale of the three modalities and some peaks in assistance, due to specific crises: between October 2015 and February 2016 (due to the Battle of Ramadi), in mid 2016 (due to the Battle of Fallujah) and towards the end of 2016 (due to the Mosul crisis).
Trainings of carpenters were organized on safer construction techniques in Nepal, after the two earthquakes in 2015.

**RECURRING THEMES**

This edition sees several themes emerging from the case studies, including the shift towards non-material forms of assistance (see A.14 and A.15; A.21, A.40), the importance of land and property issues (see A.22, A.36 and A.39), the increasing role of cash-based interventions (see A.2, A.7, A.17 and A.31) and a focus on protracted crises (including the Whole of Syria, South Sudan and Ukraine, amongst others). It also includes a significant amount of case studies where shelter is only one component of multisectoral approaches (see A.31, A.13, A.22 and A.12). We summarize some recurring issues below.

**SHELTER AS A PROCESS**

Shelter is “more than just a roof”, it is not just the structure that protects from the elements, but is the series of activities that a household undertakes to save and construct, adapt and expand a dwelling, as well as the range of continuing actions and livelihoods that people do in and around their home. All of the case studies spend many more words on the process used rather than on the technical details or specific designs, and key learnings generally come from these processes and the wider impacts of the projects.

**DIVERSITY IN RESPONSES**

Shelter programme design varies across countries and types of crisis, with phase of response, or amongst different organizations within the same response. For instance, in this edition there are five case studies from the Philippines (A.9-A.13). Projects varied in duration, cost and scale, ranging from distribution of shelter kits (emergency or recovery) or vouchers for repairs, to construction of transitional shelters or houses, and multiphase, multisectoral, settlement approaches. If we look at protracted emergencies, such as the Syrian crisis with its regional effects (see A.29-A.32 and A.35) and the Iraq conflict (A.33, A.34 and A.36), a wide range of responses also took place. Projects in this region (from both this and past editions) ranged from cash and vouchers for housing repair, to collective centres upgrade, shelter construction or upgrade in camps and camp-like settings. Housing construction was extremely limited, yet some programmes supported rental and hosting arrangements. Some projects provided cash-based assistance, and/or included training components, though less than in post-disaster responses, such as in the Philippines.

**PEOPLE AS FIRST RESPONDERS**

One of the most common conclusions from the case studies is that affected people are the first responders after a disaster, and most projects identify how to support them in finding temporary shelter solutions, or in their self-recovery. There is a difference for what this means for those in protracted displacement, compared to those who are able to rebuild where they have access to land to do so. For example, in the Protection of Civilians sites in South Sudan, where internally displaced people seek refuge from armed conflict, “recovery” will not be possible until more durable options become available (see A.23, A.24 and A.25). Nonetheless, the populations there are not passive recipients of aid.

Often, in case studies described as successful, projects seek to support affected people to meet their own shelter needs. However, there are challenges that can affect the ability of projects to effectively support people to help themselves and limit community engagement. These include limited funding, limited time frames, the urgency of life-threatening situations, the flexibility of donors and issues in relinquishing control, based on concerns over structural safety. Examples of supporting people in making their own decisions are projects that combine cash- or voucher-based modalities with awareness raising and training, as well as technical assistance, to ensure that standards are reached and safety is considered. For instance, projects such as A.11 and A.12 in response to Haiyan, as well as A.5 and A.6 after the Nepal earthquakes, all included delivery of materials or kits, coupled with technical assistance or training, to support affected people in their recovery as early as possible. Projects A.7 and A.13 used cash or vouchers as the main modality of assistance, accompanied by other programme components.

**TARGETING OF ASSISTANCE**

A consistent issue across case studies is the targeting or selection of project beneficiaries. In general, project write-ups place less emphasis on the process for selecting areas of intervention than on detailed beneficiary selection within a site. Although the selection of project locations is often done by people who may not be present when projects are finally written up, they are also often selected under time pressure and with limited information. Case studies where national coordination is highlighted show the importance of assessments and coordination in trying to ensure area coverage and that location-level gaps are met. Within projects, the choice of who to target within a location can be a time-consuming process, but is critical to effective programming, with often limited resources. For example, A.10, A.12, A.22 and A.30 show how an effective selection process requires multiple steps and significant time and resources.

**SCALE VERSUS IMPACT**

Disasters and displacements vary significantly in scale, and as a result so do responses. In many cases, there is simply not sufficient funding or capacity for organizations to provide the support that is needed. Case studies illustrate how shelter agencies often have to make difficult choices between providing higher-impact assistance to a limited number of families, or less support to a larger number. See opinion piece B.3 for a discussion of this issue, drawing from the projects in this edition.
DEFINING SUCCESS

In this edition, we have asked contributors to define the main factors that influenced the success of the project described in the case study. From a total of 31 case studies, nearly 40 different reasons for success were reported by contributors, with two thirds of them cited more than once. By looking at the responses, the most cited factors were “beneficiary satisfaction” (cited in 29% of cases), “community participation” (19%), “timeliness” and “effective coordination” (both at 16%). These were followed by “scale” (16%, with one case reporting the limited – rather than large – scale as the reason for success), “locally relevant” and “precedent setting” (both at 13%).

Notably, certain factors for success are reported only in projects in response to natural disasters (such as “locally relevant” and “use of local resources”), while others only in those in complex or conflict environments (e.g. “precedent setting”, “efficiency” and “expandable / upgradable solutions”).

NOTE ON TERMINOLOGY

There has been a lot of academic and practical debate surrounding terminology used in the shelter sector. Additional confusions have been added by language translation. In particular, issues have been significant in the different definitions used for different phases of assistance. For example, the terms “emergency shelter”, “transitional shelter”, “T-shelter”, “temporary shelter”, “semi-permanent shelter”, and “incremental shelter” have all been used in responses to define both the types of shelters and the processes used.

In this book we use the terms used in-country for each response, and these may vary from country to country. In some cases, flexibility in terminology has helped projects to take place sooner.

INFERPRET AND CONTRIBUTE

In reading this book, or browsing different case studies, it is hoped that readers will be able to draw their own lessons and identify useful techniques and approaches.

Readers are encouraged to share this publication widely, and contribute their own project case studies for future editions. In this way, the humanitarian community can compile good and bad practices, and hopefully implement increasingly effective shelter projects in the future.

Contribute at: www.shelterprojects.org

Contact: info@shelterprojects.org
### INTRODUCTION

<table>
<thead>
<tr>
<th>CASE STUDY</th>
<th>SUPPORT METHODS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Household items</td>
</tr>
<tr>
<td>A.2 / Myanmar / 2014-2016 / Conflict</td>
<td>X</td>
</tr>
<tr>
<td>A.5 / Nepal / 2015 / Earthquake</td>
<td>X</td>
</tr>
<tr>
<td>A.6 / Nepal / 2015 / Earthquake</td>
<td></td>
</tr>
<tr>
<td>A.7 / Nepal / 2015-2016 / Earthquake</td>
<td>X</td>
</tr>
<tr>
<td>A.10 / Philippines / 2014-2015 / Typhoon Haiyan</td>
<td></td>
</tr>
<tr>
<td>A.11 / Philippines / 2013-2015 / Typhoon Haiyan</td>
<td>X</td>
</tr>
<tr>
<td>A.12 / Philippines / 2013-2015 / Typhoon Haiyan</td>
<td>X</td>
</tr>
<tr>
<td>A.13 / Philippines / 2013-2015 / Typhoon Haiyan</td>
<td>X</td>
</tr>
<tr>
<td>A.16 / Benin / 2010-2011 / Floods</td>
<td>X</td>
</tr>
<tr>
<td>A.17 / DR Congo / 2008-2016 / NFI voucher fairs</td>
<td>X</td>
</tr>
<tr>
<td>A.18 / Nigeria / 2015-2016 / Conflict</td>
<td>X</td>
</tr>
<tr>
<td>A.20 / Malawi / 2015 / Floods</td>
<td>X</td>
</tr>
<tr>
<td>A.21 / Malawi / 2015-2016 / Floods</td>
<td>X</td>
</tr>
<tr>
<td>A.24 / South Sudan / 2014-2016 / Conflict/Complex</td>
<td>X</td>
</tr>
<tr>
<td>A.25 / South Sudan / 2014-2016 / Conflict/Complex</td>
<td></td>
</tr>
<tr>
<td>A.26 / Ethiopia / 2014-2016 / South Sudan crisis</td>
<td>X</td>
</tr>
<tr>
<td>A.28 / Gaza / 2014-2016 / Conflict</td>
<td>X</td>
</tr>
<tr>
<td>A.30 / Syrian Arab Republic / 2015-2016 / Conflict</td>
<td>X</td>
</tr>
<tr>
<td>A.31 / Lebanon / 2015-2016 / Syrian crisis</td>
<td>X</td>
</tr>
<tr>
<td>A.32 / Lebanon / 2015-2016 / Syrian crisis</td>
<td>X</td>
</tr>
<tr>
<td>A.34 / Iraq / 2015-2016 / Conflict</td>
<td>X</td>
</tr>
<tr>
<td>A.36 / Iraq / 2015-2016 / Conflict</td>
<td></td>
</tr>
<tr>
<td>A.38 / Chile / 2014-2016 / Fire</td>
<td>X</td>
</tr>
<tr>
<td>A.40 / Ecuador / 2016 / Earthquake</td>
<td>X</td>
</tr>
<tr>
<td>A.42 / Germany / 2015-2016 / Refugee crisis</td>
<td>X</td>
</tr>
</tbody>
</table>
### SHELTER TYPE

- Emergency shelter
- Transitional shelter
- Host family support
- Rental support
- Core housing
- Housing repair / retrofitting
- Other - individual housing
- Other - prefab unit
- Non-displaced / returns
- Displaced self-settled
- Short term land / house / flat
- Unplanned camps
- Collective centres
- Hosting
- Planned and managed camps
- Planned relocation sites
- Resettlements
- Urban neighbourhoods

### SETTLEMENT OPTION

- Non-displaced / returns
- Displaced self-settled
- Short term land / house / flat
- Unplanned camps
- Collective centres
- Hosting
- Planned and managed camps
- Planned relocation sites
- Resettlements
- Urban neighbourhoods

#### CASE STUDY

<table>
<thead>
<tr>
<th>A.2</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.5</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.6</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.7</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.9</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>A.10</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.11</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>A.12</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>A.13</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>A.16</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>A.17</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.18</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.20</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>A.21</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>A.22</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>A.24</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>A.25</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.26</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.27</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.28</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.30</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>A.31</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>A.32</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>A.34</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>A.35</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.36</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.38</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>A.40</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>A.42</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
SECTION A

CASE STUDIES & OVERVIEWS
This section contains overviews and case studies of projects in response to both conflicts and natural disasters, or multiple/complex crises.

See Annex C.1 and visit www.shelterprojects.org for a full list of case studies / overviews from this book and previous editions.
**CASE STUDY**

**MYANMAR 2013-2016 / COORDINATION**

**KEYWORDS:** Coordination, Technical assistance, Advocacy, Training

---

**MYANMAR, multiple crises:**
- **Internal conflict in Kachin/Northern Shan states** (2011-ongoing)
- **Inter-communal violence in Rakhine state** (Jun and Oct 2012)
- **Cyclone Komen floods** (Aug-Dec 2015)

**TOTAL PEOPLE AFFECTED**
- **Rakhine:** 145,000 displaced
- **Kachin/Northern Shan:** 100,000 displaced
- **2015 floods:** 1.7 million displaced
- **150,000 people with moderately or severely damaged houses** (Myanmar Humanitarian Response Plan, 2016).

**PROJECT LOCATIONS**
- Myanmar country-wide, national and subnational level.

**PROJECT OUTPUTS**
- Shelter/NFI/CCCM coordination provided at national and subnational level (2013-2016).

**OUTCOME INDICATORS**
- 100% of IDPs living in temporary shelters complying with internationally recognized standards.
- 100% of IDP camps with appropriate infrastructure supporting effective camp management.

---

**PROJECT SUMMARY**

The Shelter/NFI/CCCM Cluster in Myanmar has provided – and continues to support – coordination of shelter and CCCM agencies at national and subnational level through a decentralized approach, since January 2013. The national level provided overall direction, Information Management support and liaised with national authorities, donors and the Humanitarian Country Team, as well as with the Global Shelter and CCCM Clusters; two subnational clusters were established for operational response. The overall goals were to provide emergency shelter and to seek durable solutions for populations affected by violence and disasters. This case study focuses on the coordination structures and how they evolved over time.

---

**TIMELINE**

- **Jan 2013:** National Shelter/NFI/CCCM Cluster established.
- **Apr 2013:** Rakhine State Government and Cluster Lead Agency agree on shelter design and standards (eight-unit long-houses).
- **Dec 2013:** Completion of 2,843 eight-unit longhouses in Rakhine State (see A.16 in Shelter Projects 2013-2014).
- **Aug 2015:** Deployment of Flood Response Coordination Team.
- **Dec 2015:** Departure of Flood Response Coordination Team and handover to national Cluster.

---

**STRENGTHS**
- Adequate dedicated capacity since cluster activation.
- 48-hour deployment of the Coordinator and continuity for 4 years.
- Inclusive coordination mechanism for all partners.
- Regular engagement with other clusters and sectors, at all levels.
- Sustained advocacy contributed to high government involvement.
- The merged Shelter/NFI/CCCM subnational Cluster facilitated operational partners agreement on common designs and guidance.

---

**WEAKNESSES**
- Over 200,000 individuals continued to be in a protracted displacement situation.
- Delayed Cluster activation in Kachin/Northern Shan.
- Compromised design solutions did not reach minimum standards.
- The protracted crisis has not allowed constructive discussion on possible exit strategy or handover.
- Lack of durable solutions led to a constant and costly cycle of repair and maintenance.
SHELTER PROJECTS 2015 - 2016

CONTEXT

Despite the internationally welcomed transition to democracy in 2011, after decades of isolation, Myanmar remains one of the poorest countries in South-East Asia. The relatively low level of development and wide-spread poverty is often further hampered by heavy monsoon rains and frequent natural disasters (such as typhoons Nargis in 2008\(^1\) and Giri in 2010). Myanmar’s population make-up includes multiple ethnic groups which have long opposed the government’s policy of centralization.

SITUATION IN KACHIN/NORTHERN SHAN

Fighting between the Myanmar governmental army and the Kachin Independence Army (KIA) broke out in June 2011, after a 17 year cease-fire, which led to the displacement of an estimated 100,000 people, as of August 2013\(^2\). In 2016, approximately 50% of IDP camps were located in non-government controlled areas, with limited access to services and international humanitarian assistance.

SITUATION IN RAKHINE STATE

For more information on Rakhine State, see case study A.2.

Inter-communal violence between the Buddhist population and Rohingya Muslims in 2012 resulted in massive destruction of homes and displacement across the state. The main IDP caseload fled urban areas and settled into rural camps around Sittwe, with heavy restrictions on freedom of movement and limited access to services outside the camps.

\(^1\) See case studies A.19-A.20 in Shelter Projects 2010 for projects in response to Typhoon Nargis.


NATIONAL SHELTER CLUSTER

Before the Cluster was activated, the lead agency had been coordinating the shelter and CCCM response in Kachin (since 2011) and in Rakhine (since 2012). Support was requested from the global level Clusters for response coordination, resource mobilization and scale up. In January 2013, the Shelter/NFI/CCCM Cluster was formally activated to respond to large-scale displacement in predominantly camp and camp-like settings across Rakhine and Kachin/Northern Shan states. While merged clusters are not preferred in IDP situations, in the case of Myanmar, Shelter and Camp Coordination partners overlapped to an extent that justified bringing the two sectors together. Local organizations also expressed preference for one common forum.

The Global Shelter Cluster (GSC) deployed an experienced, dedicated, national Coordinator within 48 hours of Cluster activation, to head the newly formed national Cluster team in Yangon. The Cluster aimed to ensure adequate temporary accommodation (according to agreed international standards and government requirements) using eight-unit shelters known as “long-houses”\(^3\).

SUBNATIONAL COORDINATION STRUCTURE

The coordination team had to address two displacement contexts, in two different geographical locations, which called for a decentralized subnational coordination approach. A merged Shelter/NFI/CCCM subnational Cluster was established in Kachin/Northern Shan states to coordinate the response across the 167 camps. Due to the highly volatile situation and the larger caseload in Rakhine, the subnational

\(^3\) This is described in case study A.16 in Shelter Projects 2013-2014.
Cluster in Sittwe town was set up differently – separate Shelter and CCCM/NFI Clusters – both under the coordination of the national Cluster Coordinator in Yangon.

**RESPONSE IN KACHIN/NORTHERN SHAN**

The initial response was carried out by the local community and faith-based organizations through the construction of temporary five-unit shelters in camp-like settings, evolving mainly around church compounds. While having distinct advantages (knowledge of the local context, access to non-governmental areas, extensive networks and positive relation with state and local authorities), the initial response suffered from the organizations' lack of technical and sectoral expertise, as well as limited donor confidence and support. Temporary shelters provided in the early stages of the emergency varied significantly across the 167 camps in terms of covered living area, quality of construction materials used, occupancy criteria and surrounding infrastructure.

By March 2013, there were 85,000 registered IDPs and an additional 35,000 individuals in need of humanitarian assistance. The international community engaged late and access to non-government controlled areas was limited. This caused a lack of basic data to support identification of gaps and inform shelter and camp management response. The Shelter/NFI/CCCM Cluster in Kachin piloted and supported a substantial camp profiling exercise in March 2013, to gather baseline disaggregated data on IDPs. As of September 2016, five rounds of camp profiling have been coordinated by the Cluster and carried out by partners on the ground.

The main challenge for the Cluster subnational team was to establish a formal coordination mechanism and help improving the response, 18 months after its start. The Cluster benefited from a dedicated subnational Coordinator and a shelter technical expert supported by the Cluster lead agency.

The main objective in 2013 was to provide temporary shelters to meet the needs of an additional 10,000 IDPs. This was achieved through consultations with beneficiaries and local shelter actors on culturally appropriate shelter designs and harmonization, and provision of guidance on Build Back Safer techniques. In July 2013, a technical working group (TWiG) agreed on a five-unit shelter design, which has been implemented by all partners since. In July 2016, the TWiG adapted the design to take into account feedback from beneficiaries and partners, availability of local materials, minimum standards and other cultural considerations. Additionally, the Cluster lead agency conducted 12 trainings for approximately 300 Camp Managers, Camp Focal Points and Government actors, across 84 camps.

Additionally, repairs had to be conducted on the shelters built in 2011. This was done through an owner-driven approach (supported by the Cluster), bringing existing shelters up to Sphere standards, to avoid overcrowding and improve privacy and protection. Temporary shelters have a life span of 2-3 years and require shelter actors in the area to engage in a constant and costly cycle of maintenance and repair, until durable solutions become feasible.

**RESPONSE IN RAKHINE**

Immediately after the violence, emergency tents were provided, while the Cluster lead agency provided tarpaulins, rope and tents at the end of 2012. Additionally, after the second wave of violence in October 2012, the government completed 525 temporary shelters and “long-houses” for approximately 29,000 IDPs, across 10 townships. Some of the camps were established in 2012-2013, others were clusters of long-houses built within (or in close proximity to) the IDPs' villages of origin.

In April 2013, the Cluster lead agency joined a high-level delegation to Rakhine, to clarify the maximum capacity of the international community and persuade the Rakhine State Government (RSG) to contribute to the shelter response. The initial design used by the RSG envisaged the construction of 10-unit long-houses, providing a living space of only 2m² per person. The Cluster advocated for the shelters to meet the Sphere indicator of 3.5m² per person and managed to reduce the number of families per shelter from ten to eight. However, with an average of 5.5 family members, IDPs ended up occupying a space of 2.9m² per person. On the basis of this agreement with the RSG, Cluster partners achieved 51% coverage of identified temporary shelter needs in June 2013 and 99% by December.

**Temporary shelters were built in IDP sites for people fleeing violence.**

During 2013 and 2014, a TWiG co-chaired by the Department for Rural Development (DRD) agreed on minimum technical standards and designs for temporary and permanent shelter, and further developed an effective shelter and maintenance programme. The established co-chairing arrangement

---


allowed Cluster partners to develop strong professional relationships with the RSG and improved the previously poor level of coordination between government departments and international organizations. Additionally, constructive government engagement trickled down to the local level.

In 2014, the Shelter Cluster, both in Rakhine and at national level, renewed its advocacy efforts with the RSG to take the lead in addressing the protracted IDP situation through durable solutions. It also offered technical support on design and construction. In 2015, the RSG supported individual housing solutions through cash grants for 25,000 individuals. Attaining durable solutions and advocacy with the government remained key objectives in the 2016-2017 strategy. Since 2013, both subnational Clusters have continuously engaged in preparedness activities, tracking of emergency stocks and local response capacity. Both have also advocated for early recovery and coordinated with relevant clusters and sectors (most notably Protection – to ensure protection mainstreaming – and WASH – to ensure sufficient links between shelter interventions and WASH infrastructure).

SITUATION AFTER THE 2015 FLOODS

In July and August 2015, heavy monsoon rains, combined with the effect of Cyclone Komen on the region, affected nine million people across 12 of the country’s 14 states, causing heavy loss of homes, livelihoods, crops and food stocks. Floods and landslides killed 117 people and temporarily displaced 1.7 million. The Government reported that the highest numbers of affected people were in Ayeyarwady, Sagaing and Magway regions, while Rakhine suffered the highest number of destroyed homes. The Humanitarian Country Team agreed that the response to these floods would be coordinated by the existing Clusters, rather than creating new ones.

FLOOD RESPONSE 2015

Given the extensive reach and impact of the natural disaster, the GSC co-lead agency for natural disasters deployed a coordination team to support the subnational level. The two GSC co-leads agreed that the newly deployed team would coordinate the response outside Rakhine, Kachin and Shan states. The flood shelter coordination team (FSCT) – consisting of two dedicated Coordinators and one information manager – was set up to operate under the strategic guidance of the national Cluster. The FSCT organized shelter partner meetings at the same location and date of the regular national Cluster meeting, allowing agencies to attend both meetings.

The FSCT used and triangulated government data to coordinate the shelter response in seven regions, developed a reporting mechanism and a dedicated webpage. It operated from Yangon, with field trips to affected locations, to assess housing damage, households’ needs and existing gaps in the response. By September 2015, Cluster partners provided emergency shelter to 9,525 households in all regions (outside Rakhine, Kachin and Shan states) through a combination of shelter repair kits, tarpaulins and tents.

WIDER IMPACTS OF THE CLUSTER IN MYANMAR

The clear mandate and geographical separation of responsibilities between the two Cluster lead agencies, as well as the close collaboration with the national Cluster team, ensured that the coordination of this response was successful. An agreement between the two global co-leads existed before the floods, and was further solidified and practically tested through the 2015 collaboration. This allows the timely deployment of coordination teams and development of Standard Operating Procedures (SOPs) and technical guidelines.

7 See case study A.2.


STRENGTHS, WEAKNESSES AND LESSONS LEARNED

STRENGTHS

+ Adequate dedicated capacity since Cluster activation, and benefits from using the lead agency existing capacities.
+ 48-hour deployment of the Shelter/NFI/CCCM Coordinator (and continuity since then). This provided predictability, extensive knowledge on the context and the response, as well as strong personal and professional relations with the wider international community, local partners, authorities and donors.
+ Inclusive coordination mechanism for all partners to engage, consult and disseminate best practices. 21 Cluster partners have been regularly attending meetings.
+ Regular engagement with other clusters and sectors, at all levels (especially Protection, WASH and Early Recovery), as well as donors and relevant stakeholders.
+ Sustained advocacy from the Cluster lead agency and partners contributed to high government involvement in Rakhine State. Many shelters built by the government used Cluster-agreed technical standards and designs.
+ The merged Shelter/NFI/CCCM Cluster in Kachin/Northern Shan managed to bring local operational partners together, agree on a common shelter design and technical guidance, and create links with Protection and WASH.

WEAKNESSES

- More than 200,000 individuals across Rakhine, Kachin and Northern Shan states continue to live in situations of protracted displacement. As of 2016, the Cluster continued its advocacy for durable solutions.
- In Kachin/Northern Shan, the Cluster was activated 18 months after the conflict-related displacement. Delayed activation of clusters may lead local organizations to provide a sectorial response without the necessary technical guidance and coordination.
- The compromised solution reached on the final design and size of the long-houses implemented by the government fell short of the international standard of 3.5m² per person.
- The Cluster has been active for four years, while needs have remained almost the same since 2013, which has not allowed for constructive discussion on possible exit strategies or handover. Clusters are, by definition, time-bound and needs-based coordination mechanisms. Handover of coordination responsibilities, or deactivation where needs cease to exist, should be discussed early on.\(^1\)
- Lack of durable solutions four years into the Cluster response, led to a constant and costly cycle of repair and maintenance. This was due to the decision of the Cluster in 2013 to explicitly focus on the provision of temporary shelters, with a life-span of two years, to avoid contributing to permanent encampment of the affected populations.


LEARNINGS

- Early deployment of Cluster coordination team, adequate staffing of key Cluster roles (Coordinator, Information Manager and Technical Support) and access to the Cluster lead agency’s existing institutional and human resources are essential for setting up a functioning national Cluster.
- Coordination mechanisms should be as close to operational partners and beneficiaries as possible, to allow for adequate data collection, gap analysis, community engagement and operational response, as well as to encourage ownership, adequate exit strategies and sustainability.
- Pre-existing arrangements and close cooperation between Cluster lead agencies at the global level can ensure that coordination mechanisms are not duplicated, information is shared openly and that teams operate within a clear mandate and towards the same strategic objective.
- Coordination teams arriving late in the response should engage partners cautiously and prove the added value of coordination (including humanitarian standards, Build Back Safer approaches, and technical guidelines).
**CASE STUDY**

**MYANMAR 2014-2016 / CONFLICT**

**KEYWORDS:** Individual housing, Cash assistance, Advocacy, Community participation, Protection

<table>
<thead>
<tr>
<th>CRISIS</th>
<th>Inter-communal violence, Rakhine, 2012.</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL PEOPLE AFFECTED</td>
<td>145,000 displaced due to 2012 violence (119,560 as of Nov 2016).</td>
</tr>
<tr>
<td>PROJECT LOCATIONS</td>
<td>Rakhine State, Myanmar (Townships of Mrauk-U, Kyauktaw and Minbya, Rathedaung and Pauktaw).</td>
</tr>
<tr>
<td>BENEFICIARIES</td>
<td>25,000 individuals (approx.).</td>
</tr>
<tr>
<td>PROJECT OUTPUTS</td>
<td>4,737 beneficiary-led houses.</td>
</tr>
<tr>
<td>SHELTER SIZE</td>
<td>Min. 16.7 m² (4.6m x 3.7m basic design).</td>
</tr>
<tr>
<td>SHELTER DENSITY</td>
<td>Min. 3.4 m²/person (average 5 members per family).</td>
</tr>
<tr>
<td>PROJECT COST PER SHELTER</td>
<td>USD 1,000 (Labour cost = USD 160; Materials, Logistics, Transport, etc. = USD 840).</td>
</tr>
<tr>
<td>OCCUPANCY RATE</td>
<td>100% (estimated).</td>
</tr>
</tbody>
</table>

**PROJECT SUMMARY**

This was a beneficiary-led, cash-based, project that allowed families displaced due to inter-communal violence to vacate their temporary shelter and rebuild their houses. The project enabled the construction of 4,737 houses for a marginalized group in a highly volatile environment, where some stakeholders were keen to use a contractor-driven approach. In fact, the more discreet owner-driven methodology, used in this project, proved highly effective.

**STRENGTHS**

- Use of existing local markets.
- Considerable donor interest and support.
- Critical leadership of the government.
- Active participation of community leaders and concerned families.
- Continuity of cluster agency and coordinators over time.
- Affordable and quick implementation.

**WEAKNESSES**

- Some IDPs could not return to their place of origin.
- Landowners were not properly compensated.
- Lack of adequate and timely WASH components in Phase 1.

**TIMELINE**

2. Mar 2015: Rakhine Government begins owner-driven housing construction with own funding (Phase 1).
4. Oct 2015: Rakhine Government, with funding support from Shelter Cluster partners, continued with further individual housing construction (Phase 2).
5. Apr 2016: Handover of Phase 2 completed.

**STRENGTHS**

- Use of existing local markets.
- Considerable donor interest and support.
- Critical leadership of the government.
- Active participation of community leaders and concerned families.
- Continuity of cluster agency and coordinators over time.
- Affordable and quick implementation.

**WEAKNESSES**

- Some IDPs could not return to their place of origin.
- Landowners were not properly compensated.
- Lack of adequate and timely WASH components in Phase 1.

**PROJECT AREAS**

**CONFLICT / VIOLENCE**

<table>
<thead>
<tr>
<th>PHASE 1</th>
<th>PHASE 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEP 2014</td>
<td>OCT 2015</td>
</tr>
<tr>
<td>OCT 2015</td>
<td>JUL 2016</td>
</tr>
<tr>
<td>JAN 2016</td>
<td>APR 2017</td>
</tr>
</tbody>
</table>

**DURING ATTACKS, VILLAGES WERE BURNT (RATHEDAUANG TOWNSHIP, RAKHINE STATE).**

**IN RESPONSE TO THE DISPLACEMENT DUE TO THE VIOLENCE, MAKESHIFT EMERGENCY SHELTERS WERE SET UP (SIN THET MAW, PAUKTAW TOWNSHIP).**

© Myanmar Shelter Cluster

© Myanmar Shelter Cluster

Note: families were free to increase the size or modify the house design according to their needs.
SITUATION BEFORE THE CONFLICT
Rakhine State is the least developed state in Myanmar, characterized by high population density and malnutrition rates, low-income levels, poverty and weak infrastructure. Conditions are worsened by two cyclone seasons, with associated flash flooding and landslides, during the rainy season. There is a long-standing history of discrimination of the Muslim population in Rakhine State, with the two main ethnic groups in conflict with each other: the Rakhine (Buddhist) and those who call themselves “Rohingya” (Muslims), who lack any citizenship and hence are stateless.

SITUATION AFTER THE START OF THE CONFLICT
Inter-community violence in parts of Rakhine State commenced in early June 2012, and flared once more in October 2012, resulting in the deaths of 167 people and injuries to 223 people. 10,100 buildings, including homes, churches and public buildings were damaged or destroyed and approximately 145,000 people were displaced (95% Muslim; 5% Rakhine). This generated two distinct IDP caseloads: those displaced from urban areas and those from rural areas.

In 2015, approximately 25,000 people in rural locations were able to vacate their temporary shelter, assisted through this project. 60% reconstructed in their place of origin and 40% in new locations. This resulted in the number of camps (or camp-like settings) decreasing from 67 to 36. However, at the time of writing, almost 120,000 IDPs still resided in camps.

NATIONAL SHELTER STRATEGY
The goal of the Shelter/NFI/CCCM Cluster in Myanmar was to provide people affected by violence and conflict with safe, dignified and appropriate living conditions, as well as access to essential services, while seeking durable solutions. In early 2015, after 18 months without being able to move beyond temporary solutions, the Cluster (strongly supported by the international community) advocated heavily with the Government of Myanmar, especially the Rakhine State Government (RSG). The aim was to convince the RSG to enact three possible options that supported individual housing solutions, as opposed to camps:

1) Repair and maintenance of existing temporary shelters (eight room long houses) in the IDP camps;

2) Upgrading of existing temporary shelters in the IDP camps;

3) Individual housing solutions for IDP families to return to or near their place of origin or voluntary relocation to new site. This solution was selected and houses implemented in five townships.

LOCATIONS AND BENEFICIARIES
The Shelter/CCCM Cluster and Protection Sector strongly advocated for the RSG to allow crisis-affected people to return to their place of origin or relocate to new sites. This project specifically targeted those who could return or voluntarily relocate. Through numerous field visits and meetings, consultation and research were conducted with communities and authorities, to ensure a deep and wide understanding of the situation. The government selected suitable locations for the project with help from the Cluster lead agency, based primarily on safety and security and well-being of the beneficiaries.

PROJECT IMPLEMENTATION
The concept and planning process started in the last quarter of 2014 and, once the project reached a momentum, advocacy and technical support to the government were scaled up. This beneficiary-led housing project was implemented by the RSG through the General Administration Department (GAD) of each concerned District or Township, village, community leaders (construction committee) and the IDP families themselves. The GAD authorities gave beneficiaries an initial cash lump sum through the community leaders. This ranged from 30% to 50% of a total of USD 1,000, depending on the township, and was intended to purchase construction materials. Skilled workers from the construction committee then helped families construct their houses. When houses were 60% to 80% complete, the GAD authorities gave the remaining amount for the final completion of construction.

This beneficiary-led approach differed significantly from other contractor-built houses that were implemented by the RSG and humanitarian agencies in Rakhine State. The scheme was for the stateless and extremely marginalized Muslims in Rakhine State. Any effort to support them was hugely challenging, not least being permitted to rebuild their houses, so this novel low-key approach proved highly appropriate. One of the striking outputs was the speed that houses were constructed at. Over 3,000 houses were built in a six-month period, i.e. an average of 16 houses per day, seven days a week. Had contractors been used, particularly in many of these remote rural locations, outputs in terms of cost, speed and quality would not have been comparable.

2 For more information on the Shelter Cluster’s mass temporary shelter response in 2013 see case study A.16 in Shelter Projects 2013-2014.

3 More information can be found on the website, www.shelterfficcmmyanmar.org.
The fact that the same agency led the Shelter/CCCM Cluster and the Protection Sector helped to deliver a consistency of messaging and clarity of the aims and objectives to the RSG. Throughout the process, the lead agency sought to consult and update regularly all relevant actors – including potential beneficiaries and all relevant quarters of the international community (at national or subnational level).

In the same year, Myanmar also suffered unseasonal levels of rain, cyclones and landslides. Documents used in the flood response were also beneficial to this programme.

Throughout the project, the Cluster promoted the eight key messages to build back safer, which were translated into Myanmar language and distributed in hard copy.

Protection actors often visited project locations and discussed with the communities and local authorities, to gain a very intimate knowledge of each situation. The initial idea of using an owner-driven construction approach actually came from these discussions with the displaced communities, where they could voice how they wished to address their housing needs.

In addition to implementation challenges, the working environment posed a significant risk. There were security issues, such as attacks on UN and INGO premises and residences in March 2014, which resulted in a mass evacuation from Rakhine State for a number of weeks, plus a highly tense situation between communities. This required a very conflict-sensitive approach. One of the key reactions by the Shelter Cluster was to revert to the original suggestion that beneficiaries would receive a material package rather than cash, to reduce protection concerns. It was feared that the cash assistance to Muslims could be used to pay traffickers to leave Rakhine State through illegal and highly dangerous means. Despite this, the RSG continued favouring cash as a modality, since it allowed Rakhine traders to benefit from Muslims using the cash, which allowed a mutually beneficial economic exchange. This paved the way for a wider acceptance of cash assistance, which risk-adverse actors, including the clusters, were initially less willing to try.

The cash grants were used to purchase the shelter materials, which included timber posts, concrete blocks, wooden planks, bamboos, iron sheets, nails and labour charges (skilled and unskilled). Most of the materials were sourced by the construction committee from local suppliers who were accredited by the Township GAD. This was vital for the displaced to access the required materials, given their limited freedom of movement, as opposed to a contractor-based approach, where contractors would supply all the materials and labour requirements, and would then be paid through progress billing.

For the first time since the 2012 violence, some real progress towards durable shelter solutions was made, while until that point the situation for these displaced families had been totally static. Where the global average for internal displacement stands at around 17 years, thanks to this project 20% of the total IDP population in Myanmar ended their displacement within three years, either by returning home or finding a new, safer, location to live. The number of camps and camp-like settings also reduced significantly.

More widely, this showed that despite the enormously challenging context, progress was possible to find solutions for a highly marginalized population.
STRENGTHS

+ The project relied on existing local markets for all materials needed, which supported local economies and allowed the programme to remain low-key, which was beneficial due to the sensitivity of the context. This was made possible by the local government, who ensured that displaced Muslims had access to purchase materials.

+ The Cluster maintained considerable donor interest and support for this initiative, and was coherent in preventing inappropriate construction in risk areas, after the initial caseload was assisted. While there were some delays, due in part to the rainy season and the transition to being funded by the international community, lack of funds did not inhibit implementation.

+ Critical participation and cooperation of the government at state, district, township and village level with the Shelter Cluster, beneficiaries and crucially potential spoilers of the initiative, which included other ethnic groups who might have resented the assistance to Muslims. The involvement and leadership of the government was crucial, mainly due to their authority, leadership and knowledge of the local situation.

+ Active participation of the community leaders and concerned families in taking responsibility for constructing their own houses, resulting in often swift and high-quality construction, often with far better results than contractor-built houses.

+ Continuity of same lead agency and cluster coordinators for over three years meant highly effective and focused relationships between national and subnational levels.

+ Affordable and quick implementation. The typical individual owner-driven house could be completed in three to four weeks, costing between a half and a third than contractor-built houses.

- Lack of adequate and timely water and sanitation components. The RSG-funded programme did not include WASH facilities, in a state where hygiene and sanitation levels were extremely low. Toilets were subsequently provided, and were included in the internationally funded element of the programme.

WEAKNESSES

- Some IDPs could not return to their place of origin and had to be settled in new locations, due to security and safety concerns.

- Landowners for relocation sites were not properly compensated by the government, which in turn may lead to resentment. The RSG has enormous authority and power to enact policies, regardless of the limited funding.

LEARNINGS

- The risks associated with the intervention were understood and progress was made in this regard. In fact, a backlash against the Muslim communities receiving assistance was feared. 1) It could spark further destruction of newly built houses; and 2) the funds could be used for Muslims to pay traffickers and leave the state by boat, instead of building houses.

- Need for active and continuous advocacy for peaceful co-existence between the different and potentially conflictual communities.

- Tools and approaches used in other responses can be adopted to the benefit of other programmes (see the Build Back Safer messaging taken from the flood response in 2015).

- Proactive coordination with all the various concerned government departments was critical to ensure that the project was properly organized and functioned as planned.

PROPOSED FAMILY SHELTER MATERIALS

<table>
<thead>
<tr>
<th>Materials</th>
<th>Unit</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timber posts: 4’x4”, 14ft and 10ft length</td>
<td>pcs</td>
<td>3+6</td>
</tr>
<tr>
<td>Girders: 5’x2”, 17ft length</td>
<td>pcs</td>
<td>4</td>
</tr>
<tr>
<td>Floor deck beam: 4”x2”, 16ft length</td>
<td>pcs</td>
<td>4</td>
</tr>
<tr>
<td>Floor joist: 3”x2”, 17ft length</td>
<td>pcs</td>
<td>16</td>
</tr>
<tr>
<td>Floor plank: 6”x1”, 30ft length</td>
<td>pcs</td>
<td>30</td>
</tr>
<tr>
<td>Tile Beam and Post Plate: 4”x2”, 16ft and 17ft length</td>
<td>pcs</td>
<td>2+2</td>
</tr>
<tr>
<td>Rafter: 4”x2”, 22ft length</td>
<td>set</td>
<td>5</td>
</tr>
<tr>
<td>Plurin: 3”x2”, 23ft length</td>
<td>pcs</td>
<td>10</td>
</tr>
<tr>
<td>Roof Stud: 3”x2”, 8.5ft length</td>
<td>pcs</td>
<td>16</td>
</tr>
<tr>
<td>Eave Board: 6”x1”</td>
<td>rft</td>
<td>90</td>
</tr>
<tr>
<td>Roof truss, 3”x2”</td>
<td>set</td>
<td>5</td>
</tr>
<tr>
<td>Ridge piece: 5”x2”, 17ft length</td>
<td>pcs</td>
<td>1</td>
</tr>
<tr>
<td>Walling: Beading, 3”x0.5”</td>
<td>rft</td>
<td>23</td>
</tr>
<tr>
<td>Roofing: 30G C.G.I Sheets, 7’x2’-2”</td>
<td>pcs</td>
<td>51</td>
</tr>
<tr>
<td>Ridge Covering: 30G GI plain Sheets, 3’x23’</td>
<td>rft</td>
<td>23</td>
</tr>
<tr>
<td>Wailing: Single Coarse Bamboo Mat</td>
<td>sqft</td>
<td>536</td>
</tr>
<tr>
<td>Wailing: Beading, 3”x0.5”</td>
<td>rft</td>
<td>280</td>
</tr>
<tr>
<td>Door frames and window frames</td>
<td>pcs</td>
<td>2+6</td>
</tr>
<tr>
<td>Mild Steel twisted plates for crossing points of rafters and purlins, of rafters and post plates</td>
<td>pcs</td>
<td>40</td>
</tr>
<tr>
<td>Roof nails</td>
<td>kg</td>
<td>6.5</td>
</tr>
<tr>
<td>Assorted size common wire nails</td>
<td>kg</td>
<td>19.6</td>
</tr>
<tr>
<td>Bolt-nut (5/8”, 5” length) and Tower bolt</td>
<td>pcs</td>
<td>18+20</td>
</tr>
<tr>
<td>Handles, Hinges and Hooks</td>
<td>pcs</td>
<td>18+32+20</td>
</tr>
<tr>
<td>Ready-made Concrete Footing (1.5”x1.5”x2’) with Mild Steel Plate (2’x0.25”x2’*)</td>
<td>pcs</td>
<td>9</td>
</tr>
<tr>
<td>Brick pad for stairs landing in front and back</td>
<td>brick</td>
<td>80</td>
</tr>
<tr>
<td>Sand</td>
<td>cft</td>
<td>0.2</td>
</tr>
<tr>
<td>Stone</td>
<td>cft</td>
<td>0.35</td>
</tr>
<tr>
<td>Cement</td>
<td>bag</td>
<td>3</td>
</tr>
</tbody>
</table>

7 Although this was a cash-based project, the Cluster recommended these materials for a 16’x15’ individual house.
OVERVIEW

NEPAL 2015 / EARTHQUAKE

CRISIS

Nepal earthquakes, 25 April and 12 May 2015

TOTAL HOUSES DAMAGED

604,930 fully damaged
288,856 destroyed

TOTAL PEOPLE AFFECTED

886,456 households affected
649,815 households displaced

HOUSEHOLDS SUPPORTED

Emergency phase: 700,000
Self-recovery phase: 600,000
Winterization: 244,158

RESPONSE OUTPUTS

736,743 tarpaulins
402,070 blankets
484,765 Cash For Shelters
214,392 CGI Sheets Bundles

People inspect their homes, affected by the earthquake, to salvage materials and look for personal belongings.

SUMMARY OF THE RESPONSE

Two major earthquakes struck Nepal in April and May 2015, affecting around 6 million people. The government called for humanitarian assistance and the international community supported the response in the 14 most-affected districts, through three main phases: emergency relief, supporting self-recovery, and winterization. After the initial phase, characterized mainly by in-kind distributions, cash-based assistance became the preferred modality for this response.

Estimate of population directly affected by destroyed houses - 22 May 2015
(Source: Mapaction). Damage varied greatly by location.

Mid-May 2015: Cluster coordination set up at national level.
Late Sep 2015: Blockade imposed by the Government of India.
Dec 2015: Shelter Cluster handover.
SITUATION BEFORE THE DISASTER

Nepal is significantly at risk to natural disasters, in particular climate change, earthquakes and flooding\(^1\). Around 25.2% of its population live below the poverty line\(^2\). High poverty levels, especially in rural areas, have led to significant migration of young men to cities and overseas (44% households have at least one absentee). This has also led to concerns about social and economic vulnerability of women left behind in the remote, hilly and mountain regions of rural Nepal that were most affected by the 2015 earthquakes.

Politically, the country was struggling to meet demands raised by different interest groups in a peace process after a decade-long armed conflict. Political transition and attainment of peace has overshadowed economic development and humanitarian issues. Rapid and unplanned urbanization, migration of youth, frequent street demonstrations and strikes, and lack of law and order have added to the humanitarian challenges. The residual effects of the conflict were still to be solved with rapid change in political, social and economic situation of the country, and affected both the earthquake response and recovery operations.

In a country that has experienced humanitarian responses to both natural disaster and conflict, the Government of Nepal has invested significantly in institutional preparedness and coordination. At the sectoral level, this meant that shelter agencies had a clear government partner and that there was overall government direction and ownership of the response, especially through the Department of Urban Development and Building Construction.

Prior to the 2015 earthquake, Nepal had worked to improve housing regulations, settlement and land rights, as well as promoting safer land usage and building practices through the introduction of land and building acts, codes and professional bodies. Despite this, the vast majority of houses in rural Nepal were non-engineered and self-built.

SITUATION AFTER THE DISASTER

On 25 April 2015, a 7.8 magnitude earthquake struck Nepal, with its epicentre 81km north-west of the capital Kathmandu. This was followed on 12 May by a 7.3 magnitude earthquake that struck the district of Dolakha, leading to further loss of life and building damage, and increasing the humanitarian needs. A total of 8,857 people died, around 6 million people were directly affected.

Given the enormity of the destruction caused by the earthquakes and the threat of the coming Himalayan winter, a major national and international response was mobilized, including the activation of the cluster system. More than 300 organizations registered with the Shelter Cluster and the Nepali Government and private sector organizations. These reacted quickly and at scale, focusing on needs in the 14 priority districts for which the government had requested international assistance, targeting 712,725 houses (or 60% of the total damage to housing stock)\(^3\).

The large-scale destruction of housing resulted from the seismic vulnerability of the predominant housing typology, which consisted of unreinforced masonry, either low strength stone or brick masonry with mud mortar, without seismic-resilient features. Other common building types, such as cement-mortared masonry and reinforced-concrete frame buildings, were somewhat better off but still suffered significantly, due to deficiencies in material, design, detailing and craftsmanship. The traditional housing typologies were built, upgraded and expanded by the households themselves, with limited knowledge of seismic-safe techniques and standards.

Female members were generally doing the majority of the unskilled tasks involving carrying the water, collecting construction materials, mixing the soil for the foundations or other housing components, while men or qualified builders actually managed the construction process. According to the government’s Post Disaster Needs Assessment,


\(^2\) UNDP’s human development index.

\(^3\) For more on the Cluster set-up and coordination structure, see case study A.4.
about 26% of the damaged houses belonged to female-headed households, 41% to Dalits (belonging to the lowest caste) and indigenous communities, and 23% to senior citizens. These groups were found to be disproportionately affected by the earthquakes and were identified as the most vulnerable, due to their low socio-economic status and limited capacity to contribute as workforce to the reconstruction process. Also, by being the larger grouping with limited ownership of land and housing, single women, Dalits and indigenous communities were indicated as more likely to face difficulties in accessing and benefiting from housing reconstruction programmes.

In particular, female-headed households were found more likely to report feeling unprepared for the forthcoming monsoon season, and less likely to have begun repair or reconstruction of their shelters, although they were often financially better off as they received remittances. In Nepal, the world’s second biggest remittance economy, women and elderly are often left alone to look after the children, livestock or crops, while adult men migrate to India or the Middle East to work in construction.

Additionally, subsistence-based households in rural areas were particularly affected, as the disaster happened only a few weeks prior to the start of the rice paddy fields planting season.

**SHELTER RESPONSE**

**A. EMERGENCY AND RELIEF SHELTERING**

The initial phase aimed to respond to the immediate shelter needs of the population with damaged or destroyed houses, located in the affected locations, in each of the following categories: Hard to Reach, Rural, and Peri-Urban/Urban. Emergency sheltering was seen as a first step to progressively contribute to self-recovery and more durable solutions (appropriate to the needs and context) through the provision of key in-kind shelter items, NFIs and/or cash-transfer programmes. Information, Education and Communication material, training and follow-up technical assistance were integral components of this phase and were essential to ensure effective and safe use of shelter materials.

An emphasis in this response was the use of cash payments. While relief agencies and private sector responders often initially focussed on in-kind distribution, the government response involved an initial disbursement of unconditional cash. This was later taken-up more and more by relief agencies, especially as supplementary winterization assistance. Cash was also used as a substitute for in-kind items when the political dispute between Nepal and India resulted in border closures and agencies were unable to obtain fuel for distributions, or to import relief items from India. Cash allowed affected families to choose how best they could start the process of recovery, by buying items they needed most. While some families used these funds to pay medical bills or to write off debts, around 80% of the unconditional emergency cash grants made at the beginning of the response were used to purchase shelter-related items.

In the emergency phase, an estimated 700,000 families received emergency assistance, consisting of cash and/or tarpaulins and non-food items – more than 90% of the households in need of assistance in the 14 priority districts.

**B. SELF-RECOVERY**

The overarching objective of this phase was for agencies to identify response options that supported self-recovery, to reduce disruption and ensure smooth transition for affected populations to rebuild. The process for selecting response options had to consider recipient choice and the unique set of contextual circumstances and conditions. The products and assistance provided for temporary shelter needed to support

---

4 See case study A.5 as an example of the emergency relief phase of the response.
5 See case study A.6 as an example of projects that supported affected people’s self-recovery.
People salvaged personal belongings from destroyed houses.

Houses were repaired also using the materials provided by humanitarian organizations, such as CGI sheets and timber.

a smooth transition to safe permanent reconstruction. Ideally, assistance should be reusable, re-saleable and transferable, upgradable or extendable. Specific interventions included CGI-sheets and toolkits (or their cash equivalents) and training, such as masonry training and community training around key Build-Back-Safer messages. In the self-recovery phase, approximately 600,000 families received corrugated iron sheets or the cash equivalent — again, more than 90% of the households that had been reported as fully damaged.

C. WINTERIZATION
Analysis of the population density above 2,000m, combined with damage data, inducted that there was a "population of concern" of about 200,000 households living above the snowline in temporary shelter. Consequently, a winterization package — and cash equivalent — was developed, focusing on personal insulation and ensuring a "one warm room" approach, by providing an insulated floor, wind-proofing wall and waterproofing roof. Approximately 244,158 households living in temporary shelter above 1,500m received winterization assistance.

CHALLENGES TO THE RESPONSE
Political unrest in southern Nepal broke out in September 2015, following the parliament’s decision to pass a new constitution (foreshadowing wide administrative changes and affecting Indian political influence in Kathmandu). This seriously impeded the humanitarian effort. A resulting blockade starting in late September 2015 and lasting six months led to a critical shortage of fuel and relief supplies, with queues at gas stations reportedly up to 5km long. In addition, the Nepal Parliament’s failure to ratify a bill introducing the National Reconstruction Authority meant that there was no overall agency charged with managing earthquake recovery programmes. Delays in key policy decisions — especially around housing subsidies — further hindered the response.

There were significant logistical challenges in reaching remote and mountainous areas, where access to markets is limited. In these areas, organizations supplied relief items in-kind, like tarpaulins, roofing materials, blankets, clothes and kitchen utensils. However, many switched to emergency cash distributions during the fuel crisis.

In certain high altitude districts like Gorkha, the response was particularly strong. These districts obtained greater attention owing to levels of damage, the numbers of NGOs working there, as well as extraneous reasons, such as the connections with the British Army Gorkha Regiment. However, lower altitude districts and those stuck by the second earthquake received less assistance. Concerns were raised that the unevenness of the early humanitarian response set the course for quicker recovery in some districts than in others.

As in all humanitarian responses, statistics are not always solid and while they can paint broad trends, they may be misleading if taken literally. Relatively high overall statistical percentages of households who received assistance masked the fact that some districts received more assistance than others, while needs in some areas were actually higher than the numbers initially estimated. Agencies on the ground continued to report humanitarian needs and gaps, even in the districts that had received the highest amounts of aid.

FUTURE DIRECTIONS
While the overall humanitarian response to the Nepal earthquakes of 2015 was an effective one, with very high coverage, there are a number of lessons to be drawn.

Firstly, cash-based assistance became a preferred modality later in the response — especially after the border closures — and it became virtually impossible to import or transport relief items in-kind. While cash was better than nothing, it still came with significant limitations for those living in remote rural areas, and there was little overall cash coordination or market analysis done by any of the clusters.

Secondly, Nepal has a vibrant private sector. A mapping exercise conducted by the Shelter Cluster showed that from a handful of organizations surveyed — the private sector had distributed an additional 20% of shelter-related assistance than that already tracked from more traditional humanitarian agencies. There is a clear need for the humanitarian sector to engage more closely with the private sector in Nepal.

Thirdly, pre-existing coordination structures and relationships, developed during the preparedness phase, were crucial in ensuring good links between humanitarian agencies and the government, and it will be important to further invest in these connections for the future.

The case studies that follow focus on the coordination structure adopted in this response (A.4) and by showing some of the response modalities adopted by humanitarian organizations in the emergency and transitional phases (A.5 to A.7).
**CASE STUDY**

**NEPAL 2015 / EARTHQUAKE / COORDINATION**

**KEYWORDS:** Coordination, Emergency shelter, Housing repair, Cash assistance, NFI distribution, Winterization

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL HOUSES DAMAGED</td>
<td>604,930 fully damaged</td>
</tr>
<tr>
<td></td>
<td>288,856 partially damaged</td>
</tr>
<tr>
<td>TOTAL PEOPLE AFFECTED</td>
<td>886,456 affected families</td>
</tr>
<tr>
<td></td>
<td>649,815 displaced Families</td>
</tr>
<tr>
<td>PROJECT LOCATIONS</td>
<td>14 most affected districts: Bhaktapur, Dolakha, Dhading, Gorkha, Kabhrepalanchok, Kathmandu, Lalitpur, Nuwakot, Rasuwa, Makawanpur, Sinduli, Sindhupalchok, Okhaldhunga, Ramechhap.</td>
</tr>
</tbody>
</table>

**PROJECT OUTPUTS** Coordination provided at national and subnational level (14 districts).

**PROJECT SUMMARY**

The Nepal Shelter Cluster Coordination Team organized a system of district-level coordination focal points from operational, cluster partner agencies. These focal points were able to liaise with local authorities, private sector, and implementing partners on issues unique to that geographic area, while communicating and influencing strategic information deriving from policies developed at the national level.

**STRENGTHS**

- Rapid deployment of coordination team (48hr).
- Meaningful participation of local civil society and crisis-affected people.
- Localized coordination, close to implementing actors and responsive to local needs.
- Major impact on the response.

**WEAKNESSES**

- Patchy subnational coordination and uneven distribution of response agencies across districts.
- Subnational coordination could have been established quicker.
- Coordination gaps and high turnover of both cluster and government staff.
- Lack of familiarity about cluster roles and responsibilities amongst some coordinators.
- Challenges in finding partnerships for local organizations to access resources and funding (especially in urban areas).
- Delay in the response in some districts, due to the government-led blanket approach.
- Proliferation of Technical Working Groups, which were sometimes slow to produce outputs and lasted longer than necessary.
THE ROLE OF THE SHELTER CLUSTER IN NEPAL

See overview A.3 for more on the situation pre and post the 2015 earthquakes, and the shelter response.

The Shelter Cluster is a global coordination platform endorsed by the UN General Assembly that works with governments to manage shelter and housing response following disasters. It had existed before in Nepal, having been convened following the 2008 Koshi Floods in the South of Nepal. Key relationships with the government as well as preparedness activities for managing humanitarian response at the national level had been developed since then.

In response to a request for international assistance by the Government of Nepal, the Shelter Cluster was convened in the immediate aftermath of the first earthquake, in April 2015. Its three core roles were: 1) identification of appropriate technical guidance for emergency and early recovery response in the shelter/housing sector; 2) identification of humanitarian needs, gaps and priority communities or areas for assistance; 3) strategy development to guide and inform an effective response. Over 300 organizations worked together to support the timely and effective delivery of humanitarian shelter assistance, including NGOs, INGOs, Civil Society Organizations, UN Agencies, Government Departments, Private Sector, Donors and Diplomatic Missions.

In the context of a political transition, which preoccupied national government decision-making, the challenging geographical conditions across the Himalayas and the growing importance of engaging local actors, the Shelter Cluster adopted an extensive subnational coordination system, at the district level. This case study focuses on what this meant in practice and some of the successes and challenges of localizing coordination in a major natural disaster.

NATIONAL SHELTER STRATEGY

Following the two earthquakes, the government identified 14 priority districts for response, where 80% of the national damage occurred. For this reason, Cluster partners were encouraged to target shelter efforts within these priority districts, which were coordinated via four hubs.

Given the timing of the earthquakes shortly before the start of the monsoon season, the Cluster advocated for the prioritization of response in hard-to-reach areas, which would likely be cut off due to roads and trails conditions, as well as the increased risk of landslides.

COORDINATION STRUCTURE

The aim of the Nepal Shelter Cluster was to decentralize the coordination role to the local level, to ensure that coordination services were more responsive to local needs and local emergency / recovery challenges could be quickly identified and raised at national level. A combination of national NGOs and international agencies took on district coordination roles, with one agency leading each district. These agencies were, in turn, supported by four full-time Hub Coordinators, from a range of international partners with experience in coordinating natural disasters, who oversaw three districts each. This ensured that there was consistent coordination support – focusing on technical standards, needs and gaps, and response prioritization – that immediately addressed local needs. The decentralized coordination system also ensured closer relationships with the implementing arms of the local government, which had a significant role in the response.

District level coordination was also extremely important, owing to multiple layers of government agencies involved in managing the response (the Department of Urban Development and Building Construction, Ministry of Urban Development and the Ministry of Home Affairs were highly influential).

The localization of coordination developed out of emerging practice and lessons learned from past responses (especially the Haiti earthquake, Pakistan floods, South Sudan conflict, and the Philippines Typhoon Haiyan response1). In part, the roles of District and Hub Coordinators also arose from the needs to provide effective coordination across a very wide and geographically challenging area in the Himalayas.

A criticism of past responses has been that coordination can be excessively focused at the national level, where politics, relationships and concerns can be a long way from specific local needs. In line with a key change in development and humanitarian thinking, the Cluster sought to reinforce and promote the role of local actors and civil society organizations (CSOs) in the management of the shelter response, by allocating key districts coordination roles to them. NGOs and CSOs were formal members, or actively involved in, the Cluster’s decision-making structure at district, hub and national level.

At the national level, the government requested a split between the Coordination Support Group (CSG) and the Strategic Advisory Group (SAG). The former had previously met and included representatives from government, donors, UN agencies, NGOs and INGOs. This was intended to be a representative sample of the Shelter Cluster, to provide strategic direction and oversight of the response. In practice, government partners preferred the SAG to consist of the senior Nepali-speaking representatives from key agencies, with whom they had a longer-term relationship. The decision to have a separate CSG more focused on operations occurred six weeks into the response, after multiple earlier meetings of the bigger group, and was intended to make discussions and decision-making more streamlined. Meetings of the CSG were conducted in English (although continued to involve NGOs and CSOs) and recommendations were passed up to the SAG for endorsement.

Involvement of Affected People
Response coordinators were closer to crisis-affected populations and each district took on the complexion of the local response community. As most organizations in some districts were local, or “local international”, meetings were held in Nepal, encouraging the ownership and participation of local actors. Additionally, in predominantly urban districts in the Kathmandu Valley, IDP representative groups and CSOs were key players in district-level clusters. Urban IDP representative groups also participated in the Cluster’s coordination work as formal district coordinators and through membership in the SAG. Crisis-affected people consequently played a direct coordination role at both the local and national levels.

Major Coordination Aspects
The Cluster at both national and district level focused mainly on the following:

- Development of standard, cluster-wide, packages for emergency response and recovery (both in-kind and their cash equivalents);
- Advocacy around winter preparedness, including mapping and identification of priority intervention areas, and a winterization package;
- Analysis of gender and protection issues relating to shelter in Nepal, including the development of beneficiary selection criteria, to target the most vulnerable individuals and households. While this was officially endorsed at national level, local governments at district level often preferred blanket approaches to distribution. A major role of hub and district coordinators was to reach an agreement with local governments around the implementation of the response strategy, without compromising humanitarian values;
- Fundraising and advocacy through the UN Appeals process, as well as directly with donors and diplomatic missions;
- Inter-sectorial coordination supporting links between shelter, WASH, livelihoods, protection, as well as the cash working group. Logistics was an immensely important component, as a political crisis between Nepal and India resulted in border closures and ongoing fuel shortages. Finding the best use of common logistics assets became increasingly important as the response progressed.
- Establishment, support and funding of the Housing Recovery and Reconstruction Platform (HRRP), to take on the longer-term recovery coordination role.

Exit and Handover
Discussions started early on about the appropriate duration of the Shelter Cluster in Nepal. By June 2015, it was agreed by cluster partners, government, SAG and CSG that a separate body would be established to take on coordination and technical guidance needs, focusing on longer-term recovery. In order to support this process, a Recovery Working Group was established (under the Cluster), co-led by the two agencies that would take on the role of longer-term recovery coordination, once the Cluster phased out. The Shelter Cluster was replaced by the HRRP and resources were made available to the two co-lead agencies. The Cluster itself wound down on 31 December 2015, after nine months leading the response, and continued in a much reduced form, focusing on preparedness activities.
STRENGTHS, WEAKNESSES AND LESSONS LEARNED

STRENGTHS OF THIS APPROACH

The Nepal Cluster provided a model for the localization of coordination and set a precedent for participatory and collaborative leadership among cluster members. When it worked well, district and hub-level coordinators supported each other and provided an immediate forum to address needs and gaps, support local government, and provide technical advice to agencies and beneficiary groups in the field. Additionally, more than 20 different organizations took on a formal coordination roles at the local level, meaning that the strength of the cluster was reinforced through participation and ownership at all levels. Strong local coordination services also meant that the national level cluster was in a more powerful position to address needs and advocate at a policy-level through constant information flow and feedback. While the national level was more responsive to the politics of managing a humanitarian response, coordination at hub and district levels was able to address specific needs of implementing partners and work closely with local government and local civil society groups.

This experience reinforced the importance of coordination, especially for large emergencies. While many agencies based themselves out of higher-profile districts, others were responsive to Cluster calls to spread the response more evenly and donors underpinned the Cluster strategy. This sought to target areas that were under-served and adopted a “winter race” approach of targeting higher altitudes and remote locations that would be vulnerable and inaccessible during the coming winter. Additionally, the Cluster developed common technical standards to ensure measurable impact and consistent implementation across the many agencies delivering humanitarian assistance.

The Cluster was able to ensure key partners – the government, the Humanitarian Coordinator and major donors – were provided with a reliable overview of the situation and challenges and were able to provide resources, influence, policy direction and high-level advocacy, based on this information.

LEARNINGS

- Reinforced the importance and effectiveness of inclusive, collaborative cluster leadership in which agencies have clear opportunities to engage meaningfully in decision-making. The cluster functions through the legitimacy and influence of establishing consensus, so when agencies were able to participate and take on significant coordination roles, this became easier. Participation also helped with the identification and adherence to appropriate technical packages of assistance, the development of a common strategy, government endorsement, and donor support.

- The need to provide support and training on the job for agencies and individuals new to the role.

- Engagement of donors is crucial at both the strategic level, as well as in developing cluster coordination structures. Donor involvement in decision-making meant support for localization and additional resources to make this happen.

- Importance of increased engagement with local government. Local coordination ensured a more effective response.

- A major innovation and opportunity was the participation of crisis-affected people and local civil society organizations in the coordination role itself. This was primarily an urban phenomenon (Kathmandu Valley). As the response focused on supporting rural recovery, there were insufficient resources to build on urban participation beyond the immediate emergency period. Providing a greater platform for participation in this case did not necessarily result in greater access to resources. Mutually beneficial partnerships with better-resourced organizations should be a priority for local civil society in future responses.

- At the subnational level, the full cluster set-up was difficult, but partner agencies filled the gap wherever possible and, in some districts, coordinators rotated. As a preparedness effort, it is useful to identify agencies operating in major districts with a longer-term presence as cluster focal points. This can be advocated through the government lead agency.

CHALLENGES ENCOUNTERED

The main challenges were around consistency and availability of coordination staff at the local level. While there were many devoted and talented coordinators, during the overall lifespan of the cluster there were gaps when positions went unfilled, especially in the first months. Further, district focal points were working mainly on their own organizations programmes, meaning that the coordination role sometimes took a distant second place in work priorities. Finally, many coordinators who volunteered were new to the cluster and so greater support and familiarization was required from the national cluster.

Initially, coordination was most effective where there were also inter-sectoral platforms, with offices to support such coordination efforts. However, these were only established in two locations and ended by late September 2015.

Ensuring an evenly spread coordination structure did not necessarily ensure an evenly spread response. Relief agencies flocked to high-damage, high-profile districts (especially Gorkha and Sindhupalchowk, which had been badly hit during the April earthquake). For much of the response, the media continued to refer to the event as the “Gorkha earthquake”. Once settled, relatively few agencies moved operations, despite ongoing advocacy from the cluster that these two districts had been well-served, while significant gaps remained elsewhere. Almost no agencies worked in the highly urbanised Kathmandu Valley, despite the finding of the Post Disaster Needs Assessment that 25% of damage was in urban areas. Finally, while an international emergency was declared for 14 districts, 23 districts were affected in total.

The Cluster addressed some of the challenges by holding frequent “retreats” where all members of the coordination team were brought together to share experiences, challenges, resources and to train local coordinators. The appointment of full-time, devoted, hub coordinators (each with 3 or 4 districts to support) meant that there was additional support for over-worked district coordinators and guidance for those who were new. Donors were encouraged to fund agencies for coordination roles, and embraced the idea in key districts.
KEYWORDS: Emergency shelter, Transitional shelter, NFI distribution, Training, Gender mainstreaming, GBV risk mitigation, Disaster Risk Reduction, Community participation


TOTAL HOUSES DAMAGED 604,930 fully damaged 288,856 partially damaged (National Disaster Report 2015).

TOTAL PEOPLE AFFECTED 886,456 affected families 649,815 displaced Families.

PROJECT LOCATIONS Sindhupalchok, Dhading, Gorkha, Lamjung districts.

BENEFICIARIES 20,000 households (100,000 people).

PROJECT OUTPUTS Shelter, WASH and Livelihoods support to 20,000 households.

SHELTER SIZE Min. 20m² of covered area by using the two bundles of 9' CGI sheets as roofing.

SHELTER DENSITY Min 3.5m².

MATERIALS COST USD 150 per household (including labour, in line with Shelter Cluster recommendations).

PROJECT COST USD 200

PROJECT SUMMARY

The project provided emergency shelter supplies to help earthquake-affected households establish temporary shelters, and/or make urgent repairs to their house, with high-quality and durable materials, before the beginning of the monsoon season. The coordination of shelter and WASH relief distributions, and the integration of a gender sensitive approach to the emergency response, enabled a comprehensive and context sensitive delivery of essential household NFIs, integrated to address challenges for women and girls.

STRENGTHS
- Rapid Gender Analysis, carried out at the onset of the emergency.
- Local partners effectively mobilized the community and sensitized on GBV mitigation.
- The shelter package provided choice to the beneficiaries.
- Linkage between shelter, WASH and gender.
- Priority lines and transport support at distribution points.
- Complaints mechanism and community-based approach.

WEAKNESSES
- Delays in the logistics pipelines meant that some areas were reached too late.
- Staffing shortages, due to poor monitoring process combined with extreme weather conditions.
- Low shelter- and disaster-response capacity of local partners.
- Poor coordination with local authorities led to exclusion of vulnerable people who were not recognized as households.
Rapid Gender Analysis

A Rapid Gender Analysis was carried out, in the aftermath of the earthquake, to provide an overview of the gender relations in Nepal before the event and how the crisis had affected those dynamics. The background secondary information was integrated with primary data, which was gathered by the field assessment team through key informant interviews and separate focus group discussions. These were led by male and female staff, and helped develop initial recommendations for gender-sensitive responses for all sectors. The team conducted the assessment in communities that were residing in some of the areas where the local partner was established prior to the earthquake, in order to better compare pre- and post-disaster information on gender roles and cultural norms. The feedback received by the different community groups led to significant improvements in terms of safety and appropriateness of project designs, as well as including protection and gender mainstreaming for the implementation of distribution activities and post distribution monitoring.

Gender considerations:

Due to the extensive labour migration, there was a high percentage of female-headed households in the affected region (25.7%). Additionally, the practice of isolating menstruating or post-partum women for 5-6 days per month is still common in the far and mid-Western regions of Nepal. This was an additional psychological stress for women and girls, having to also face the impact of the earthquake and the lack of adequate hygiene and sanitary items. Almost half of the population gets married between the ages of 14-19 and girls leave home to live with in-laws after marriage. In some areas, marriage occurs as early as age 10. Considering the practice of early marriage, shelter programmes had to be aware of the number of child-headed households in the affected communities. Widows often face exclusion and persecution, as they are blamed for their husband’s deaths, ostracized and seen as a burden on their family – particularly in rural areas. With the high death toll caused by the earthquake, their vulnerability had increased.

Situation After the Disaster

See overview A.3 for more background information.

Main Project Components

- Capacity-building, through training local partner staff on shelter, emergency distributions, gender and gender-based violence (GBV) awareness and referral;
- Shelter and household NFI distributions, based on a government-led blanket approach for the first distribution, but prioritizing the most vulnerable groups and then providing them additional support in the second phase of distributions (households with a completely destroyed house, female-headed and elderly-headed households, people living with disabilities, socially and economically poor families);
- Key messaging and community awareness raising to promote more resilient shelter, GBV risk mitigation and prevention, and protection (including Housing, Land and Property rights).
TARGET AREAS AND BENEFICIARY SELECTION

The project targeted four of the most affected districts prioritized by the government. The organization signed agreements with the government to be able to respond to the emergency, and with the District Disaster Response Committee upon agreement of target groups and locations. Through meeting with the appointed disaster coordination officials, the shelter and local partner staff collaborated with the local authorities to obtain the existing beneficiaries lists and prioritize the most affected areas and, among those, the most vulnerable groups and individuals. These lists were then verified through community mobilizers.

PROJECT IMPLEMENTATION

The project was implemented by shelter technical teams and the local partner’s technical team and social mobilizers, supported by one logistics officer, one distribution officer and a GBV and protection officer.

In order to ensure safety and security, accessibility and appropriateness of distribution activities, the field teams coordinated with district authorities, village leaders and community volunteers, to establish the following at each distribution point:

- **Access for vehicles**, for transportation of goods (close to large roads, but not on the road, so as not to interfere with traffic or pedestrians);
- **Site enclosure**, with different designated areas, so as to facilitate crowd control and create space for arriving beneficiaries;
- **Access to basic facilities** (water and sanitation facilities, covered area, first aid, etc.);
- **Proximity to the village** to reduce the travel time for the beneficiaries;
- **Distance from unsafe locations** for women and girls (e.g. hidden and narrow forest paths).

Female staff members in particular mentioned that female-headed households would have little time left after their domestic chores and child care to reach the distribution points, and other groups would not be able to wait for a long time in line. **A priority line was therefore set up** for the elderly, pregnant and lactating women and people with disabilities, to reduce waiting times and avoid any potential tensions or violence while waiting.

People with limited mobility or capacity to carry weights were provided with **extra support to carry the items home** from the distribution point. This was done either by providing wheel barrows to be shared among groups of households, by employing paid porters, or through help from village volunteers.

Distribution sites were set up in such a way to maximize crowd control, for example by organizing distributions at different time intervals, to avoid long waiting times; or by controlling the flow of people through different steps of the process.

Legend:
1. Awareness sessions;
2. Queuing (priority lines for most vulnerable individuals);
3. Entry point to the distribution area;
4. Verification desk;
5. Help desk;
6. First station of the distribution;
7-8. Second and third stations;
9. Exit point;
10. Transportation services, including support for those in need;
11. Complaints mechanism.

Pictorial diagram showing the distribution process.
COMMUNITY ENGAGEMENT

Affected people were engaged throughout the programme. The information gathered from rapid needs assessments and the “gender in brief” report enabled the inclusion of the most culturally appropriate items in the relief kits (NFIs and dignity kits in particular). The community leaders were consulted to verify the lists of beneficiaries received for each village from the government authorities, and any cases of beneficiaries being left out were identified and addressed (e.g. split households, extended households, numerous families, etc.). This included a number of single women or female-headed households, who were not recognized as separate from the former husband’s family and were therefore cut out from the assistance.

Pre-distribution sessions were held, to register beneficiaries and provide orientation on the materials to be distributed and their appropriate use, as well as to assess security and accessibility issues for the distribution site and its surroundings. Due to the large-scale landslides occurring as a consequence of the heavy monsoon rains, major transport routes were affected, making it often impossible to reach the affected villages. In those cases, the beneficiary households were consulted in focus group discussions, directly through the volunteers working with the local partner organization and living in the villages. The results were then relayed back to the sub-office.

Complaints mechanisms were put in place, including a hotline, complaints boxes, and an assistance desk, during and after distributions, to allow beneficiaries to voice their concerns individually and confidentially. Post-distribution monitoring was also carried out, through door-to-door surveys and gender-segregated group discussions.

MAIN CHALLENGES

The geography of the affected areas and the imminent rainy season posed a complex challenge to the project. Due to the remoteness of most of the affected areas and the unpredictability of weather conditions, the emergency team focused on identifying the most suitable locations and times for the distributions, according to beneficiaries’ availability, in relation to livelihood practices and especially for women and girls; assessing transportation needs and accessibility routes; and whether it was relevant to set up a forward warehouse (in the higher areas) or storage in the affected villages.

National and local agreements on the contents and targeting of shelter emergency distributions also caused problems. For example, lower-quality CGI sheets were easier for people to transport, as they could be rolled, although it meant that they would not meet the standards set by the Shelter Cluster at national level. Transport challenges were especially relevant to women and girls, who were often sent to the distribution points to collect the relief items, which were heavy and cumbersome. The size of separate distribution packages were thus organized to be easier to transport, and female staff (trained in gender in emergencies) were present at all distributions.

The Nepali communities and local authorities were concerned that all distributions should be blanket coverage – in contradiction to the approach of many INGOs to support the most vulnerable. Humanitarian agencies agreed that first distributions would follow an equitable approach, while secondary distributions would focus on alleviating the risks for the most vulnerable, through a more targeted and equality-driven approach. Despite this blanket approach however, existing social norms concerning women, caste, and age based inequalities still made certain groups invisible or excluded from the recovery and reconstruction activities. There was evidence that single women (unmarried, separated or widowed) were not recognized by the village committees as eligible to receive the Earthquake Victim Card, and therefore were excluded from relief cash grants and items distributions. This created tensions between extended households and, to some extent, exposed women to GBV from male members of the extended family. The organization mediated with the district authorities for the integration of the women who had been overlooked, so that they could receive the relief items.

WIDER IMPACTS OF THE PROJECT

The organization developed a construction training component and awareness raising sessions for both women and men, in an effort to promote gender equality and women’s empowerment. This was integrated into the longer-term recovery strategy, so as to enable the largest number of female-headed households to be involved in building and construction supervision activities, during the owner-driven reconstruction process initiated by the government.

1 Available at http://bit.ly/2iftT0c.
STRENGTHS

+ The Rapid Gender Analysis – carried out at the onset of the emergency – helped understanding gender relations and traditional practices that make women and girls subjects of discrimination. This was used to take account of gender sensitive considerations and include a GBV mitigation strategy in relief distributions.

+ The local NGO partners effectively mobilized information volunteers in each village, for better community mobilization and GBV mitigation, prevention and sensitization, as well as providing support in implementation and monitoring of relief distributions in remote locations. Gender and GBV trainings were delivered to the organization’s technical staff, the local partner staff and the community volunteers.

+ The standard shelter package provided a choice for households to rebuild according to their needs and capacities, and did not impose a single shelter design or option. Most of the households combined salvaged and new materials to build larger or multiple shelters.

+ WASH and shelter distributions were coordinated, enabling more efficient monitoring and community mobilization activities for the local partner. The linkage between shelter, WASH and gender interventions enabled the distribution of combined emergency kits, comprising both shelter-related NFIs and hygiene/dignity kits, including items particularly needed by women and girls.

+ The most vulnerable groups had a priority line and a “safe passage” at distributions, and those with limited mobility, or feeling more vulnerable for carrying valuable items, were assisted to do so.

+ The complaints mechanisms (suggestion boxes and a complaints mobile number to receive calls and texts) and the community-based approach helped address inequalities in the assistance, by allowing beneficiaries to individually voice concerns and provide feedback directly to field teams.

WEAKNESSES

- The switch from tarpaulin to CGI distributions caused delays in the logistics pipelines, due to limited local supplies and increased taxes on importation. As a result, some areas were reached too late to meet the immediate shelter needs. This led to a large number of households to build their emergency shelter with salvaged materials, and then use the additional shelter materials for secondary purposes (e.g. cattle sheds, food/grain storages).

- The construction monitoring process was not as robust as it could have been, due to the remoteness of the assisted areas, contributing to shelter staffing shortage at any given time, as staff was so dispersed. Due to the monsoon season and subsequent landslides and road blockages, technical staff were unable to visit project areas as often as planned, to assess whether shelter materials were used properly.

- The local partners had a very good knowledge of the communities, the culture and the needs of the population, but most of them had low capacity in terms of shelter programming and little or no experience of major disaster responses. Shelter training and capacity-building at the beginning of the project would have been beneficial.

- Poor coordination with village leaders and district authorities to identify gaps and duplication in the provision of assistance. Despite best efforts, some vulnerable people were excluded from distributions.

<table>
<thead>
<tr>
<th>Materials in the Shelter kit</th>
<th>Qty</th>
<th>Cost (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrugated Galvanized Iron (CGI) sheets, bundle of 9 sheets</td>
<td>2</td>
<td>118</td>
</tr>
<tr>
<td>Shelter toolkit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 x Handsaw, for timber, 555mm, wooden handle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5kg roofing nails, galvanized with rubber washer, umbrella type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 x Shovel, round point with Y handle</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>1 x Hoe, with long handle, large type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 x Machete, wooden handle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 x Shears, straight, for metal sheet, semi-hard, 250mm</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Shelter fixing kit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 pair of gloves, 1x 25m aluminium wire</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>0.5 kg timber nails, 75mm</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>0.5 kg timber nails, 40mm</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>1x Tie Wire, galvanized, diam. 1.5mm, 25m, roll</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>1x Rope, polypropylene, black, 12mm diam., twisted, bundle 30m</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Materials in the NFI kit</th>
<th>Qty</th>
<th>Cost (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kitchen set</td>
<td>1</td>
<td>38</td>
</tr>
<tr>
<td>Mattress (synthetic chatai) size 4x6 feet</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Woollen Blanket, woven, 65% wool, 1.5x2.25m, 2kg</td>
<td>5</td>
<td>8</td>
</tr>
</tbody>
</table>

LEARNINGS

- The Rapid Gender Analysis could have been more regularly updated and supplemented with information from field assessments, focus group discussions and key informant interviews, to better capture the rapidly changing context.

- A stronger collaboration with the local authorities on beneficiary cross check and prioritization of vulnerable groups would have ensured a more efficient registration and distribution process for the most vulnerable cases, in particular to avoid minority groups (certain castes, single women and the elderly) being side lined. This was taken into account and addressed during the following recovery and reconstruction process.

- Information on the specific shelter needs and preferences of women and girls, in terms of safety and privacy, should have been incorporated into the recommendations of the rapid gender analysis. This would have better informed the emergency shelter distributions and key messaging, including tips on safe space arrangements (e.g. partitioning, lighting) for acceptable privacy, safety and security of all household members.

- Community consultations during needs assessment are key to receive primary information on the specific needs of the affected households, and make sure that all groups (including marginalized individuals, women and girls) have the possibility to raise their concerns and preferences over the design of shelters.
NEPAL 2015 / EARTHQUAKE

KEYWORDS: Transitional shelter, Distribution, Community participation, Coordination, Training, Disaster Risk Reduction

CRISIS

TOTAL HOUSES DAMAGED
604,930 fully damaged
288,856 partially damaged
(National Disaster Report 2015).

TOTAL PEOPLE AFFECTED
886,456 affected families
649,815 displaced families

PROJECT LOCATIONS
Sindhupalchok, Gorkha, Dhading, Lalitpur, Nuwakot, Kabhrepalanchok districts.

BENEFICIARIES
5,065 households, including 350 people with disabilities, 1,000 single female-headed households and 100 single elderly individuals.

PROJECT OUTPUTS
5,065 Transitional Shelter Kits distributed.

SHELTER SIZE
16.7m² (according to sample design).

SHELTER DENSITY
3.4m² per person (based on average household size of 4.88, from 2011 census).

MATERIALS COST
Approx. USD 200 per household (NPR 21,484), including labour, and transport.

PROJECT COST
USD 250 per household (estimated).

OUTCOME INDICATOR
93% of households used the kits to build temporary shelters within the first month of distribution.

PROJECT SUMMARY
The project targeted more than 5,000 families – whose houses had been damaged or destroyed – with the distribution of transitional shelter kits to make basic repairs, or build a temporary shelter. Training was provided to demonstrate the design of a suitable shelter that could be constructed with the supplied materials. In so doing, the project aimed at facilitating the early start of people’s self-recovery.

STRENGTHS
+ High community participation.
+ Rapid project implementation and at scale.
+ The coordination with local government and like-minded organizations leveraged resources.
+ Production and distribution of instruction manuals on various options for temporary shelters.

WEAKNESSES
- The earthquake directly affected the organizations’ local staff.
- Lack of clearly defined internal procurement procedures.
- Medium-term disaster response staff shortages.
- The assistance provided focused too heavily on a set design.
SITUATION AFTER THE DISASTER

See overview A.3 for more information on the background and the national shelter response.

After the earthquake, many families were sleeping in open areas without adequate cover, suffering cold night-time conditions and rain. The monsoon season (mid-June to early September) further exacerbated the existing shelter situation for thousands of families whose homes were damaged or destroyed. The monsoon arrived a few weeks after the second earthquake and people had to rely on emergency shelters, built with salvaged materials, plastics and tarpaulins, to withstand the heavy rains. Apart from shelter, people also needed a place to store their materials, crops, agricultural products and cattle. The need for early recovery solutions – that could protect families and assets – was high.

ASSESSMENTS AND PRE-DISTRIBUTION PLANNING

The organization deployed its experienced disaster response personnel to Nepal within 48 hours of the disaster, to support the Nepal office in resuming office functions, as well as initiating disaster response activities. Rapid assessments were conducted in collaboration with the Shelter Cluster and governmental agencies (at national and local levels), to determine the appropriate shelter interventions and identify areas most in need of support.

For the distribution of the Transitional Shelter Kits, the project targeted six of Nepal's most severely affected districts. The beneficiary selection process focused on both a blanket approach for entire communities devastated by the earthquake (85% households affected), as well as targeting of specific vulnerabilities, using the following criteria: disability, single female-headed families, those who suffered casualties during the earthquake and low-income families. Kits were also distributed through the Nepal Blind Association and the National Handicapped Association, in various earthquake-affected districts.

Beneficiary selection was completed in consultation with local government officials, and lists were verified by community leaders and local partners on the ground. Staff conducted field visits, direct observations and interviews to avoid duplication.

Simultaneously, the organization did internal planning and preparations for budgeting, procurement, warehousing, transportation, other logistics preparedness and detailed distribution planning. In the early stages of the response, regional and global experts were brought in to guide the technical specifications of the kit. Several similarities emerged with the response to the Pakistan earthquake in 2005, prompting to adopt a similar shelter design. The Pakistani response was similar in context, with the mountainous area, supply chain challenges, and frigid winter temperatures. The design was adjusted to incorporate locally available materials.

DISTRIBUTION PHASE

The organization mobilized five staff (one international and four nationals) and eight trained volunteers, to distribute the kits, as well as to provide orientation and training to the community, on how to use these items to prepare temporary shelters using a Build Back Safer approach, suggesting to use a recommended semi-circular design or the beneficiary's own preferred one. Based on need, other staff was chosen to support functions such as procurement, warehousing, transportation, communications and post-distribution monitoring.

Volunteers from local communities were actively involved in beneficiary registration, distribution and transportation of the materials at the household level, assisting families who could not transport the materials. The project was implemented with local partners, enabling a higher number of vulnerable families to be served, in a shorter period.

EXISTING PARTNERSHIPS AND COMMUNITY PARTICIPATION

The relationships developed in almost two decades operating in the country were a fundamental strength in mobilizing resources after the disaster. For example, pre-established women’s groups supported distributions, whilst engineering students (engaged before the disaster) became key informants to develop culturally appropriate shelter solutions.

Community participation was encouraged throughout the project cycle, with beneficiaries being active in identification, selection and verification processes, communication channels related to distribution information, crowd management during distributions, trainings on shelter set-up, transport of the kits from distribution sites, as well as post-distribution monitoring and feedback. More than 1,000 community volunteers were mobilized, significantly supporting an increase in social ties and motivation for self-recovery.

POST-DISTRIBUTION MONITORING

An independent team (seven trained M&E staff and volunteers) was deployed to conduct Post-Distribution Monitoring (PDM), to determine how the distributed shelter materials were used, their relevance and effectiveness. Within weeks of the first distributions, the PDM team carried out field visits to eight different distribution areas and interviewed more than 329 households using a mobile app.

The results showed that 93% of households used the materials for constructing temporary shelters, within the first month of the distribution. Among them, 63% followed their own design, normally including the use of salvaged materials, whilst 30% used the design suggested by the organization. For non-displaced populations, transitional shelters provided a basic starter home, to be upgraded, expanded to permanent shelters or replaced, over time and as resources allowed. Finally, only 7% did not construct any shelters within a few weeks, as they had other key priorities, including food, livelihoods and agriculture, as the project started during the harvesting season (June-July). In addition, some female-headed households were waiting for additional help from their relatives and local volunteers, in order to construct the shelter.
The PDM team also set up a beneficiary communication and feedback mechanism, and the organization established a quality-assurance monitoring system, to support real-time adjustments of the materials being procured. This process was managed by senior disaster-response staff and logistics personnel, through random inspections. An additional level of oversight was obtained through field visits and community meetings, which were facilitated by senior staff. The organization likewise supported the monitoring of all local partners involved in the distribution.

MATERIALS SUPPLY AND LOGISTICS

All materials were procured nationally, following competitive bidding processes. The first lots of items were delivered within the stipulated timeframe, allowing the distribution to start within the fourth week after the disaster. This local procurement was efficient, contributed to the local economy and kept the costs low, while adhering to quality criteria as per Cluster specifications. However, the procurement of the second lot of CGI sheets took longer than expected, as the demand increased drastically two months after the disaster. Considering the distribution plan, the logistics and procurement staff decided to temporarily warehouse all the kits at central locations in Kathmandu, then dispatch them to distribution points in targeted districts, following recommendations by the distribution team. The staging and distribution points were decided in consultation with representatives of affected communities and local authorities, who carried out logistical surveys of targeted distribution points. However, there were not enough suppliers that could provide the required specifications and stocks. Consultations were carried out with likeminded organizations and experienced team members from the regional office, regarding market surveys and different procurement processes.

TECHNICAL ASSISTANCE AND DRR

The organization provided two main types of technical support. Firstly, by disseminating Disaster Risk Reduction and Build Back Safer key messages during pre-distribution orientations. Secondly, by providing direct technical construction support. Local engineers were trained on how to construct the temporary shelter units according to the design, and took on a training role during the installation of the kits. This methodology included building a demonstration unit prior to distribution. The beneficiaries were also informed about the different design options that could be utilized, and a low-literacy instructional guide was distributed during the demonstration.

The communities were also encouraged to listen to government’s radio and other public service announcements, that broadcasted the 10 key messages developed by the Shelter Cluster.

MAIN CHALLENGES ENCOUNTERED

GEOGRAPHIC AND WEATHER CHALLENGES

During the monsoon season, several landslides occurred due to the cracks made by the earthquakes. Further, floods in the seasonal and perennial rivers, due to the heavy rains, made roads impassable. In view of this, the organization mobilized highly trained and committed staff to the distribution sites and extra precautionary measures were taken for safety and logistics within each local context. The teams stayed in the remote villages for the duration of the distributions.

LACK OF INFRASTRUCTURE

In certain distribution sites, damaged electricity and mobile networks created challenges in communication. As such, the team had to carry additional equipment and communication tools, including power banks for charging mobile phones. The organization also coordinated with local authorities and partners, to ensure emergency communications.

During implementation, there were protests and strikes due to disagreements on the newly issued constitution. This hampered distribution planning, as in certain areas there were road blockages. The organization had to proactively coordinate with all stakeholders, including government and communities, to overcome this challenge.

CONTINUOUS AFTERSHOCKS

Strong aftershocks were felt for a long period, even during the distributions. In view of this, all volunteers and staff were orientated on safety and personal preparedness measures.

WIDER IMPACTS OF THE PROJECT

Apart from providing an immediate repair, the temporary shelters also became a stepping-stone for families to transition to permanent housing solutions. The types of housing construction that were hardest hit by the earthquakes – those constructed out of mud, stone and timber – were also those where salvaged materials could be used, in conjunction with the Transitional Shelter Kits, to rebuild.

Additionally, the design adopted in this response, adjusted from the experience in Pakistan, proved to be extremely effective in Nepal. Through coordination, this solution eventually inspired a standard supported by the Cluster and adopted by numerous other organizations.
STRENGTHS, WEAKNESSES AND LESSONS LEARNED

STRENGTHS

- **High community participation.** More than 1,000 community volunteers were mobilized for the distribution of the kits. Partner organizations, local youth clubs, social mobilizers and community leaders partook in the distributions.

- **Project implemented rapidly and at scale,** particularly for the first batch of kits, which were distributed in less than three months after the first earthquake.

- **Coordination with local government and like-minded organizations leveraged resources,** avoiding duplications and strengthening networks, therefore creating opportunities for longer-term recovery efforts.

- **Produced and distributed 5,000 instruction manuals on various options for temporary shelters** to affected communities. Furthermore, families were provided with technical assistance for temporary shelters, through orientations on various construction techniques and safe reuse of materials.

<table>
<thead>
<tr>
<th>Materials</th>
<th>Units</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGI sheets 0.35mm thick, 12ft long</td>
<td>pcs</td>
<td>10</td>
</tr>
<tr>
<td>Steel reinforcing rod (re-bar) 12mm diameter, 24ft long</td>
<td>pcs</td>
<td>4</td>
</tr>
<tr>
<td>Steel pipe, 15mm diameter, 20ft long</td>
<td>pcs</td>
<td>8</td>
</tr>
<tr>
<td>Galvanized iron wire, 16 gauge</td>
<td>kg</td>
<td>1.5</td>
</tr>
<tr>
<td>Roofing nails, Umbrella type</td>
<td>kg</td>
<td>1.5</td>
</tr>
<tr>
<td>Nails, large (75mm) and medium (40mm), galvanized</td>
<td>kg</td>
<td>1.5</td>
</tr>
<tr>
<td>Tin Snips</td>
<td>pcs</td>
<td>1</td>
</tr>
<tr>
<td>Pliers</td>
<td>pcs</td>
<td>1</td>
</tr>
</tbody>
</table>

**LEARNINGS**

- **Programmes should be designed according to social, cultural, religious, infrastructural and geographical factors of the affected areas.** The shelter design and materials distributed in the emergency phase should enable the affected population to construct durable shelters, using other local/salvaged materials.

- **The situation changes very quickly during the disaster response period,** hence the team needs to be flexible and proactive, making necessary adjustments to the programme accordingly. Flexibility can be integrated by improving damage and needs assessments, incorporating secondary information and joint shelter assessment reports.

- **Feedback mechanisms reported an interest in cash-for-work activities,** as a way to increase community participation and ownership.

- **Blanket targeting of most-affected areas was easier in certain communities,** though more prioritization exercises were needed in partially affected areas.

- **It is very important to manage communities’ expectations, so as not to create aid dependency,** but rather building on each community’s own strengths and resources. In some instances, the communities demanded more materials than they required. Community-led, transparent, beneficiary selection, verification and control mechanisms can manage this.

**WEAKNESSES**

- **The earthquake directly affected the organizations’ local staff,** who could not resume functions quickly. Customized disaster response trainings (specifically on shelter interventions in emergencies) should have been provided to key staff and volunteers involved in shelter response activities.

- **Lack of clearly defined, internal, procurement procedures** caused a delay in the start-up phase of the project. Internally, different organizational stakeholders had varying degrees of understanding of what processes needed to be in place, prior to procuring relief materials. This breakdown in communication resulted in materials being procured too slowly, as non-emergency processes were being utilized.

- **Shortage in medium-term disaster response staff.** The organization had an experienced disaster-response team in the region, which deployed immediately after the earthquake to set up a response framework and mobilize the national team. However, longer-term field positions took months to be filled. This was due to slow HR processes and waiting for longer-term funding to be secured. This delay caused initially deployed staff to become burned out, and delayed the scale-up of programming.

- **The assistance provided focused too heavily on a set design.** After about two months, people had recovered to a certain level with whatever resources were available, and they were capable to build contextually better shelters than the semi-circular ones promoted by the organization. Regardless, the same kit continued to be distributed and the same design recommended, rather than broader advice and support to build safe structures of different kinds. This would have been more appropriate, given that M&E findings showed that the majority of the families built the shelters with their own designs.

The level of community participation in the project was very high.

Temporary shelters, built with the materials provided, bridged the gap during reconstruction of more permanent houses (here, in Kavrepalanchok district).
NEPAL 2015-2016 / EARTHQUAKE

KEYWORDS: Winterization, Cash/Vouchers, NFI distribution, Shelter upgrades, Protection

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL HOUSES DAMAGED</td>
<td>604,930 fully damaged. 288,856 partially damaged.</td>
</tr>
<tr>
<td>TOTAL PEOPLE AFFECTED</td>
<td>886,456 affected families. 649,815 displaced families.</td>
</tr>
<tr>
<td>PROJECT LOCATIONS</td>
<td>Sindhupalchok, Gorkha, Dhading, Nuwakot and Dolakha districts.</td>
</tr>
<tr>
<td>BENEFICIARIES</td>
<td>15,480 households. Females 51%; Children 45% - Adults 35% - Elderly 20%.</td>
</tr>
<tr>
<td>PROJECT OUTPUTS (households)</td>
<td>7,801 vouchers for winterization 2,510 cash grants for shelter enhancements 5,169 winterization kits</td>
</tr>
<tr>
<td>MATERIALS COST</td>
<td>USD 126 (for e-vouchers and cash grants). USD 130 (for winterization kits).</td>
</tr>
<tr>
<td>PROJECT COST</td>
<td>USD 160 per household (including staffing costs, air lifting and road transportation).</td>
</tr>
</tbody>
</table>

PROJECT AREAS

CONTEXT

See overview A.3 for more information on the country background and overall shelter response.

Geographic and climatic conditions in Nepal vary greatly, and temperatures can reach -10°C in high mountainous regions, with heavy snowfall from December to February. Remote communities in these areas are several walking days from district capitals, and are accessible only by porters or via air transport.

In general, communities living in high altitude regions are well prepared for harsh winters and use a number of coping mechanisms to withstand the cold temperatures. These include insulating their homes (e.g. thick wall construction, insulating their roofs using locally sourced materials), space heating (e.g. coal burning stoves, electric and gas heaters) and wearing warm clothing (traditional woven Yak and Wool clothing).

In terms of housing supply, owner-built is the predominant mode, which makes quality control critical. Furthermore, a significant proportion of this stock is inadequate to withstand extreme weather conditions.
NATURAL DISASTER

SITUATION AFTER THE EARTHQUAKE
Following the powerful aftershocks, large-scale landslides occurred in multiple locations, three months after the initial earthquake, and many families were still living in temporary shelters or in their damaged homes. These temporary solutions were not sufficient to protect against the severe monsoon rains, nor did they provide adequate protection from the approaching winter months. Dalits and other minority groups were particularly affected in comparison with other communities.

LOCATIONS AND BENEFICIARY SELECTION
The five selected districts were some of the worst affected by the earthquakes, with almost all homes having been destroyed. A preliminary assessment for the selection of Village Development Committees (VDC) and beneficiaries for winterization support was conducted in coordination with relevant government authorities and the Shelter Cluster. The communities for winterization and shelter enhancement support were selected based on the altitude (above 1,500m) and other vulnerability criteria (women, children, elderly households, persons with disabilities, number of children, status of the house, marginalized groups and income). Continuous coordination with VDC officials, local stakeholders and partner NGOs was crucial during this data collection process. Pre-selected beneficiaries were then verified with the vulnerability criteria and a scoring tool. The final lists were approved by the local government and committees involved.

Due to accessibility challenges, the initial implementation method was modified to a dual approach of cash/e-vouchers and distribution of kits.

MARKET ASSESSMENTS AND CONSULTATIONS
Market assessments were conducted in the nearest markets to working VDCs by the logistics team, programme team and casual labour that was trained to support the activity. The parameters for the assessment were the following:

- Accessibility: walking distance from the nearest functioning market (3 days walk was considered inaccessible) and the altitude of the affected community (more than 3,000m above sea level was deemed inaccessible).
- Capacity: market ability to supply and meet the demand.
- Willingness of the suppliers and beneficiaries to engage in the process.
- Quality of materials: assessed by Shelter Cluster technical team, with the support from the organization and the affected people as well. Government guidelines and organizational quality check benchmarks were used.

A meeting was called for all interested merchants and the process, provision, rule and regulation of the e-voucher system was explained, allowing all interested merchants to fill in a form. Further on, community sessions were held in order to identify the most pressing item needs for redeeming the e-vouchers. A survey of the market and prices was carried out and the selected merchants were verified in their capacity of stocking and restocking, and in their legal registration with the chamber of commerce.

After this process, five out of the seven markets were included in the process and framework agreements were established with 28 merchants in Gorkha and 50 in Sindhupalchok. 1

1 VDCs are the lower administrative parts of the Ministry of Federal Affairs and Local Development.

SELECTION OF DELIVERY MODALITIES
The key factors influencing the selection of modalities were geographical location, availability of materials in markets and recognition that affected communities have pre-existing knowledge and strategies to withstand cold winter temperatures. If markets were functioning, the use of cash grants and e-vouchers were deemed more appropriate than in-kind assistance, as they contributed to strengthening existing supply chains and therefore stimulate recovery. Cash grants and vouchers also gave beneficiaries the flexibility to choose according to their own diverse needs and priorities what best supported their household.2 Cash grants were used in communities with access to banking facilities and where it was less likely that this modality would be misused. On the other hand, when communities were in hard-to-reach areas (above 3,000m), or markets were not functioning or accessible, the distribution of a winterization kit was used instead.

E-VOUCHER SYSTEM
The e-voucher system was implemented using a simple smart phone application, partnering with the service provider Hello Paisa for technical support and the Civil Bank for transactions. As part of the framework agreements with traders, specifications were set and agreed (as per national and international standards). Traders were then provided with a list of potential items that beneficiaries were likely to purchase, enabling them to stock accordingly.

A PIN card with ten secret digits was provided to beneficiaries who showed their identity card and Earthquake Victim Card number. Beneficiaries were provided with training and information on the markets where they would be able to redeem the vouchers. The selected merchants were also trained on the use of the App and how to upload their purchases through a simple mobile network. As this was a new system in Nepal, beneficiaries and merchants were supported during the process by staff members, who were present in the markets daily and accessible through a telephone hotline.

The e-voucher system allowed the beneficiaries to choose from a list of 36 pre-agreed items divided in three categories:

- House and personal insulation materials: CGI sheets, ridge sheet, tarpaulins, insulating p-foam, mattress, mat, woollen or fleece blankets, etc.
- Winter clothes: sweater, jacket, woollen caps, socks, shoes, underwear, and children and women’s clothes.
- Kitchen utensils: vacuum flask, cooker, heating stoves, cooking stoves, etc.

2 See opinion piece B.2 in Shelter Projects 2011-2012, on cash-based assistance in shelter programmes.
The winterization kits were distributed in high-altitude communities, where lack of markets and/or poor accessibility made the use of cash not viable.

CASH GRANTS

An operations booklet was produced in conjunction with beneficiaries and distributed with the cash grants, outlining clear do’s and don’ts regarding the use of the grant. Post distribution monitoring indicated that 96% of the households who received cash grants spent it on shelter enhancement.

IN-KIND WINTERIZATION KITS

Comprehensive consultations were carried out with children, women, the wider community and local authorities to establish needs and items required. Once the information was compiled across the different communities, in collaboration with the Shelter Cluster and the government, a standardized kit was agreed upon, meeting Sphere standards and IFRC guidelines. Kits were then compiled and distributed by vehicle, on foot or by helicopter. The items included a combination of thermal clothing, blankets and heating items.

PROJECT MONITORING

The organization established three types of monitoring:

- **On the spot, real time**: monitoring committees were formed consisting of community representatives, technical staff from the organization and representatives of the local authority. Their main role was to monitor transaction-related activities, solve issues and complaints and to check the quality and price of materials.

- **Online system**: all the transactions were monitored online through a portal which was specifically designed by the local service provider. The system monitored the number of transactions, quantity of materials and other procurement parameters. Whenever an item was purchased, an SMS was sent to the portal, and these were then compared with manual records, allowing for greater transparency and the ability to analyse purchasing patterns. Once a transaction was verified, a payment authorization was made 36 hours later. This ensured quality of materials at competitive prices. Those suppliers who failed to adhere to these standards were suspended from the framework agreements for a period of time.

- **Post Distribution Monitoring**: PDM was conducted one month after distribution, in coordination with local administration, Federation of Nepalese Chamber of Commerce and Industries and representatives of the suppliers.

Variations in the use of e-vouchers between districts were identified. For example, 72% of the targeted beneficiaries in the district of Gorkha prioritized construction materials, whereas 58% of those in Sindhupalchok prioritized personal insulation items/clothes. This indicated that the e-voucher system allowed better targeting of needs.

COMMUNITY PARTICIPATION

During the winterization programme, communities were encouraged to participate in the planning of activities through briefing meetings that explained the programme and mapping exercises, group discussions and participatory prioritization exercises that were used to identify community and household priorities for winter and shelter enhancement items. Over 90% of the items identified by the community were included in the winterization kits, were used for the markets assessments and formed part of the items on the voucher programme.

COORDINATION

Coordination at the national and district level was important for beneficiary selection and avoiding duplication. The values of the e-vouchers, cash grants and winterization kit were jointly calculated to meet minimum requirements and agreed with the Shelter Cluster, Nepalese Government and VDCs.

MAIN CHALLENGES

A key challenge was due to the impact of fuel shortages. In September 2015, the Government of India imposed a blockade that lasted until February 2016, leading to substantial shortages of fuel, construction materials and other essential supplies across Nepal. The subsequent fuel crisis caused delays in the distribution and affected the households who received e-vouchers, as few local suppliers had the ability to restock items.

Inflation also affected the procurement of winterization kits and the cost of the items that could be redeemed with the vouchers. However, allowing beneficiaries to choose and bargain for the their selected items helped mitigate this challenge.

Initially, the majority of beneficiaries who received e-vouchers were unable to purchase items at competitive rates, despite agreements with traders. To overcome this issue jointly, a monitoring committee was formed consisting of representatives from the Federation of Nepalese Chamber of Commerce and Industries, local administration, a community representative and the organization’s technical staff.

In terms of accessibility challenges, the organization coordinated with government authorities to access fuel supplies for the humanitarian response and received support from the Logistic Cluster for the transportation of kits. Helicopters were used to distribute kits to particularly hard-to-reach communities before the winter started, as well as assisting the communities served with e-vouchers to transport redeemed materials from the suppliers. This was not needed for those who received cash grants, as their communities had functioning markets.

WIDER IMPACTS OF THE PROJECT

- The project reached about 19% of the vulnerable families in need of winterization support nationally. After this intervention, the government also distributed cash amounts of USD 100 to the remaining families.

- The distribution of e-vouchers and cash grants (equivalent to USD 1.7 million) was injected directly into local markets, supporting the local economy. This cash flow helped local suppliers to rebuild and expand their business and ultimately supported recovery of the worst hit areas.

- The e-voucher system is now established as a modality for future support. It was the first time this system was used in the area, so the Organization trained both beneficiaries and traders, providing a level of preparedness in case of future emergencies.
STRENGTHS, WEAKNESSES AND LESSONS LEARNED

STRENGTHS

+ Effectiveness. Using the e-voucher modality allowed for effective and efficient data collection and analysis, hence for greater accountability, transparency and learning. The ability to capture purchase patterns, prices and suppliers’ details enabled the organization to have a better understanding of beneficiaries’ priorities and the local context.

+ Empowerment. Cash grants and e-vouchers enabled families to prioritize their winterization needs.

+ Targeting marginalized communities. Effective vulnerability targeting ensured 80% of beneficiaries reached were from Dalits and other marginalized communities, including 550 households with persons with disabilities.

+ Participation. Consulting vulnerable community members for improved programme design and delivery: effective community participation ensured 90% of winterization items distributed were as requested by beneficiaries (excluding compulsory children’s clothing).

+ Supporting recovery. Promotion of local economy, by injecting USD 1.7 million into the local market. This cash flow helped local suppliers to expand their business and ultimately supported recovery and reconstruction phase.

+ Cooperation with local authorities to ensure full support for the project modalities

+ Utilizing pre-existing mechanisms and systems, such as Earthquake Victim Cards issued by the government as a source of verification for beneficiaries’ eligibility.

WEAKNESSES

- Issues in market monitoring. Initially, most beneficiaries were unable to redeem the e-vouchers at competitive rates. Good coordination with relevant stakeholders later solved this.

- Poor dissemination of information on the modality. Local traders were initially hesitant to participate in the e-voucher programming as the modality was new. This could have been mitigated with better dissemination of information about cash-transfer programming and processes, e.g. through local media.

- Accessibility of distribution points. Post-Distribution Monitoring indicated that beneficiaries had to walk for approx. 2.5 hours to reach the distribution point. Walking distances could have been reduced if distribution points were at different VDCs/wards (or at a central location chosen with the communities). This could have been achieved through better community engagement at planning and implementation stages.

- Support for transportation. 52% of households reported that they did not receive any support for transport of materials. Transport support for beneficiaries was considered, but due to the costs only about half of the total beneficiaries were prioritized for this assistance.

- Delays in the response. As part of the PDM feedback, beneficiaries suggested they would have benefited more from the winterization kit if it had been distributed approx. 45 days earlier.

- Non-replicability. The phone application developed and used was not open source and therefore could not be utilized by others. However, the app developer has since partnered with other organizations to develop an e-voucher app to deliver humanitarian assistance in Nepal.

- Online monitoring mechanism. Poor internet connections at times made it difficult to monitor transactions.

LEARNINGS

- Beneficiaries choice. Beneficiaries are active responders after a disaster and are best placed to decide what their household needs are. Therefore, cash-based assistance should be considered over in-kind were appropriate.

- Efficiency and support to recovery of cash vs in-kind. Cash grants and vouchers can be faster to distribute (especially at scale) and more cost-efficient (eliminating logistical and import costs) than in-kind. In addition, this modality can stimulate local markets, helping the recovery of trade and local economy, therefore benefitting more than the direct recipients.

- Conditional cash. Conditional cash allows for quality and technical restrictions to be placed, for effective shelter and NFI outcomes. However robust monitoring tools are needed to ensure that the value for money and the quality in construction and shelter-NFI outputs are achieved.

- Distribution committees. The formation of distribution committees is a vital method for effective mobilization, security and solving distribution-related issues at community level.

Winterization kit components Quantity

| Gloves, size small | 2 |
| Thermal coat (suit and trousers), child: 1 small + 1 medium | 2 |
| Wool cap, 2 child + 1 adult | 3 |
| Scarf for children | 2 |
| Thermal socks, 2 small child + 2 medium child | 4 |
| Leggings, 1 small child + 1 medium child + 1 adult | 3 |
| Solar sweater, free size for adult | 2 |
| Scarf, for adults | 1 |
| Thermal socks (pair), for adults | 4 |
| Fleece blanket (high quality) | 2 |
| Woolen blanket (army) | 2 |
| Fleece jacket | 1 |
| Thermos for warm beverages (1 litre) | 1 |
| Logoed carrying bag | 1 |
Super Typhoon Haiyan (Yolanda) made landfall on 8 November 2013 and was one of the largest typhoons ever recorded. While the main government response consisted of subsidies for housing reconstruction or repair, humanitarian agencies used a range of approaches which included cash- or voucher-based interventions, but also training and construction of transitional, core or permanent shelters. Particular issues in this response included the lack of support for secure tenure, the lifespan of transitional shelter solutions and the poor quality control, particularly in regards to coco-lumber.

**SUMMARY OF THE RESPONSE**

For projects in response to Typhoon Haiyan, see:

In Shelter Projects 2013-2014:
- A.24, on shelter kits and WASH.
- A.25, on cash and vouchers for materials, plus training.

In this edition:
- A.9, a multiphase shelter and WASH programme. 
- A.10, on core shelters with latrines. 
- A.11, on a large scale programme on recovery shelter kits with reused coco-lumber. 
- A.12, on emergency and recovery shelter kits within a larger community-driven programme. 
- A.13, on a multisectoral, community-led resilience programme using shelter as an entry point.
INTRODUCTION

Overview A.23 in Shelter Projects 2013-2014 should be referred to for information on pre-disaster conditions, the effects of the typhoon, and emergency and early recovery shelter interventions. This edition of Shelter Projects includes projects undertaken in response to Typhoon Haiyan, though the majority were completed or were due to be completed shortly, and describe recovery or multiphase shelter interventions.

RECOVERY INTERVENTIONS

In consultation with shelter partners, the Shelter Cluster began work in early 2014 to categorize shelter interventions being implemented by organizations and provide guidance on best practices. The subsequent Recovery Shelter Guidelines were widely distributed by the Cluster beginning in June 2014 and included guidance on supporting households using a range of shelter approaches, from temporary to permanent solutions. There was a particular focus on the inclusion of build back safer outreach and training.

Many humanitarian agencies focused on the following:

- **Repair and retrofit** for damaged but not destroyed houses or retrofit for houses built post-disaster but that did not incorporate build back safer measures.
- **Permanent houses** that include at least one bedroom, one living space, and dedicated WASH and cooking areas.
- **Core shelters** that provide households with the core of their future house; one safe room or the frame of a permanent house.
- **Temporary or transitional shelter.**
- **Training** of carpenters and other skilled construction workers.
- **Build Back Safer awareness** workshops.
- ** provision of technical assistance.

The 8 build back safer key messages, a comprehensive set of shelter technical guidelines, was used extensively throughout the recovery phase. This Disaster Risk Reduction Information Education and Communication (IEC) material represented one of the most important outputs for other responses (including in Nepal and Ecuador), and has so far been reused in a number of other responses in the Philippines and the broader Asia-Pacific region.

[Poster of one of the 8 Key Messages developed for the Haiyan response (Source: Philippines Shelter Cluster and DSWD).]

Many people rapidly started to build shelters after Typhoon Haiyan (here in Tacloban, December 2013).
CLUSTER TARGETS AND RESPONSE
From the onset of the response, the Cluster strategy was to provide 1) emergency shelter assistance, 2) support for shelter self-recovery, 3) transitional/core shelters, and 4) support to families living in collective centres.

In its strategic framework for transition, the Cluster committed to provide:

- “Immediate life-saving emergency shelter in the form of tarpaulins/plastic sheets (and fixings) and tents with supporting NFI solutions” to 300,000 households; and
- “Support for household self-recovery through incremental housing solutions using consultative, participatory processes” to 500,000 households.

The target for emergency shelter was met – even exceeded – within the first 100 days of the response, with an estimated 500,000 households receiving emergency shelter assistance and 470,000 households receiving NFI packages. As of August 2014, cluster partners expected to support 344,853 households with repair/retrofit and new construction shelter assistance, reaching only 70% of the initial target of incremental housing solutions. While there is limited data on the final number of households assisted by humanitarian organizations after the deactivation of the Cluster at the end of 2014, documentation from organizations suggest that final projections were met within the first three years of recovery.

GOVERNMENT RESPONSE
Government assistance under the “Emergency Shelter Assistance” (ESA) programme consisted of PHP 30,000 (or approx. USD 600) for totally damaged houses and PHP 10,000 (or approx. USD 200) for partially damaged houses. As of August 2016, disbursement to 966,341 households had been undertaken and was still ongoing. Although disbursement of the government funds did not start until late 2014, more than a year after Typhoon Haiyan made landfall, this was still earlier than many recovery shelter programmes commenced and there were reports of beneficiaries withdrawing from agency programmes so that they remained eligible for the ESA funds.

SITUATION IN 2016
The National Housing Authority (NHA) and Social Housing Finance Corporation (SHFC) continued to undertake significant resettlement construction projects in the regions affected by Haiyan. NHA alone had plans to construct 205,128 houses on relocation sites, however as of November 2016 only 29,661 of these were completed. Construction was slowed down due to regulatory issues, longer-than-expected planning, and difficulty acquiring land. Further, the lack of access to services, such as electricity and water, hindered households’ transition to newly completed housing units.

The Philippines continues to suffer significant typhoon damage, although no typhoons have occurred which have caused damage to the scale of Typhoon Haiyan in recent years. Since the Haiyan response, the government of the Philippines has been wary to call for international assistance, fearing that there would be a large influx of international agencies. This has hampered responses to small typhoons since then. At the close of 2016, there was a low likelihood of international assistance being called for, even in significant disasters, and this will severely hamper agencies’ ability to respond to disasters. Nevertheless, there were signs that the government has streamlined its ability to more rapidly deliver Emergency Shelter Assistance cash support.

© German Red Cross

Multiple programme options were encouraged in response to Typhoon Haiyan, one of them being the construction of transitional or core shelters.

In some projects, materials were treated to improve the durability of the shelters.

© German Red Cross

The Philippines continues to suffer significant typhoon damage, although no typhoons have occurred which have caused damage to the scale of Typhoon Haiyan in recent years.

© German Red Cross

The Philippines continues to suffer significant typhoon damage, although no typhoons have occurred which have caused damage to the scale of Typhoon Haiyan in recent years. Since the Haiyan response, the government of the Philippines has been wary to call for international assistance, fearing that there would be a large influx of international agencies. This has hampered responses to small typhoons since then. At the close of 2016, there was a low likelihood of international assistance being called for, even in significant disasters, and this will severely hamper agencies’ ability to respond to disasters. Nevertheless, there were signs that the government has streamlined its ability to more rapidly deliver Emergency Shelter Assistance cash support.

© German Red Cross

In some projects, materials were treated to improve the durability of the shelters.
LESSONS LEARNED FROM THE HAIYAN RESPONSE

SUPPORTING SELF-RECOVERY

In comparison to other disasters, recovery following Haiyan progressed rapidly and many households started to take initial steps toward self-recovery within days. A number of organizations used cash transfers, shelter repair kits, and technical training to address this rapid pace of recovery, however many others remained focused on the delivery of products (e.g. transitional or core shelters). The use of cash for work and cash transfer schemes were particularly effective in supporting the rapid pace of reconstruction being pushed by households. These cash-based approaches injected funds into local economies that stimulated recovery, supporting early livelihood restoration. These programmatic efforts highlighted the ability of shelter partners to support the evolving response landscape, as their effectiveness relied on shifting from reactive response to anticipating needs.

HOUSING, LAND AND PROPERTY ISSUES

Despite these successes, there was largely a missed opportunity for organizations to support Housing, Land, and Property (HLP) rights. Extensive guidelines on HLP were developed by the Shelter Cluster during the first six months, but few organizations incorporated this guidance into programming. Most notable was the principle that shelter response should be free from discrimination and ensure rights of the most vulnerable. Many organizations required secure land tenure from households as a requisite for shelter assistance, resulting in the exclusion of marginalized and vulnerable populations within communities. The role of HLP, in particular land security of informal settlers, should be more fully integrated into future shelter interventions in the Philippines and other contexts where land has been identified as an ongoing challenge.

TRANSITIONAL SHELTERS’ LIFESPAN

As with past disasters in the Philippines, temporary or transitional shelters were built by a number of agencies. However, it is not believed that many of the households will progress to more permanent housing within the design life of these shelters (typically less than five years). Although not officially reported, it is known that some "transitional" shelters in the Philippines have failed in subsequent typhoons and many were still in use a number of years after they were built. This has particularly been the case for transitional shelters which used coconut lumber for the main structural elements of the shelter, such as corner posts.

COCO-LUMBER AND QUALITY CONTROL

Most shelter programmes relied on coconut lumber as the predominant building material during recovery, drawing from the large number of trees downed in the typhoon. Many households noted that the quality of lumber produced and distributed during recovery was of mixed quality. Despite distribution of technical guidance on selecting appropriate cuts of coconut lumber by the Cluster, robust quality control was difficult for many organizations. Degradation of poor quality lumber was prevalent in shelters, occurring as soon as one year after construction. In future responses, technical guidance should seek to develop more robust measures for shelter partners to implement quality control measures.

INSTITUTIONAL PARTNERSHIPS AND COORDINATION

In addition to technical lessons, there were also gaps in institutional partnerships within the shelter sector. In December 2013, the President created the Office of the Presidential Assistant for Rehabilitation and Recovery (OPARR) to act as the “overall manager and coordinator of rehabilitation, recovery, and reconstruction efforts.” Under this office, five clusters were established to manage recovery, including infrastructure, resettlement, social services, livelihood, and cluster support. Despite similar objectives, the international clusters and the government office functioned largely in parallel, with limited collaboration. A number of shelter partners noted that earlier, and more integrated, coordination with local governments was needed.

**CASE STUDY**

**PHILIPPINES 2013-2017 / TYPHOON**

**KEYWORDS:** Multiphase, Core shelters, Sanitation, Training, Community participation

<table>
<thead>
<tr>
<th>CRISIS</th>
<th>Typhoon Haiyan (Yolanda), 8 November 2013.</th>
</tr>
</thead>
</table>
| TOTAL HOUSES DAMAGED | 518,878 partially damaged  
493,912 totally destroyed |
| TOTAL PEOPLE AFFECTED | 3,424,593 households (16,078,181 persons). |
| PROJECT LOCATIONS | Selected communities in Leyte island. |
| BENEFICIARIES | 4,302 households (17,200 people). |
| PROJECT OUTPUTS | As of Feb 2017  
2,007 Core Shelters (target: 2,280)  
2,019 Shelter Repair Assistance  
2,280 Household Toilets with septic tank (target: 3,030). |
| OTHER OUTPUTS | Over 200 local carpenters and masons trained, 26 communities (more than 3,000 households) reached with community workshops on safe shelter practices, over 10,500 coconut trees planted. |
| SHELTER SIZE | 22m² (expanded from previous programmes, based on community consultations). |
| SHELTER DENSITY | 4.4-5.5m² per person (the average family size in Leyte is 4.1, according to a government census). |
| MATERIALS COST | USD 1,972-2,101 per core shelter with toilet (USD 1,207 for materials, USD 381-510 for toilet, USD 384 for labour).  
USD 337 per household for Shelter Repair Assistance (USD 121 for materials, USD 256 cash grant). |
| PROJECT COST | USD 2,240 per core shelter with toilet. // USD 397 per household for Shelter Repair Assistance. |
| OCCUPANCY RATE | 99.4% of shelters occupied at the time of post-construction monitoring. |

**PROJECT SUMMARY**

This multiyear project included an emergency phase, followed by transitional and recovery phases. In the first phase, CGI sheets and cash grants were provided for shelter repair, and core shelters were constructed with latrines. In the second phase, a participatory approach was used to strengthen community resilience and safer construction practices, within an integrated programme, which provided opportunities for people to take ownership on cross-cutting issues.

**TIMELINE**

1. Jan 2015: 2,019 Shelter Repairs with technical assistance and dissemination of Safe Shelter Awareness messages completed.
2. Mar 2016: Phase 1 target of 1,400 core shelters completed. 275 identified individual households assisted with relocation in host families.
3. Aug 2016: 20 communities reached with PASSA and Shelter Phase 2 - community workshops on Safe Shelter Awareness.
4. Feb 2017: 2,007 core shelters and 2,280 toilets completed in total. Project is still ongoing.

**STRENGTHS**

+ Skills enhancement and engagement of local work-force.  
+ Culturally appropriate design solution.  
+ Cost effective design and implementation.  
+ Community involvement in decision-making and construction.  
+ Promotion of self-help approaches for long-term resilience.  
+ Local procurement and prefabrication workshop set-up.

**WEAKNESSES**

- Long organizational procurement and logistical processes.  
- High need of coco-lumber for the design, and use of untreated lumber.  
- Lack of sufficient competent local staff.  
- Lack of flexibility of the design.  
- Septic tanks were only a partially safe sanitation solution.
SITUATION BEFORE THE TYPHOON

For an overview of the situation before and after the disaster, and the national shelter response, see overview A.23 in Shelter Projects 2013-2014 and overview A.8 in this edition.

The project targeted coastal areas comprising households who were dependent on farming and fishing. The settlements evolved in the last hundred years from informal groups of houses and farms that expanded as clusters and villages around paddy fields, plantations and along coastlines, replacing the tropical forest. The socio-economic status of the population was generally weak, with a large portion being either tenant farmers or daily workers with lower income, living in semi-permanent houses with limited access to basic facilities, often settling in no-build zones. Unsafe construction practices, using light materials and lack of technical knowledge on safer construction, made the community more vulnerable against typhoons.

SITUATION AFTER THE TYPHOON

More than 80% of buildings, houses and vegetation in the area were flattened by the typhoon. Immediately after the disaster, most inhabitants were temporarily displaced, but soon returned to their original dwelling sites and started constructing makeshift shelters. The key concern in terms of shelter was to overcome insecure construction practices that were dominant in the region, mainly due to lack of knowledge and the weak socio-economic status of the population.

BENEFICIARY SELECTION

The project area was selected based on regional and municipal level coordination between local governments and shelter actors. The priority was to reach severely affected communities with limited access to external assistance.

Based on commonly agreed selection criteria between cluster partners, the team collected an initial list from the Local Government Units. To avoid disparities, “recovery committees” were established at community level, to verify the information based on the selection criteria, followed by household visits and validation. The team needed to be aware of community dynamics and required technical capacity to evaluate structural damage and categorize its level. Thanks to an early recognition of these limitations and challenges, the assessment was interrupted to train the team first, before reforming the recovery committees.

IMPLEMENTATION PHASE 1

The project had three main objectives, strategically staged in two phases. The first phase focused on a) immediate Shelter Repair Assistance and b) Recovery support through Core Shelter reconstruction, while the second adopted a broader approach towards improving community resilience.

EMERGENCY: SHELTER REPAIR ASSISTANCE

Immediately after the disaster, the need to quickly repair partially damaged houses was very high. The Shelter Repair Assistance supported affected families with cash grants and distribution of CGI sheets. This phase was completed in four batches over nine months.

TRANSITION: CORE SHELTERS AND SANITATION

The Core Shelter construction was executed in several batches to allow certain learning and development, and minimize risks. Each Core Shelter included a household toilet. Since the project area was mostly on a high water table, with water points randomly installed around the settlement and congested dwellings, finding an appropriate sanitation solution was a sensitive topic; the team studied various design options and adopted a two-chamber septic tank design, adjusting the elevation depending on specific site conditions and ground water level.

During the planning stage, the project team conducted community consultation workshops to configure a feasible strategy. There was a wide agreement amongst the affected population that an owner-driven approach would put more stress on vulnerable target groups, and would also cause implementation challenges with regards to market supply and quality assurance. It was decided that the beneficiaries would join the construction team and the organization would manage the material delivery, technical support and overall monitoring.

Secure land tenure, site safety and adequacy were the prerequisites for construction. Beneficiaries without land were supported for relocation to willing host families, or smaller group resettlements in communal plots identified by the local stakeholders.

Due to various delays and a slight overestimation of implementation capacity, the construction extended long into the late recovery phase. Therefore, a significant part of the shelters were built when most beneficiaries had already recovered. Thus, instead of being an entry-point for further improvements by the beneficiaries (as intended by the Core Shelter concept), the shelters often ended up substituting previous self-help efforts, though with a higher quality.

INVolvement of Affected People and Carpenters

In the beginning, the organization found it difficult to actively involve the affected people, as they were in a distressed state. However, as the project progressed, it managed to build strong cooperation with the community by means of participatory activities and focus group discussions.

For the Core Shelter construction, the project recruited local carpenters and provided on-the-job training. Since very few skilled carpenters and masons were available in the community, the pilot phase focused on training and skills enhancement. Each team consisted of two skilled carpenters and two unskilled workers, supported by one beneficiary or representative. A trained monitoring team conducted several interactive sessions at community level to impart knowledge on safer construction, identify problems and make improvements on the construction details and process. 35 carpenter teams and 25 mason teams were trained over a period of time, both on-the-job and through formal trainings by an official institute.
IMPLEMENTATION PHASE 2: RECOVERY

The second phase used the PASSA approach in order to more actively involve communities and strengthen their knowledge, attitude and practices. Beneficiaries actively participated in focus group discussions and PASSA interactive sessions, which contributed to develop a sense of ownership, captured learnings and resulted in small improvements during the implementation. This phase emphasized disability inclusion, environmental regeneration, site risk mapping and mitigation, backyard gardens and facilitation of formal training for skilled carpenters and masons. Moreover, post-construction monitoring and face-to-face sessions with beneficiaries were conducted, followed by community walks to facilitate discussion around good and bad practices. Community workshops were also organized on various integrated topics such as roof tie downs, safe shelter extensions, construction of improved cooking stoves, wall upgrading and mitigation of fire risks.

COORDINATION

Considering the scale of the disaster and the difficulties faced by the government to coordinate with several agencies, coordination at Shelter Cluster level played a very vital role for this project, through the production of technical messaging and data, as well as for decision-making, identifying gaps in the assistance and optimizing organizational resources. However, the coordination also had some weaknesses. On one hand, the focus on reconstruction came relatively late, as relief operations were a priority. After the deactivation of the Cluster, the partners still needed provincial and national level cooperation. On the other hand, the lack of a clear government policy on the complementing shelter assistance and selection criteria led to disparities at the local level. More than

1 Participatory Approach to Safe Shelter Awareness, a participatory method of Disaster Risk Reduction related to shelter safety and facilitated by volunteers, which guides community groups through several activities: http://bit.ly/2iqQBtA. See also case study A.13 (Haiti) in Shelter Projects 2011-2012.

250 of the originally assessed beneficiaries opted out from this project to profit from the government’s cash assistance. However, the project managed to expand to other communities.

SHELTER DESIGN AND DRR

The wooden core shelter design had been previously implemented by several partners after past disasters in the country, with 18m² covered space. During the initial consultation, the design received high cultural acceptance by the community. Subsequently, certain improvements were made to increase the covered living space to 22m² and to adjust the structural design for a higher wind speed as a “one size fits all” progressive core shelter. The design was developed using local materials, particularly coco-lumber.

The project was designed with Disaster Risk Reduction as an integrated crosscutting theme. The design concept of the elevated core shelter and toilet aimed at mitigating the risk of flooding, and its structural design was made to withstand 200km/h winds. During the first phase, both the Shelter Repair Assistance and Core Shelter interventions were accompanied by safe shelter awareness inputs, through knowledge-sharing sessions with the communities. However, the PASSA approach was only effectively adopted in the second phase.
PREFABRICATION WORKSHOP APPROACH
For the construction of the core shelters, certain components were prefabricated to ensure the quality of construction and to standardize the design. The workshop also provided support for evaluating various small improvisations in design and technical solutions. This set-up was new in the area, but was quickly adopted. As the construction progressed, the project downsized prefabrication and most construction was executed directly in the field, by skilled local carpenters. However, for quality purposes, the fabrication of key components like structural footing and wall panels continued to be done in the workshop.

LATRINE DESIGN
An innovative latrine design was introduced through this project, which if properly constructed improves the effluent quality significantly and thus helps reducing groundwater pollution. This is especially a problem in dense rural settlements that still rely on shallow hand-pumps as their primary source of drinking water. In fact, this goal was only partially achieved, due to limits in quality of labour, materials and monitoring of construction quality below ground.

MAINTENANCE AND TERMITE PROTECTION
“Care and maintenance” were discussed in various focus groups. The project included the use of a treatment (sольгнум) in the lower exposed portion of the structure, to enhance termite protection and prevent decay; a concrete footing, to increase the distance of the wooden post from the soil; and a galvanized iron sheet above the concrete, to protect the edge of the wooden post.

MATERIALS
The design of the core shelter used both natural and industrial materials available in the local market. The natural materials included coco-lumber, bamboo, sand and gravel, which were sourced through licenced suppliers that operate under the Department of Environment and Natural Resources. The shelter also used woven bamboo to produce wall panels, which was sourced from the neighbouring island, where bamboo is planted in large scale.

Coco-lumber was available in large quantities soon after the disaster, because plenty of trees were uprooted during the Typhoon. Moreover, Leyte Island is identified as a hub for the supply of coco-lumber by the Philippine Coconut Authority. Although the use of coco-lumber was encouraged, due to limited local capacity less than 30% of the fallen trees were recovered for construction before rotting. Because of the high demand of coco-lumber in reconstruction, prices rapidly increased in the local market (up to 111% in two years), also due to the taxations imposed by the authorities on extraction and transport. As a result, the project experienced several supply challenges. This was mainly due to the lack of any obligation by the agencies to control the market price. The idea to support the local suppliers was discarded once it was clear that they could not compete with the external large suppliers, who ended up dominating the market.

To address the issue of environmental impact, the project collaborated with the Coconut Authority to support mass coconut plantation linked to livelihoods activities.

A aerial view of one of the areas where the project was implemented. The shelters with red roofs were built by the organization, while other structures were self-built.

2 See case study A.11 for an example of a large scale response utilizing the fallen coconut trees.
STRENGTHS, WEAKNESSES AND LESSONS LEARNED

**STRENGTHS**

+ **Skills enhancement and engagement of local construction work force.** This was a slow process that required very close monitoring and regular feedback sessions. Though very resource- and time-intensive, this paid off by the level of quality and standards reached, and the monitoring effort that were significantly reduced.

+ **Culturally appropriate design solution,** which was widely accepted and occupants reported they felt safer in it.

+ **Cost effective design and implementation.** Although the time frame was extended slightly, increasing the overhead costs, the savings generated by the cost-effective project execution managed to increase the targeted number of beneficiaries, without requesting any cost extension.

+ **Involvement of community in decision-making and construction processes,** which helped the organization to build a strong relation with the community at an early stage. During phase II, the project was highly participative and effective in increasing community knowledge on Shelter and Settlement Safety and thus building community resilience.

+ **Promotion of self-help approaches for longer term community resilience.** Focus group discussions identified issues around shelter and settlement by mapping key factors that lead to the risk of disaster. The discussions also encouraged community groups to develop action plans for mitigating those risks. This was allowed by the extended time frame of the project, which made possible follow-up visits and linkages with integrated sectors.

+ **Local procurement** released the burden from the project logistical chain and optimized resources.

+ **The prefabrication workshop** contributed to the quality of the construction and supported the carpenters and the workforce in the field to maintain standards and effectiveness.

**WEAKNESSES**

- **Long organizational procurement and logistical processes** caused delays.

- **High need of coco-lumber** for the design, as well as use of untreated coco-lumber for construction, **and lack of appropriate substitute procurement measures.** The wood-en Core Shelter design was based on the assumption that a large quantity of trees were available, though large quantities of fallen logs got rotten and additional felling and supply of untreated lumber continued. The project could have generated livelihoods and liaised with the government to establish a coordinated management of coco-lumber for reconstruction.

- **The programme faced a constant shortage of competent local personnel,** and in particular of soft skills needed to perform effective communication. This was partially due to limited organizational support and internal HR policies that restricted hiring of staff with the skills required.

- **The “one size fits all” solution came with certain limitations and inflexibility** to adapt to the context and also to react to the changing market situation with alternative solutions. While the shelters offer a significantly higher safety against typical typhoons, its flexibility and overall perceived utility-value was somewhat limited by the elevated design and other related features common in the region. A concern was also that the woven-bamboo wall panels do not offer sufficient protection against water during heavy rains. These factors have resulted in some shelters being less used.

- **Septic tanks were only a partially safe sanitation solution.** Although the improved design was identified as the most suitable solution, emptying septic tanks and an environmentally friendly sludge disposal and management are often expensive services and require active commitment of local governments. After three to five years, the effluent quality will deteriorate quickly and pose a pollution risk to the groundwater. The coverage of desludging services was still very low and the high costs posed a constant challenge.

**LEARNINGS**

- **Heavy top-down decision-making for a construction project ends up with compromised corners.** Decision-making should be consultative and flexible to complement technical recommendations. The transfer of knowledge and learnings from one project to the next is crucial.

- **Collaborative rather than competitive approach.** At the onset of the project, the focus lay more on achieving the targeted indicators in the project log-frame, and thus overlooked quality indicators. A sense of competition was developed across sectors and agencies, which was not necessarily healthy.

- **Interest and motivation are important factors to be considered while identifying the project team.** The project configured the need for capacity-building but did not succeed in engaging motivated and suitable project staff for specific tasks. As a result, at a certain point the project team felt over-burdened.

- **Timeliness in delivering assistance is critical in addressing the needs and ensuring effectiveness.** The shelter repair assistance could have been rolled out significantly faster and better if it had been already planned and prepared during the emergency phase. However, the actual market supply during the first months of the recovery might require a switch to more direct material provision rather than cash.
**Case Study**

**Philippines 2013-2015 / Typhoon Haiyan**

**Keywords:** Core housing, NFI distribution, Training, Disaster Risk Reduction, Community participation

<table>
<thead>
<tr>
<th>Crisis</th>
<th>Typhoon Haiyan (Yolanda), 8 November 2013.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total houses damaged</td>
<td>518,878 partially damaged  493,912 totally destroyed</td>
</tr>
<tr>
<td>21,005 houses damaged and 26,515 destroyed in the project areas.</td>
<td></td>
</tr>
<tr>
<td>Total people affected</td>
<td>3,424,593 households (16,078,181 persons).</td>
</tr>
<tr>
<td>Project locations</td>
<td>10 municipalities in Samar.</td>
</tr>
<tr>
<td>Beneficiaries</td>
<td>22,310 individuals.</td>
</tr>
<tr>
<td>Project outputs</td>
<td>4,462 core shelters built, with latrine.  1,071 carpenters trained.</td>
</tr>
<tr>
<td>Shelter size</td>
<td>18m²</td>
</tr>
<tr>
<td>Shelter density</td>
<td>3.6m² per person (average household size of 5).</td>
</tr>
<tr>
<td>Materials cost</td>
<td>USD 1,086 per shelter (+10% when trees had to be purchased).  USD 1,596 per shelter (with septic tank).</td>
</tr>
<tr>
<td>Project cost</td>
<td>USD 2,424 per shelter.</td>
</tr>
</tbody>
</table>

**Project Summary**

The organization built 4,462 “core shelters” to a standard design with accompanying sanitation in 18 months, using local labour and a highly systematized approach. The project also included a significant training component. The case study highlights detailed learnings related to construction management for an agency-led construction project, working with the community and local authorities.

**Context**

For an overview of the situation before and after the disaster, and the national shelter response, see overview A.23 in Shelter Projects 2013-2014 and overview A.8 in this edition.

The organization had established an office in Tacloban in 2008 and had focused on Samar with its partner organization, working with conflict-affected communities.

The region was one of the poorest in the country, largely dependent on agriculture and fisheries. Eastern Samar is ranked the third poorest province in the country, with fishermen and farmers being the poorest groups.

**Situation after the Typhoon**

According to official figures, in the 10 municipalities targeted by the project, over 40,000 houses were damaged, of which more than half were totally destroyed. The most heavily affected houses were those of lower quality, with a damage pattern reflecting the poverty map in Samar. The typhoon damaged timber structures much more than concrete ones – with many communities being registered with 100% damage.

The organization established two field offices in Samar within one month of the typhoon.

---

**Timelines**

2. Jul 2014: Extension of the project to the west side of the island.
3. Dec 2014: Completion of the 4,462 shelters.
5. Jun 2015: Completion of construction of all the latrines.

**Strengths**

+ Speed of the response.
+ Previous knowledge of the area and the communities.
+ Strong logistical capacity.
+ Cooperation with local partners.
+ High standard of quality of materials and solutions adopted.
+ Strong accountability to the affected communities.

**Weaknesses**

- MoUs with municipalities should have been signed earlier.
- Assessment and data collection teams needed more training.
- Poor post-implementation monitoring to assess long-term impacts.
- The sanitation component should have been included from the start.
THE ROLE OF COORDINATION

The organization was not a member of the Shelter Cluster, but did coordinate with other agencies working in the same locations. The organization also used and respected principles and technical standards that had been set by the government and the Cluster.

The agency assessed the different programme options proposed by the Cluster and decided to build core houses with a training component, as this was in line with its general approach to improve resilience of the typhoon affected people.

COMMUNITY ENGAGEMENT

At the outset of the project at each location, meetings were held with the authorities and a meeting was held with all the community members to explain selection criteria and beneficiary roles and responsibilities, to ensure that the processes were clear and those most in need were not left out. In the meeting, beneficiary declarations and land agreements were explained and collected.

During the inception community meetings, the responsibilities of the barangay were explained as part of the programme to avoid local politics impacting on the implementation.

A hotline was set up for beneficiaries to ask questions and a volunteer would take care of treating each case individually. This allowed great transparency with the beneficiaries as well as to better focus or adjust the programme when needed.

SELECTION OF BENEFICIARIES

Geographical selection was needs-driven, based on access and damage. Harder-to-reach areas were prioritized, as the organization had more logistical capacity than other agencies, those communities tended to have lower income levels and more houses using local materials, which showed higher levels of damage. The agency therefore chose to work in remote locations where many other organizations would not engage.

Household selection was conducted in the following steps – with all data being entered into a database, containing beneficiary and barangay data.

1. The list of totally damaged houses was collected from the local authorities (both barangay captains and municipal sources).
2. Each household was then verified by a house to house visit conducted by volunteers of the local partner.
3. Using agreed criteria, lists of eligible and non-eligible households were established, with pictures and data from the verification visit. Lists of cases to be reconfirmed due to absence of or incomplete data were also prepared, and a second verification exercise was conducted. In some cases, a structural review of the house by an engineer was conducted to determine if it was partially or totally damaged.
4. A community meeting was organized with all validated households to explain the reason for non-selection. In case of disagreement or doubt, cases were discussed and revisited when necessary. These meetings proved the most important stage of beneficiary validation.
5. Officials signed a final beneficiary list.
6. The final lists were shared with the municipality and MoUs were signed with the barangays to confirm commitments and mutual responsibilities.

In the most remote areas where access was difficult, but a decision to intervene was taken due the high vulnerability, combining assessment with beneficiary validation process saved time. For remote and low-populated barangays, a decision to assist all people was made, even if the number of beneficiaries was small.

Taking time with a rigorous yet time-consuming selection process, enabled smooth implementation and a very low rate of complaints later on.

SHELTER DESIGN

The shelter model was based on the original model used in the response to Typhoon Bopha and consultations were made with local communities in urban and rural areas. Two samples were initially built next to the organization’s offices, for training and display purposes. Afterwards, the first houses built in each barangay were used as models involving carpenters from the community. Upgrades were made to improve hurricane resistance, such as hurricane straps, an additional truss, alignment of windows, use of galvanized nails and better CGI sheets.

BENEFICIARY ORIENTATION

Orientations were conducted with selected communities and beneficiaries. It proved to be important for barangay officials to be present as they were responsible for resolving issues in the community related to land ownership. In most of the cases, landowners allowed beneficiaries to build a house on their land and to stay for at least five years for free or for a small renting fee. In other cases, the barangay captain intervened and found a relocation site.

The donation certificate stated that the beneficiary remains
the owner of the materials even after they have left the land. Agreements were in the local language, read out during the orientations and followed by a session for questions and answers.

**CHAIRNSAW OPERATORS AND TIMBER QUALITY**

Wood was requested from the beneficiary as contribution. This worked for 82% of the cases. When this was not possible, it was mainly due to specific vulnerabilities (1%) or physical unavailability of trees, particularly in areas far from coconut plantations (17%).

Local labour was used as much as possible. Chainsaw operators from other regions might be involved only as a temporary solution in the early stage of the programme. After some negative experiences, purchase orders were given out to the same chainsaw operator only if the previous order had already been completed. Wherever possible, the best chainsaw operators were retained to train the new ones. In hindsight, project staff should have been better trained on technical quality control of timber.

Beneficiaries had the responsibility to sign for receipt of the timber and to replace anything missing.

It was found that middle managers in the programme created more challenges than convenience. Chainsaw operators and carpenters had a tendency to form groups in order to work financially, yet working through a middle manager did not allow skilled labourers to be directly contracted and accountable for their work. The one who received the purchase order should have effectively done the work, especially for quality control purposes.

**MATERIALS SOURCING AND PREFABRICATION**

Materials were sourced as follows:

- **Local procurement** from project areas: wood and aggregates.
- **National procurement**: cement, iron bars, tie wire, hinges, post straps, amakan walling (traditional woven bamboo).
- **International procurement**: CGI sheets, flat iron sheets, hurricane straps, galvanized nails.

A central workshop was established to pre-cut and bend roof ridges and footing bars. Twisted umbrella nails with rubber seal increased construction efficiency and neater finishes, compared to the application of seal paste on every roof nail.

**MATERIALS KITS**

Overall, logistical challenges of the 500kg kits of materials were significant, given the massive area with complicated delivery needs. As a result, a flexible approach was established:

- For easily accessible areas, start small and plan for continuous supply.
- For areas difficult to access, deliver in bulk and plan for storage. In instances like island or far upland, delivery needs to be direct and in almost full quantity. Sufficient time needed to be given for hauling of materials from delivery at the last reachable point, and cash was required to pay for the "last mile" of transport, as part of livelihoods programming. Additional buffer stocks were required and smaller numbers of kits should have been pre-positioned in advance of anticipated poor weather.

Involving barangay councils in material distributions proved to be important for community mobilization and security reasons.

**TRAINING OF CARPENTERS AND COMMUNITIES**

Initially, the team came with technical plans, drawn by computer and in units not used locally. Craftsmen could therefore not interpret them, so they needed to be re-formatted into a simpler booklet.

Attendance in the training course was an obligatory step for carpenters to be contracted. The best carpenters were retained for ongoing work in the project. During the programme, a total of 1,071 carpenters were trained. At the same time, the whole community learned about good construction practices. The largest long-term impact of the project was in the training for affected people that it enabled.

**CONSTRUCTION OF SHELTERS**

The preparatory steps (selection of beneficiaries, delivery of materials, cutting of wood, procurement of local aggregates, training of carpenters) took much longer than the actual house construction, which was about four to five days.

It proved better to distribute orders to carpenters at the beginning of the week, to avoid work during weekends, when monitoring teams (one monitor per barangay) were not present. The agency found best results when they selected carpenters, rather than letting beneficiaries choose their carpenter.

More systematic approaches should have been conducted for safety. Contracted carpenters were not always insured and systematic insurance was not in place.

**POST-IMPLEMENTATION REVIEW**

Shortly after the implementation of the project, another typhoon hit the affected area. In a review of the houses, it was found that only four had failed, three of which due to the use of young coco-lumber and one due to a landslide.
STRENGTHS, WEAKNESSES AND LESSONS LEARNED

STRENGTHS
+ Rapidity of the response. Early decision to engage in shelter after the typhoon hit the area and very quick activation of the programme before the end of the emergency phase.
+ Previous knowledge of the area and of the communities affected. The organization was present in the area before the emergency for its protection and assistance activities and remained after the response.
+ Logistical capacity. The mobilization of resources from the organization was very fast also thanks to the existing logistical set-up in the country with an additional deployed logistics team.
+ Cooperation with local partners. The national partner organization has an extensive coverage of all parts of the country.
+ High standard of quality. Within the framework set by the government guidelines (including adaptation to the environment and sustainability), all solutions adopted and materials provided through this project were of high quality.
+ Strong accountability. The beneficiary feedback system (hotline) allowed the beneficiaries to raise concerns and the programme to be adjusted where needed.

WEAKNESSES
- MoUs with municipalities should have been signed early in the process to facilitate the next steps in full transparency.
- More effort should have gone into training the field teams working in assessment and data collection, to ensure consistency.
- Although there was a significant training component, there was little or no consistent follow up on the impacts of the training in terms of safer construction outcomes in the broader community. More attention should have been given to post-implementation monitoring, to assess short and long-term impacts.
- The sanitation (and hygiene promotion) component should have been included in the project from the outset, instead of having to conduct a secondary follow up to install sanitation. This would have simplified the operations.

LEARNINGS
- A full set of recommendations from the project were learnt and compiled in a single document for future use by the agency. Overall, the project was deemed to have been positive by the agency and a model for future interventions in similar contexts. The various templates and manuals produced were of particular interest to the agency.
- Starting small through pilot projects and then scaling up can be a successful approach.
- A combination of high quality hardware and software components is essential for project success.

TECHNICAL SOLUTIONS

| Foundations | Six concrete foundations are used to support each of the six individual columns. With 1:2(cat) mix of concrete and steel reinforcement, the foundation is strong enough to support the structure above the expected load even if using heavier good-lumber in the construction. Foundation is also shaped in STEP (reverse T) type to increase uplift resistance. |
| Truss | The trusses for the roof are designed to create a hipped roof shape with two original full trusses, six half trusses covering the roof ends, and an additional middle truss. |
| Floor | The floor is made from coco-lumber boards providing better and steady floor supported by three long and 14 short floor joists. |
| Wall | Made from the amakan sheet clipped with wall studs from the inside and wall clips from the outside in 600mm grid creating a grid-like finish on the outside. |
| Openings | The shelter design provides three windows and one door for opening and access. Supported by double hinges at 2mm thickness the durability of the opening is guaranteed to last. |
| Bracing | Diagonal bracing was placed in wall. One bracing is also placed in the roof structure connecting all the trusses into single structure. Although it is advised to use longer bracing in full wall short diagonal bracing was used to allow full modification of the opening across the wall and flexibility of further extensions. |

Local carpenters didn’t understand technical drawings, so concepts had to be explained through simpler and more intuitive ways, and a booklet was produced.

The project used locally available materials (e.g. the amakan sheet, left) and safe construction techniques, including bracing, strong trusses and roof strapping.

www.shelterprojects.org
**CASE STUDY**

**PHILIPPINES 2013-2015 / TYPHOON **

**KEYWORDS:** Emergency shelter, Transitional shelter, Procurement and logistics, Local materials, Training

<table>
<thead>
<tr>
<th>CRISIS</th>
<th>Typhoon Haiyan (Yolanda), 8 November 2013.</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL HOUSES DAMAGED</td>
<td>518,878 partially damaged. 493,912 totally destroyed. 21,005 houses damaged and 26,515 destroyed in the project areas.</td>
</tr>
<tr>
<td>TOTAL PEOPLE AFFECTED</td>
<td>3,424,593 households (16,078,181 persons).</td>
</tr>
<tr>
<td>PROJECT LOCATIONS</td>
<td>Guiuan, Roxas, Ormoc, Tacloban.</td>
</tr>
<tr>
<td>BENEFICIARIES</td>
<td>64,113 households.</td>
</tr>
<tr>
<td>PROJECT OUTPUTS</td>
<td>52,096 NFI Kits 33,994 Emergency Shelter and NFI kits 58,062 Recovery Shelter kits 3,500 Transitional Shelters 72,956 Individuals trained in DRR (51% women) 640 Timber Houses built in Leyte</td>
</tr>
<tr>
<td>SHELTER SIZE</td>
<td>18m² for recovery shelter kits (minimum, variable, size) 23-24.7m² for transitional shelters.</td>
</tr>
<tr>
<td>SHELTER DENSITY</td>
<td>3.5m² per person (for Recovery Shelter Kits). 5m² per person (for Transitional Shelters). (based on five-person-average household size)</td>
</tr>
<tr>
<td>MATERIALS COST</td>
<td>USD 300 for Recovery Shelter Kits. USD 1,190-1,860 for Transitional Shelters.</td>
</tr>
<tr>
<td>PROJECT COST</td>
<td>USD 385 for Recovery Shelter Kits. USD 1,960 for Transitional Shelters.</td>
</tr>
</tbody>
</table>

**PROJECT SUMMARY**

This was a large-scale programme, using a “Debris to Shelter” approach, to support typhoon affected households to repair or rebuild their damaged or destroyed homes. Almost 20 million board-feet of lumber were salvaged, corresponding to an estimated number of almost one million trees. Through 97 vendors in all affected areas, lumber was provided for more than 62,000 shelter interventions. Disaster Risk Reduction and Build Back Safer trainings were given to local carpenters and shelter beneficiaries, promoting safer construction against future disasters.

**TIMELINE**

- Nov 2013: First distribution of Emergency Shelter and NFI kits.
- Jan 2014: First Recovery Shelter Kit distributions and Disaster Risk Reduction training.
- Jun 2014: All four field offices implementing transitional shelters, including in relocation sites in Tacloban.
- Mar 2015: End of Recovery Shelter Kit distributions.
- Apr 2015: Closure of two offices (Ormoc and Roxas).
- Dec 2015: Completion and handover of Timber Houses.

**STRENGTHS**

- Speed of the response.
- Flexible procurement and implementation methodologies.
- Local market approach, supporting livelihoods.
- Removal of fallen or damaged trees helped clear the land.
- Build Back Safer messaging targeted a range of stakeholders.

**WEAKNESSES**

- Choice of coco-lumber was not always appropriate.
- DDR training prioritized measures to strengthen roofs.
- Difficult to forecast eventual reductions in coco-lumber availability.
- Some field offices were less adept at establishing partnerships.
- Under-calculation of needs for logistics, procurement and finance systems.

**PROJECT AREAS**

**SHELTER PROJECTS 2015 - 2016**
For an overview of the situation before and after the disaster, and the national shelter response, see overview A.23 in Shelter Projects 2013-2014 and overview A.8 in this edition.

THE USE OF COCO-LUMBER BEFORE HAIYAN

In the Philippines, coco-lumber (wood from coconut trees) is a recognized traditional construction material, although with fewer uses than hardwoods. Since 2011 (Tropical Storm Sen-dong response), coco-lumber has been recommended by Shelter Clusters in the country. Since 2012 (Typhoon Bopha response), there has been a clear policy from the Government of Philippines Coconut Authority (PCA) on the collection and use of fallen or damaged coconut trees for post-disaster shelter, as well as a clear pathway for permission to do so, including the use of licensed chainsaws and chainsaw operators, and a visual grading system for the selection of the lumber. Moreover, the implementing organization had already been using coco-lumber for shelter before its Haiyan response.

SITUATION AFTER THE TYPHOON

Approximately 33 million coconut trees were fallen, or had been damaged beyond productivity by the typhoon, with an estimated 13 million trees1 which might be accessible and usable. Replanting was not possible until fallen trees were removed and there were concerns that if they were left on the ground for too long, the rot would promote damage or insect infestation to the remaining healthy trees in the area.

PROJECT OVERVIEW

A number of different shelter interventions were chosen. In the first weeks, the organization distributed over 86,000 Emergency Shelter Kits (plastic sheeting, fixings and tools) and NFI kits, however the main part of the programme centred on two different shelter types: Recovery Shelter Kits and complete Transitional Shelters, both reusing the available coco-lumber.

RECOVERY SHELTER KIT

The Recovery Shelter Kit was an upgrade from the Emergency Shelter Kit, replacing the plastic sheeting with corrugated galvanized iron sheets, roofing nails and the coco-lumber. Technical trainings and cash grants were added, but continuing to include the construction hand tools and some of the other fixings. The main target of this shelter type was the large number of families whose homes had been damaged significantly, but could still be repaired. These households already had land available – in most cases their customary plot.

TRANSITIONAL SHELTERS

The transitional shelters were built in smaller numbers and were targeting two groups of people: those whose houses had been completely destroyed and those whose previous homes had been in the coastal No Build Zones, and therefore had to relocate.

In some cases, these shelters were constructed individually, on plots identified by the beneficiary and in negotiation with the owner of the land and the local barangay2 chief. In a small number of cases, shelters were installed in groups, on larger plots of land identified by the local municipal authorities, but then evaluated for their suitability by the project staff from the organization and other partners (with activities in the same location).

Designs for the transitional shelters were adapted by each office, but were generally based upon those in previous responses. The predicted lifespan of the coco-lumber was 3-5 years.

COMMUNITY PARTICIPATION

Local barangays were engaged and consulted during the beneficiary-selection process, and also through the Build Back Safer information campaigns which accompanied the distributions.

The communities were mobilized by the local leaders to support and participate in the assistance process, either during the distribution of the kits or in the construction of the transitional shelters. In the absence of a warehouse, the materials for the construction of the shelters were handed over to the families. All of the carpenters and their assistants came from the local communities and participated in cash for work schemes, which were a valuable source of income.

Through the establishment of a hotline and the dissemination of the respective phone number, beneficiaries provided feedback and issued complaints regarding the assistance received.

COORDINATION

The Coco-lumber Technical Working Group of the Cluster provided clear guidance on the permission pathway and technical issues for the collection and use of coco-lumber for shelter, as agreed nationally with the PCA. More generally, the Cluster

1 This quantity was enough for more than 1 million Recovery Shelter Kits (at an estimate of 20 board-feet of lumber per tree, and approximately 220 board-feet of lumber needed per kit – the amount necessary to provide safe support for 12 CGI sheets for roofing repairs).

2 Neighbourhood administrative units.
strategy of prioritizing recovery in a varied and incremental approach, provided a clear framework for the organization’s own palette of shelter options.

Coordination had a less obvious positive impact upon the provision of WASH support to complement the shelter activities. At the subnational level, it was not always possible for the organization to find partners who could provide latrines for those with transitional shelters, for instance, despite the fact that the local WASH Cluster was approached in several cases.

Beyond cluster coordination, the organization developed important relationships with the local municipalities and barangays, with the PCA at both the national and local offices, and with the Department of Social Welfare and Development.

**DISASTER RISK REDUCTION**

Due to the frequency of natural hazards in the country, the organization adopted a DRR approach, and the training which was given to its technical workers and to beneficiaries was focused around the 8 Key Messages, developed by the Shelter Cluster. Post-programme interviews showed that beneficiaries used more DRR measures for their roofs than for the walls or foundations. This was due to the higher costs of materials for the latter and the practical challenges of “punching into” an existing foundation, as well as the fact that most houses had the largest damage in their roofing.

**MAIN CHALLENGES**

The greatest challenge was to scale up the “Debris to Shelter” approach, whilst remaining efficient, and to respect commitments made to the various beneficiary communities, once the supply of materials became harder, or more time-consuming. Ensuring that the local vendors could respond to the demand of this programme was also a key issue. The flexibility to scale up the operation in five sub-offices, use different kits, and to re-assess the methods of the lumber preparation, was key to addressing these challenges.

In order to implement the projects, the organization had to establish and recruit over 200 staff for four new field offices, as well as to maintain the necessary balance between flexibility and rapid-decision-making at the field level, with needs for both support and accountability from the national office, wherein the project was managed.

---


---

**COCO-LUMBER SUPPLY**

In the first weeks of the response, the organization sought to persuade beneficiary communities to provide fallen coconut trees free of charge, whilst the organization would then take responsibility for processing them. However, by February 2014, it became apparent that many other shelter actors were already paying locals for the fallen trees and that this would help kick-start the local economy. The organization thus started to pay for the lumber, from that point onwards.

As the local vendors and lumber producers did not have the capacity to respond to the demand yet, the organization worked with other humanitarian actors, who took on the responsibility of hauling and milling the coco-lumber. However, in less than two months, these partnerships also came to a halt and the local market started to show signs of recovery, driving the organization to use direct procurement.

Implementing at a large scale, through small-scale suppliers (often without formal business documentation), initially proved a challenge for the organization’s procurement department, who had experience with more formal tendering processes, often at a national or international level. A system was established based on the “pakyaw” Philippine customary supply-chain methods, whereby payment for the lumber would be made to one representative of a group of smaller suppliers. This reduced the number of individual payments, and accordingly the amount of paperwork to process, as well as consolidated the lumber deliveries in the field.

After the first months, the fallen or damaged trees near vehicle roads had already been taken and competition had increased from other shelter actors and the private sector. Although there was still large availability, these issues created delays in delivery and an upwards pressure upon the price. In some cases, in order to meet deadlines, some of the procurement was done through larger commercial suppliers. The field offices had their own warehouses to aid the integration of this national and international large-bulk supply chain, with the local, myriad, supply chains for the coco-lumber.

**PROCESSING OF THE COCO-LUMBER**

For the Recovery Shelter Kits, the coco-lumber was milled in only one dimension (2”x3”), to speed up the milling. The transitional shelters required a wider range of lumber dimensions, amongst a range of industry standard sizes. Much of the milling of the lumber into its final dimensions was done using chainsaws. The organization relied primarily upon specialized “scalers”, recognized by the PCA, to grade lumber from different parts of the coconut trees, according to density and strength. However, this grading was done visually and was not aided by any machine.

The organization used a variety of processing approaches:

- Initially, the lumber was processed in the locations where it was sourced.
- After March 2014, when fallen coconut trees were no longer available near roadsides, suppliers were paid to bring the trunks to a central milling site.
- Later, suppliers were contracted to undertake all of the collection, preparation, milling and delivering to site of the lumber.

Overall, this project was innovative in its “Debris to Shelter” approach, as well as its scale-up using multiple sources, solutions, and flexible approaches to supply and milling.
STRENGTHS, WEAKNESSES AND LESSONS LEARNED

STRENGTHS

+ The organization acted quickly to establish four field offices, each with the flexibility and authority needed.
+ Flexible procurement and implementation methodologies were created, so that the local coco-lumber, collected by small-scale suppliers in irregular quantities, could become one of the main materials for a large-scale programme.
+ Local market approaches were adopted with many local suppliers, giving livelihoods support to a wide range of communities.
+ The removal of the fallen or damaged trees was also a massive and necessary boost to the farmers and cooperatives seeking to clear the land, in order to replant new coconut trees, as quickly as possible.
+ Disaster Risk Reduction and Build Back Safer messaging was provided for a wide range of actors in the reconstruction process: beneficiaries, local carpenters and contractors.

WEAKNESSES

- The choice of coco-lumber, with its shorter lifespan, was not always appropriate for the shelters with a lifespan of longer than five years.
- Disaster Risk Reduction trainings tended to prioritize only measures for strengthening roofs, rather than giving equal emphasis to all parts of a house.
- It was difficult to forecast eventual reductions in the availability of the coco-lumber, leading to delays in delivery in the later months of the programme.
- Some field offices were less adept at establishing partnerships, leading to a lack of WASH support for some shelter beneficiaries.
- Under-calculation of the needs for logistics, procurement and finance systems and staff, during the programme scale-up, meant that these support departments were often playing catch-up after the field implementation teams.

LEARNINGS

• Flexibility is the key to scaling up solutions to meet needs, after large-scale natural disasters.
• Talking in terms of wider livelihood impacts can go a long way during engagement with a range of different national and local authorities, as well as with the beneficiary communities themselves.
• Assisting the affected communities and local authorities in their recovery, working in partnership, enabled the organization to effectively deliver the assistance in a timely manner.
• There was a significant gap in documentation and knowledge management, although the organization had extensive experience in disaster response prior to Haiyan, including in the shelter sector. Based on this experience, the organization developed detailed Standard Operating Procedures to guide future shelter programmes.
• Adding small quantities of other, thicker, dimensions to the kit, (e.g. 2”x4” or even 2”x6”) might be appropriate for future versions. In fact, some beneficiaries have re-used lumber from the kit for other purposes, including the bracing of walls or the construction of toilet superstructures.

Materials in the Recovery Shelter Kit

<table>
<thead>
<tr>
<th>Material</th>
<th>Units</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Framing kit, coco-lumber, 2”x3”</td>
<td>Board feet</td>
<td>230</td>
</tr>
<tr>
<td>CGI sheets (roofing)</td>
<td>pcs</td>
<td>12</td>
</tr>
<tr>
<td>Ridge rolls (roofing)</td>
<td>pcs</td>
<td>3</td>
</tr>
<tr>
<td>CW nail #2 (fixing kit)</td>
<td>kg</td>
<td>1.5</td>
</tr>
<tr>
<td>CW nail #3 (fixing kit)</td>
<td>kg</td>
<td>1.5</td>
</tr>
<tr>
<td>Umbrella nails (fixing kit)</td>
<td>kg</td>
<td>3</td>
</tr>
<tr>
<td>GI wire #16 (fixing kit)</td>
<td>kg</td>
<td>2</td>
</tr>
<tr>
<td>Nylon rope, diameter 10mm (fixing kit)</td>
<td>m</td>
<td>30</td>
</tr>
<tr>
<td>Claw hammer, 13” (tool kit)</td>
<td>pcs</td>
<td>1</td>
</tr>
<tr>
<td>Combination plier, 8” (tool kit)</td>
<td>pcs</td>
<td>1</td>
</tr>
<tr>
<td>Aviation snips, 10” (tool kit)</td>
<td>pcs</td>
<td>1</td>
</tr>
<tr>
<td>Crow bar, 18” (tool kit)</td>
<td>pcs</td>
<td>1</td>
</tr>
<tr>
<td>Handsaw, 20” (tool kit)</td>
<td>pcs</td>
<td>1</td>
</tr>
<tr>
<td>PVC pail, 12L (tool kit)</td>
<td>pcs</td>
<td>1</td>
</tr>
<tr>
<td>Shovel pointed #2 (tool kit)</td>
<td>pcs</td>
<td>1</td>
</tr>
<tr>
<td>Elasto-seal (tool kit)</td>
<td>pcs</td>
<td>1</td>
</tr>
</tbody>
</table>

4 The board foot is a specialized unit of measure for the volume of lumber, and it equals 1ft x 1ft x 1in.

Local people cut fallen coconut trees into planks with chainsaws (Guiuan).

The project distributed timber from fallen trees for various shelter interventions.
**CASE STUDY**

**PHILIPPINES 2013-2015 / TYPHOON**

**KEYWORDS:** Emergency shelter, NFIs, Transitional shelter, Multisectoral, Training, Community participation

---

**CRISIS**

Typhoon Haiyan (Yolanda), 8 November 2013.

**TOTAL HOUSES DAMAGED**

518,878 partially damaged
493,912 totally destroyed

**TOTAL PEOPLE AFFECTED**

3,424,593 households (16,078,181 persons).

**PROJECT LOCATIONS**


**BENEFICIARIES**

19,550 households (Relief phase).
16,585 households (Recovery phase, shelter support, plus 13,450 individuals with awareness and training in shelter and Build Back Safer).

**PROJECT OUTPUTS**

19,550 shelter relief kits (tarp + ropes), 6,313 kitchen sets, 47,875 NFI kits (blankets, mosquito nets, mats).
15,700 shelter recovery kits and materials for latrine construction.
885 transitional shelters built with latrines.
160 workshops on Build Back Safer and 450 carpenters trained and received tools.

**SHELTER SIZE**

19.4m² (size of the transitional shelter).

**SHELTER DENSITY**

3.9m² per person (Based on national average household size of 5).

**MATERIALS COST**

USD 400 per household for the shelter recovery and tool kit.
USD 3,500 per household for the transitional shelter (excl. latrine, incl. labour).

**PROJECT COST**

USD 460 per household, for the relief phase.

---

**PROJECT SUMMARY**

The shelter programme spanned from relief to recovery within an inter-sectoral response. It assisted people across a wide geographical area, with activities such as: material distribution (shelter relief items, NFI kits and shelter recovery materials), transitional shelter and latrine construction, community awareness raising, technical assistance and certified training for carpenters.

---

**STRENGTHS**

- High participation and accountability to affected populations.
- Build Back Safer trainings were well received.
- Construction trainings to carpenters enhanced their skills and income opportunities.
- Effective management of beneficiary data.
- Particular attention and response to vulnerabilities.

---

**WEAKNESSES**

- Limited coverage.
- The recovery capacity of communities could have been strengthened.
- Recruitment difficulties delayed implementation.
- Only 50% of beneficiaries actually used the materials received for repairs after four months from the distribution (source: PDM).
- The integrated approach was not implemented very effectively.
SITUATION AFTER THE TYPHOON

For an overview of the situation before and after the disaster, and the national shelter response, see overview A.23 in Shelter Projects 2013-2014 and overview A.8 in this edition.

At first, typhoon-affected families settlement options were classified as follows: (1) remaining in damaged homes; (2) host families; (3) evacuation centres; and (4) formal or informal camps. In an initial displacement survey, close to 90% of evacuees reported their willingness to return home if provided with assistance, demonstrating that resource provision for self-reconstruction could be a quick way of de-congesting displacement sites and accelerating recovery. Notably, many families had no legal land title or right to reside where they lived.

Shelter was a priority need both in the relief and recovery phase, followed by livelihoods and food, as shown in a baseline survey conducted by the organization. Particularly, 77% of surveyed households reported that receiving materials for repairs was their preferred solution to shelter needs, followed by daily labour opportunities (19%), longer-term employment (16%) and land tenure security (9%) amongst others.

PROJECT PHASES AND COMPONENTS

Using shelter as an entry point for a wider inter-sectoral approach, this programme covered both the emergency relief phase (mainly with distribution of shelter and NFI kits) and the recovery phase, where the response focused on two major outcomes: shelter – delivered mainly through distributions and technical assistance – and livelihoods, through certified trainings1. These further tied into the integrated approach of the response, where target beneficiaries benefited from trainings and multisectoral interventions in areas such as WASH, Health and Education.

COORDINATION

The organization was actively involved in inter-agency assessments2. The Liaison Officers and Sector Specialists continued to represent the organization at the national, provincial and municipal coordination meetings, wherein sharing of technical information and 4W data3 facilitated decisions on the nature of responses and operational areas.

TARGETING OF LOCATIONS

Municipalities and barangays (villages) were selected based on organizational tools4, which used the following formula:

Need = extent of damage x intensity of damage x pre-typoon vulnerability.

The tools relied upon publically available data, allowing the response team to gain a clear picture of the areas in need and how resources should be allocated. After shortlisting the locations, consultations were held with local authorities due to their local knowledge, as well as using data from the Cluster on other organizations’ activities, to avoid duplication of efforts.

1 Trainings were certified by the Technical Education and Skills Development Authority, http://www.tesda.gov.ph.
2 Namely, the Multi Cluster Initial Rapid Assessment (http://bit.ly/2lXnXvv) and Children’s MIRA (http://uni.id/c2b4fF).
3 The 4W is an information management tool capturing What activities are implemented, by Whom, Where and When during a humanitarian response.
4 The Overview of Affected Municipalities (OAM) and the Barangay Prioritisation Tool (BPaT).
5 For more information, visit http://bit.ly/1TzeOBk.

BENEFICIARY SELECTION

Selection criteria were developed in consultation with community leaders and members and validated by the organization. A participatory and inclusive approach in the selection was adopted to reduce tensions and not to exacerbate existing problems amongst community members, as not all affected households within a barangay could be assisted.

Priority was given to the following groups: the elderly, women, people living with disabilities, female- and child-headed households, internally displaced people and those with totally damaged houses, along with additional vulnerability criteria.

Once compiled, the barangay committees displayed the beneficiary lists for community evaluation and addressed the feedback through several rounds of consultation, to ensure that all were largely satisfied with the process.

PROJECT IMPLEMENTATION AND TEAM STRUCTURE

The operational area was divided into zones where similar activities were implemented, and the same organizational structure was used in each area. The relief-phase blanket distribution was directly handled by the Supply Chain Management and Accountability teams. Then, during the recovery phase, a sector expert (Reconstruction Manager) coordinated three international construction specialists (designated to each zone), who were managing hardware sectoral interventions (shelter/WASH/infrastructure). Each zone had a team of engineers and architects who, based on experience, were assigned responsibility as municipal focal points or technical officers. Each zone had a minimum of six personnel in the shelter team, all reporting to the construction specialist.

Overall, approximately 25 engineers were working in the implementation team for the beneficiary selection process, material distribution, transitional shelter construction and technical assistance phases. Throughout the recovery phase, the sector technical team (both in the field and headquarters) were supported by the Supply Chain Management and Accountability teams. Engineering Design and structural calculations for the transitional shelters were carried out by professional volunteers, deployed by an engineering non-profit organization.

LAST MILE MOBILE SOLUTIONS

The organization adopted an innovative digital technology for the registration and tracking of all beneficiary data for distributions, which provided real-time tracking, remote data collection and management, significantly reducing registration times and inefficiencies, along with systematizing reporting processes5. This technology was used to issue a barcoded ID card for each head of household and was adopted for all distributions. The organization had in-house expertise with the system, so it was easier to roll out, build capacity and get the required equipment.
LAND OWNERSHIP

The majority of beneficiaries had lived in the same location for many years, in some cases across generations, based on informal agreements. Thus, consultation was held with community members, barangay leaders and beneficiaries, to ensure there would not be threat of eviction. Many landowners expressed no problems with beneficiaries rebuilding in the same location, as long as the structures were not permanent. Barangay leaders undertook the responsibility of resolving issues and negotiating on behalf of the beneficiaries, should any land issues arise. MoUs were also signed with the municipalities, barangays and beneficiaries, indicating the leaders’ responsibilities and that should a beneficiary relocate, they would disassemble the structure and reuse the materials elsewhere. As a result, during the implementation period, minimal complaints were received on land issues.

INVolVEMENT OF AFFECTED PEOPLE

Affected people were engaged from the assessment up to the evaluation stage. They identified their top priorities and ways of addressing them through participatory workshops. The beneficiary selection and feedback mechanism allowed the whole community to engage with the project processes. Storage spaces for the materials during distribution and construction was provided by the barangay, and the community as a whole was responsible for the safety of the materials. Beneficiaries monitored the progress of construction of their own transitional shelters, ensuring any contracted labour completed the work to standard. Barangay members were allocated the responsibility of monitoring the overall self-reconstruction progress across the villages, for those using the shelter kits.

DISASTER RISK REDUCTION COMPONENTS

Most of the affected population resided in geographical locations which are prone to natural hazards, such as river banks, the coastal belt and areas subject to flooding. As a result, DRR and climate change adaptation was a focus throughout the response and local authorities and relevant partners were actively engaged. The Build Back Safer training and messaging were made available at the barangay halls for further reference to all community members, not only direct beneficiaries. The design of the temporary shelter was developed in close consultation with community members, and pilot shelters were first constructed directly by the organization, to show best practices and serve as a model to be replicated. Specific guidance was also provided on land selection and site planning, to encourage people living in unsafe areas to be informed on how to identify and negotiate for safer locations.

The Build Back Safer principles that were most commonly adopted by the beneficiaries during the repairs were: construction of a simple-shaped shelter (77%), identification of a safe location (71%), use of strong joints (62%), bracing (60%) and good roofing (53%).

Additionally, a local-level advocacy approach was used to increase dialogue between ordinary citizens and relevant government entities which provide services to the public, aiming to improve the implementation of national DRR policy at the municipal level.

MAIN CHALLENGES ENCOUNTERED

LOGISTICS AND QUALITY CONTROL. The logistics team was stretched due to the widely spread operational areas and the extent of the shelter response, as well as that of the other sectors’ activities. In addition, materials’ quality control required extensive commitment and resources. It was initially difficult to find staff with appropriate skill sets to meet these challenges.

SUPPLY CHAIN MANAGEMENT. The slow recovery of local businesses, the high demand of construction materials and climatic conditions affecting the transport route, all impacted the overall delivery of the programme. In addition, a shortage in supply of good coco-lumber and bamboo strips further affected the programme.

AVAILABILITY OF RESOURCES. Although the programme was designed in close consultation with community leaders and beneficiaries, not all families managed to rebuild their damaged homes with the assistance provided, mainly because they lacked necessary materials. For those who were unable to build by themselves, the main challenge was to find the resources required to hire skilled labour or to purchase additional material. This was mainly due to a lack of alternative funding options, particularly because of the delay of the government’s cash assistance, which was originally anticipated to complement the shelter initiative.

CLIMATIC HAZARDS. In December 2014, Typhoon Hagupit made landfall just north of Leyte, followed by series of other storms. Vital roadways were blocked by landslides, road slips, or washed-away bridges. The damage to infrastructure, coupled with the staff being deployed to other emergency responses, caused resources to be stretched and generated delays in this programme.

WIDER IMPACTS OF THE PROJECT

In the later stages of the response, the barangay disaster management committee and the trained carpenters were provided further Build Back Safer training, so that they could continue to deliver similar trainings in their communities and monitor the building of houses and structures. These trainings served as a replicable approach that could be used in other communities.

Safety measures for construction workers were emphasized throughout the programme, and all staff with access to beneficiaries were briefed on Child Protection and Prevention of Sexual Exploitation and Abuse protocols. Community briefings on contractual obligations of contractors and workers and site protection measures (such as site demarcation to avoid children wandering around the construction) were also carried out, so that there would be a base for community monitoring and mutual accountability. Although new in the communities, it was agreed that this approach would be adopted for future construction activities.

The project included distributions (North Cebu, left) and built model structures for Build Back Safer trainings delivered to communities (right).
STRENGTHS, WEAKNESSES AND LESSONS LEARNED

STRENGTHS

+ High community participation and accountability to affected populations. The exhaustive community consultation ensured that all voices were heard and responded to. The feedback received was also used to refine interventions and take corrective actions when needed, regarding scheduling of activities, quality of materials and workmanship.

+ The Build Back Safer trainings were well received by all sections of the community, who participated actively and were interested to learn more. Further, carpenters from the community were involved in developing the model structures and trainings, which gave them an opportunity to demonstrate their newly acquired knowledge and skills.

+ Construction trainings provided to carpenters substantially enhanced their skills and their income generation opportunities, as they were certified by a government authority.

+ Effective management of beneficiary data from registration to delivery, monitoring and timely reporting, thanks to the use of the digital Last Mile Mobile Solutions technology, which allowed a streamlined multisectoral response.

+ Particular attention and response to vulnerabilities. For example, latrines were constructed in such a way that privacy and security were guaranteed for all users: no gaps in the lower portion of the walls, provision of locks and within close proximity to individual shelters. During distributions, vulnerable persons, such as the elderly and women with nursing children, were the first to receive provisions.

<table>
<thead>
<tr>
<th>Items in the shelter recovery kit</th>
<th>Unit</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tools</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20” or 22” Handsaw, Claw hammer, Tape measure (3m), Shovel, Machete, Hoe or Pick Mattock, Crow bar, Tin snips, Chisel.</td>
<td>pcs</td>
<td>1 each</td>
</tr>
<tr>
<td><strong>Gloves</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>pair</td>
<td>2</td>
</tr>
<tr>
<td><strong>Shelter materials</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10’ length, 4mm Corrugated Galvanized Iron sheets; 10’ length, 4mm CGI ridge roll, 16” wide; 4’; 3” and 2” common wire nails; Umbrella nails, twisted shank; 4”x4”x12” Cocoa-lumber; 2”x4”x12” Cocoa-lumber; 1/2”x4”x8” marine plywood.</td>
<td>pcs</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>kg</td>
<td>2.5</td>
</tr>
</tbody>
</table>

WEAKNESSES

- Limited coverage. As the response targeted only totally damaged houses, entire populations were not reached. On one hand, the needs of the most vulnerable in the selected barangays were largely met, despite limited resources. On the other, there was the potential for a wider impact in the communities if the organization had advocated through the cluster for other agencies to support the families who were not reached by this programme.

- The communities’ existing capacities were not well identified early on and incorporated into the programme. There were regional variations in the rate of recovery, demonstrating the absorptive and adaptive capacity of different communities and revealing the need for contextual interventions. This transformative capacity could have been strengthened through increased collaboration with community members or advocacy with local government and NGOs. This was confirmed in the monitoring and evaluation phases, wherein barangays with community mobilizers had a higher percentage of houses repaired or rebuilt.

- Despite the target beneficiaries having totally damaged houses, post-distribution monitoring found that only 50% of them had actually used the materials received to carry out repairs on their homes (four months after the distribution), while the rest mainly stockpiled the materials. Additionally, the majority of materials for latrine construction (for those whose works were pending or on-going) were stockpiled or used for shelter repair, whilst a number of beneficiaries who sold latrine materials, used the proceeds to buy additional materials for shelter repair. The organization assumed that the government’s emergency cash assistance would facilitate material purchases and payment of labour, though this did not happen in a timely manner. Increased advocacy with the government (through the cluster) on the complementarity of responses would have helped.

- The integrated approach was not implemented very effectively, requiring multiple assessments, beneficiary lists and numerous rounds of distributions and community meetings, due to the limited understanding of how to operationalize such approach to meet shelter, livelihood and food security needs. Ultimately, it was not clear how the multisector intervention contributed to overall recovery.

LEARNINGS

• To ensure a timely shelter response, adequate planning for the pre-positioning of goods and contracts, streamlining procurement and administrative processes, and improving distribution systems must be undertaken, particularly in contexts where disasters are likely to happen cyclically.

• It is important to allow sufficient time for the roll out of shelter activities, so that continued technical assistance can be provided to households and closer integration of shelter and WASH interventions ensured. Operations could have been more effective if distribution, technical assistance, monitoring and site planning were carried out as a single unit.

• Managing expectations. While trying to achieve programmatic objectives, engagement and communication with households who were not selected for support was necessary.

• Cash-based and livelihood programming can enable income generation, which can then be invested in asset building. In this case, better complementarity of the livelihood programme with the shelter component would have facilitated the reconstruction efforts.

• In terms of community level cohesion, it was noted that capitalizing on the “bayaninh” system of community support and cooperation was vital to the effectiveness of the programme.

www.shelterprojects.org
**Case Study**

**Philippines 2013-2015 / Typhoon Haiyan**

**Keywords:** Multisectoral, Resilience building, Core houses, Community participation

---

**Project Areas:**

- Guiuan (Eastern Samar)
- Coron (Palawan)

---

**Shelter Project Summary**

This community-led resilient recovery programme supported remote indigenous communities on sectors including shelter, infrastructure, livelihoods, WASH and Disaster Risk Reduction. The projects adopted an integrated approach, taking shelter as an entry point for area-based programming and then expanding to a broader programme of community resilience-building. The different offices were given flexibility on implementation within a common principle of maximizing communities’ agency. Communities were allowed to manage their own funds, planning and implementation of the activities.

---

**Timeline**

- **8 Nov 2013:** Typhoon Haiyan (Yolanda), 8 November 2013.
- **2014:**
  - **Apr:** Households assessments begin
  - **Jul:** First Infrastructure and Housing Projects start
  - **Sep:** First houses completed
- **2015:**
  - **Jan:** Livelihood Projects start
  - **Jul:** Water Projects start
- **2016:** Handover

---

**Strengths**

- Adaptable and contextual programme.
- Communities and households were given full control.
- Capacity-building and technical advice supported the owner-driven approach.
- Recovery programming successfully transitioned into development issues.
- Early projects that served the whole community won their trust.

---

**Weaknesses**

- The development of new methodologies was not adequately documented.
- Alignment of programmes in distant areas proved challenging.
- Engagement with the local government was difficult.
- Recruitment difficulties delayed implementation.
- The scope of the programme could have been expanded to cover more communities.

---

**Project Costs USD**

- **2015:** USD 2,250 per household on average, including a latrine (Most families also contributed salvaged materials or other resources to expand upon the basic core shelter design).
- **2016:** USD 2,550 per household on average.

---

**Project Outputs**

- **41 community managed projects, which included:**
  - an estimated 100,000+ paid labour days for implementing community projects;
  - 49 livelihood groups capacitated;
  - 20 livelihood projects funded;
  - 72 water interventions constructed;
  - 42 community registered organizations continuing beyond programme life.

---

**Project Costs USD**

- **2015:** USD 2,250 per household on average, including a latrine (Most families also contributed salvaged materials or other resources to expand upon the basic core shelter design).
- **2016:** USD 2,550 per household on average.

---

**Other Outputs**

- **41 community managed projects,** which included:
  - an estimated 100,000+ paid labour days for implementing community projects;
  - 49 livelihood groups capacitated;
  - 20 livelihood projects funded;
  - 72 water interventions constructed;
  - 42 community registered organizations continuing beyond programme life.

---

**Shelter Size**

- **11.5-23m²** (sizes varied as beneficiaries could choose from different designs).

---

**Shelter Density**

- **Average of 4m² per person** (Based on national average household size of 5 and average shelter size of 20m². Yet size/densities were ultimately determined by community needs based on direct consultation).

---

**Materials Cost**

- USD 2,250 per household on average, including a latrine (Most families also contributed salvaged materials or other resources to expand upon the basic core shelter design).

---

**Project Cost USD**

- **2015:** USD 2,250 per household on average, including a latrine (Most families also contributed salvaged materials or other resources to expand upon the basic core shelter design).
- **2016:** USD 2,550 per household on average.

---

**Other Outputs**

- **41 community managed projects,** which included:
  - an estimated 100,000+ paid labour days for implementing community projects;
  - 49 livelihood groups capacitated;
  - 20 livelihood projects funded;
  - 72 water interventions constructed;
  - 42 community registered organizations continuing beyond programme life.

---

**Shelter Size**

- **11.5-23m²** (sizes varied as beneficiaries could choose from different designs).

---

**Shelter Density**

- **Average of 4m² per person** (Based on national average household size of 5 and average shelter size of 20m². Yet size/densities were ultimately determined by community needs based on direct consultation).

---

**Materials Cost**

- USD 2,250 per household on average, including a latrine (Most families also contributed salvaged materials or other resources to expand upon the basic core shelter design).

---

**Project Cost USD**

- **2015:** USD 2,250 per household on average, including a latrine (Most families also contributed salvaged materials or other resources to expand upon the basic core shelter design).
- **2016:** USD 2,550 per household on average.
CONTEXT

For an overview of the situation before and after the disaster, and the national shelter response, see overview A.23 in Shelter Projects 2013-2014 and overview A.8 in this edition.

The communities targeted by this programme spread across distinct geographic regions of the country, encompassing a variety of contexts, including regions affected by recurrent extreme weather, marginalized indigenous communities and remote small island communities. All were known to be impacted by climate-induced hazards.

SITUATION AFTER THE TYPHOON

Needs varied by region. The town of Coron was not severely affected, so supply lines were established rapidly and those who could afford them purchased basic items in town. Two months after the disaster, the market was almost back to normal.

The organization conducted a Multisector Initial Rapid Assessment in Coron immediately after the typhoon, determining that 18% of houses were destroyed and 23% were severely damaged. In another early assessment, community members indicated that they were not familiar with resilient construction techniques (due to the significantly less frequent occurrence of typhoons in the western regions). In addition, they were observed to suffer from a number of small-island development issues, ranging from poor access to education, to water shortages and coastal livelihoods threatened by climate change.

Most affected were the coastal fishing communities, whose means and sources of income had been destroyed or damaged to a large extent. Also the physical damage to houses, schools and other communal facilities was greater in coastal communities, which were already in vulnerable positions before the typhoon.

RESILIENT RECOVERY APPROACH

The programme followed a “resilient recovery approach”, using and strengthening available capacities in the communities as much as possible. This focuses on organizing the communities around the common goal of resilience building, beyond strengthening their physical environment (e.g. shelter and infrastructure) and including livelihood groups, new knowledge and increased social capital and organizational capacity.

The approach allows for local people to exchange knowledge and encourages the community to analyse how buildings collapse and how to make them stronger. Ultimately, it encourages programme design to take place together with its “clients”, in order to properly meet their needs – involving communities in meaningful decision-making, engineering shelters together with local builders and not forcing a “one size fits all” design.

LOCATIONS AND BENEFICIARY SELECTION

The geographic regions were chosen strategically, to cover a broad sweep of contexts and to eventually pull in different sources of funding. Within those regions, early assessments helped target a combination of hard-hit and inherently vulnerable communities. Within each community, the whole population was then targeted for the integrated resilience approach, with projects such as health centres, water systems, sea walls, etc.

Detailed social and technical assessment determined which portion of the population was more or less affected by the typhoon and, specifically in regard to the shelter programme, those who qualified for housing assistance (destroyed or severely damaged home). Within these, the final selection was made by applying vulnerability criteria (defined by community groups during workshops and voting). This process varied for each community. Broadly, facilitators aimed for the establishment of criteria by the community (e.g. elderly, single headed household, etc.) and then summed the voted scores for each potential beneficiary. However, in some cases, decisions were taken outside of this rigid framework. Transparency meetings were established to follow up on selection appeals, among other activities. Contentious selections did occasionally arise, usually due to pre-existing social conflicts within communities. In these cases, inclusive community meetings usually provided the best forum to resolve differences and reach consensus.

PROJECT IMPLEMENTATION

After initial distributions of emergency NFIs through local partners, the organization focused on developing the resilient recovery programme for a two year recovery phase, building on Disaster Risk Reduction (DRR) methodologies.

Shelter and community infrastructure needs were identified through early assessment and begun in the first year. This was then broadened out into integrated programming including Livelihood, WASH, DRR and Health.

Livelihood programming in particular became very important in addressing the impacts on the fishing communities and building towards longer-term economic resilience – both directly (e.g. Market Hub, Seaweed Cooperative, Rice/Fish/Fuel Resellers) and indirectly (e.g. community labour and logistics for all construction projects, local procurement of materials, boat landings to enhance trade). These projects were all implemented alongside existing activities, during the second year.

The organization was determined to use a participatory approach, granting communities agency and sense of ownership over the project outputs. Therefore, the entire
programme was designed to be delivered through conditional cash transfers, with community and households taking an active role in managing the projects, while being supported by capacity-building and technical guidance from the organization.

In early risk assessments, communities were facilitated to analyse their own risk, develop their own risk-proofing strategies, write their own project proposals and submit them to the organization for review and approval. For some elements of programming, such as infrastructure, communities were even given decision-making power over their total budget, deciding themselves which projects to invest in based on their value for money and impact towards resilience-building.

For the housing project, a variety of contextual methodologies were trialled in each different area. In the harder-hit eastern part of the Philippines, the projects focused more on meeting shelter needs, including the implementation of a repairs programme, while in the western areas the lesser urgency allowed for greater diversification of programming and funds.

In one project area, architects from the organization sat with each family and customized each house design based on the beneficiaries’ preferences. In another, several housing types were designed based on community consultation, and the beneficiaries could choose from them. All house designs were drawn by a combination of architects and engineers, making sure to adhere to local vernacular design, while meeting technical standards. In particular, wind resistance required different standards between the East and West of the country, based on building codes and variance in typhoon wind speed.

Additionally, some areas employed a cluster-based management of housing projects: entire groups of families would progress through the cash tranches together, while in other areas beneficiary families were treated separately. This variety was experimental, but ultimately helped to contextualize the project for each area.

Once the projects begun, communities and households would handle an unprecedented level of responsibility, managing all the project funds, handling material procurement, record keeping, organizing logistics, hiring and paying their own labour force and managing construction. A strict upholding of the cash tranche conditions ensured that beneficiaries would follow the technical guidelines of the organization’s engineers and build according to their typhoon resilient standards and designs. In the case of deviation from these conditions, or misuse of the funds, individual projects (or in some cases housing clusters) would have their tranche payments suspended. However, this turned out to be very rare (less than 5% of cases) and successful resolutions were always found.

Additionally, a master-builder programme (practical training and on-site mentoring) was established, to support the housing projects through to completion. Experienced local carpenters and masons were trained and contracted to manage housing clusters.

To make all this possible, the organization had to support the communities with a rigorous set of capacity-building workshops, including on financial literacy, bookkeeping, management, construction and leadership. The organization put significant resources into hiring many community organizers and technical staff, as well as partnering with a local community-development organization to capacitate the staff.

Additionally, a Transparency Strategy established tools and mechanisms to manage feedback and complaints.
within the community and resolve issues internally, while maintaining accountability. Features included regular community meetings, an anonymous suggestion box for dealing with potentially contentious issues, and notice boards to expand communication of messages (and in some cases even construction receipts) beyond those who attended meetings. When issues arose, they would first be dealt with at community level, and under certain circumstances escalated up, eventually to the organization’s regional level, for external judgement. Only a few dozen cases ever reached this level, and supplementary facilitation was provided to avoid potential conflict.

Each project had community-assigned management teams with respective responsibilities, usually including a project manager, construction site foreman and treasurer. Roles were identified based on advice from the engineers and available funds within each project. Later in the programme, some large community infrastructure projects even experimented with establishing community auditing teams. This was particularly well received and led to less management problems and smoother running of the projects.

**Racial division challenges**

In Coron, indigenous leaders initially refused to work with the migrant communities. In the end, dialogue workshops and suspension of the programme worked to resolve differences and allow access to the whole population. However, this required the organization to adopt a more interventionist approach than usual. This reflects the conflict that sometimes arises between participatory approaches and organizational control.

**Key messages and design solutions**

Building on the Shelter Cluster 8 Key Messages, design details and safe building location were emphasized and demonstrated through the construction features and site location of each house, rather than through a single prescriptive design, aiming towards replication by the larger community. In partnership with an international construction NGO, these features were codified and made obligatory through a checklist that was distributed to beneficiaries. Compliance was checked through inspection by the primary organization’s engineers and linked directly to cash tranche releases.

Following vernacular construction practices, all shelters were designed to be core houses that could be expanded over time. Supported by the livelihood components of the project, in time beneficiaries could raise the resources necessary to extend the structure, as is traditionally performed. While it is hard to control the quality of future extensions, the core house itself was designed to resist in the case of another typhoon, leaving each family with a hub from which to build back from.

While a better understanding of resilient building details was established, the replication of such details outside of the programme was seen to be limited, in light of the economic circumstances of each family. For example, while some people could afford extra nails to strengthen important connections, few were willing to invest in the relatively expensive bolts.

**Materials sourcing and transport**

Being set in areas where markets were still functioning, the projects granted responsibility to beneficiaries to procure locally, according to pre-agreed specifications (included in the agreement between the beneficiary and the organization) and transport their own materials to site. By outsourcing the procurement and logistics burden, the beneficiary communities were given more choice and agency over the project and its implementation. This worked especially well in Coron where, spread across remote islands, community management of logistics utilized local knowledge of the waters and transport routes, making great savings in costs and efficiencies in the process.

The only point of concern was the rare occurrence of illegal timber use from local forests. Because of the superior quality compared to local timber markets, some beneficiaries were occasionally tempted to cut down forest timber, also to save on costs. In the end, this risk was mitigated by coordination with the government forestry department and local administration. The organization played its role by the fast and transparent suspension of projects where such cases arose, and warning against the practice of illegal procurement.

**Wider impacts of the project**

Improvements were made in community organization and project management, safety of houses, new and rebuilt community infrastructure, increased knowledge, income diversification and the re-establishment of local businesses. The involvement of affected people in the programme ultimately enabled the communities to be safer and more resilient to typhoons than before. The approach also helped communities organize preparedness plans supported by the Local Government Unit, national policies, laws and financing arrangements.

With the appropriate adjustments, and largely based on experiences from this programme, the organization’s Resilient Recovery Approach was used again, most notably in Nepal after the earthquake of 2015.

---

1 See overview A.8 and find the 8 Key Messages online at http://bit.ly/2qANqZ3
2 Some of the contextually new features introduced to local communities included bolts on major connections (e.g. columns to trusses), bracing and cross bracing in the walls and roof, minimum numbers of nails for each connection, poured concrete pad foundations (as opposed to the less durable timber post foundation used locally), connecting the timber column dry footing to the foundations to withstand wind uplift forces, nailed blocking to fasten purlins to joists, and timber treatment for termite protection.