



Shelter Cluster Philippines
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Coordinating Humanitarian Shelter

TYPHOON HAIYAN (YOLANDA) SHELTER RESPONSE OUTCOME ASSESSMENT

FINAL REPORT

PHILIPPINES

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EXECUTIVE SUMMARY

When Typhoon Haiyan, locally known as Yolanda, reached the Eastern Visayas region of the Philippines on 8 November 2013, it was the strongest typhoon ever recorded to make landfall. Yolanda was the deadliest typhoon in Philippine history, killing over 6,000 people as it crossed the Visayas. Millions were left homeless across an area that included some of the poorest provinces in the country, with poverty incidence in 2012 estimated at above 60% of the population in Eastern Samar and above 45% in Samar.¹

Given the large scale destruction of homes and livelihoods, Shelter formed a significant part of the humanitarian response that followed. In the Typhoon Haiyan Strategic Response, the shelter response was valued at USD 178,442,176, accounting for 23% of all requested funds and the second largest single component.² To inform the development of the Shelter Cluster Strategy and monitor changing needs over time, REACH conducted three assessments on behalf of the Shelter Cluster: a baseline assessment of Shelter and WASH in December 2013³, a joint Shelter and WASH monitoring assessment in April 2014⁴, and a second monitoring assessment of the Shelter response in September 2014⁵.

Following deactivation of the Philippines Shelter Cluster in October 2014, this Shelter Response Outcome Assessment aimed to assess the outcome of the large-scale response by affected populations, governmental and non-governmental (NGO) agencies that followed Yolanda, and focuses on shelter recovery. Planned and implemented with the Global Shelter Cluster and operational shelter in the Philippines, this report examines some of the characteristics influencing shelter recovery. Analysis was based on a review of secondary data, and primary data collected from 13 case study locations. The data was analysed to address a series of overall research questions, summarised below.

- **How did shelter agency assistance support the rebuilding of safe, adequate and appropriate homes and which types of assistance helped people implement 'Build Back Safer' messages when rebuilding their homes?**⁶

Safety. Affected households that had received shelter assistance were widely reported to have achieved a higher level of Build Back Safer (BBS) standards when rebuilding and repairing their homes compared to those that relied only on their own resources, who struggled to balance shelter with other priorities. Overall, the affected population already knew most BBS techniques to some extent before Yolanda, but techniques had become known in more detail following the typhoon, which was often reported to be due to the extensive dissemination of the 8 key BBS messages that was undertaken by government and shelter agencies. When comparing the safety of different types of shelter assistance, the highest BBS standards were observed in cases where complete permanent or transitional shelters had been constructed. Families that received other types of recovery assistance, such as materials, cash support or training, were not always found to prioritise all BBS considerations during reconstruction. Training for the wider community was reported only to be effective when materials were distributed to participants in conjunction with the training. Community members that did not receive assistance were frequently

¹ https://psa.gov.ph/sites/default/files/Report%20on%20the%202012%20Full%20Year%20Poverty%20Statistics_0.pdf

² Shelter Cluster Strategy, March 2014.

³ REACH, [Shelter and WASH Rapid Assessment Typhoon Haiyan](#), January 2014

⁴ REACH, [Shelter and WASH Response Monitoring after Typhoon Haiyan](#), April 2014.

⁵ REACH, [Shelter Sector Response Monitoring Assessment, Typhoon Haiyan](#), September 2014

⁶ Definitions of Safe, Adequate and Appropriate were drawn from HSWG (November 2014) Recovery Shelter Guidelines, see 'Recovery shelter guidelines' section below for full definitions.

reported to have learned about BBS techniques by watching people they saw as the most skilled local carpenters, while they worked on other structures.

Adequacy. Shelter agencies generally aimed to follow adequacy standards in line with those outlined by the Humanitarian Shelter Working Group (HSWG) in all interventions.⁷ However, low awareness of these standards among beneficiaries, as well as their own competing priorities often posed challenges to achieving them. For instance, shelter agencies and affected households alike struggled to build shelters in line with adequate space standards in heavily populated areas. Durability of materials used for construction, especially coco-lumber, was a challenge, with both shelter agency assisted and self-recovery rebuilding, due to depleting stocks of coco-lumber. As with BBS messaging implementation, where durable materials were available, these were reportedly only available to households that had the resources to pay for them – especially due to price hikes following increasing rebuilding demand.

Appropriateness. The environmental impact of both Yolanda and the subsequent rebuilding effort was apparent, with rising temperatures in many communities due to the absence of shade; reported increases in flash flooding; and delayed replenishment of forests as communities and shelter agencies resorted to using young trees for construction. A gradual change in materials felt to be culturally appropriate and preferred by beneficiaries was also noted amongst assessed communities. These altering preferences were reportedly due to a mixture of BBS messages and direct observations of effective and less effective shelter structures in the face of typhoons.

- **To what extent did shelter agencies support the rebuilding of communities with access to essential facilities and needs?**

Shelter agencies and communities alike explained that requirements for safety and access are often inherently conflicting. Finding a safe site which simultaneously had access to community infrastructure and livelihood opportunities continued to pose enormous challenges, leaving many communities in no build zones (NBZ)⁸ with nowhere to go. Some relocated households were said to use their shelters at relocation sites when they needed to evacuate in the face of typhoons, while returning to live on the coast, closer to livelihoods and services. Lack of access to key infrastructure and services was a key issue at relocation sites, often due to lack of available facilities or livelihoods but sometimes also due to lack of integration of the relocated population, which prompted people to return to their barangay of origin to access services that were otherwise not available at the new location. Agencies felt that guidance outlining standards for safety and access to essential services could better advise on how such conflicts should be approached.

Loss of livelihoods, particularly amongst copra farmers and fishermen, had been partially mitigated by shelter agencies through the surge in demand for construction labour that followed Yolanda. Another positive access effect of the response was that access to sanitation had considerably improved overall amongst affected communities compared to before Yolanda, although the increased use in latrines led to new challenges in safely disposing of latrine content and obtaining water needed for flushing. Water

⁷ Recovery Shelter Guidelines (November 2014) Humanitarian Shelter Working Group

⁸ The term no build zone or NBZ is used throughout the document because although Government policy around the 40m No Build Zone was changed on the 15th March, the designation of safe, unsafe and controlled areas was dependent upon hazard mapping being carried out and LGU's Comprehensive Land Use Plans being amended accordingly. As this information was not readily available the original terminology of NBZ and BZ has been used in this assessment, to avoid confusion.

network access had sometimes not been restored at original sites and remained to be installed at relocation sites.

Selected observations: BBS techniques

- **Tie-down:** Some communities awaiting relocation reported stopping the use of tie-down techniques after Yolanda as they wanted the shelters to be easy to dismantle when they moved.
- **Strong foundations:** One unintended consequence of the value attached to strong foundations was that households were reported to return to build on old foundations to save money and time, even when these were located at sites that were unsafe and considered as no build zones (NBZ).
- **Bracing:** BBS guidelines relating to bracing were felt to be insufficient in areas where destroyed structures had mostly been made of concrete masonry, as the guidelines focused on wooden structures.
- **Strong joints:** Lack of capacity amongst carpenters to construct strong joints was raised by both communities and shelter agencies,
- **Good roof:** People reported using wide spacing between nails despite knowing that this made the roof weaker, partly because nails were felt to be expensive but also due to plans to transfer the roof to another location in the future.
- **Safe site:** Lack of access to safe sites worked on multiple levels to hamper BBS, preventing households from receiving the most durable housing assistance. This often meant that they were not permitted to build strong structures on the current site; and that they had little incentive to BBS in any case due to the tenuous land tenure status at sites considered as NBZ.
- **Simple shape:** Households that had been sensitized about BBS methods and had fully BBS compliant shelters in all other aspects were seen to specifically ignore advice on simple shape related to separation between extensions and main roofs, frequently attaching the roof on their subsequent extension with the roof of their main structure.
- **Preparedness:** Preparedness was consistently said to have improved since Yolanda, with many communities feeling that preparedness had not been practiced as it should before the typhoon. In particular, many had not understood the meaning of 'storm surge' and did therefore not act on warnings ahead of Yolanda making landfall. The typhoon was said to have fundamentally altered communities' attitude towards the importance of preparedness, with people acting immediately upon receiving warnings about approaching typhoons.

How did shelter agencies complement each other to support reconstruction?

Coordination during the emergency and early recovery phase was reported to have been relatively strong. One key challenge faced in terms of duplications was the interventions conducted by smaller, largely unknown organisations that did not connect with the wider coordination system. Shelter agencies reported a reduction in coordination following the closure of the clusters and some feared that unknown gaps remained due to lack of harmonised response data. Complementing activities were reported especially with the WASH sector, facilitated by WASH activities often implemented by shelter agencies themselves. However, some relatively well-assisted communities reported gaps occurring where agencies had planned to complement each other but one or more did not eventually follow up on their commitment.

- **What were the key overall challenges that people faced when building safe, adequate and appropriate homes with access to essential facilities livelihoods opportunities? How did shelter agencies work to alleviate these?**

Land issues indirectly underpinned almost every challenge related to the recovery of affected populations. Lack of access to safe sites led not only to affected households remaining in NBZ but also to lack of implementation of BBS due to lack of permission to build stronger structures and lack of incentive to build secure structures with durable materials that would later have to be taken apart or were in any case not felt to be intended for long-term use. Lack of safe land near livelihoods and community facilities meant that some relocated communities were travelling long distances for all services and livelihoods. Shelter agencies tried several strategies to mitigate challenges faced due to land issues. Rental assistance had been given to households with damaged houses in NBZ; legal assistance was provided to households to facilitate longer-term tenancy with land owners; some tried coordinating with governmental agencies to procure land; and relocation sites were searched for near livelihoods and services.

Another key underlying challenge was lack of availability of durable materials, in turn intimately linked with the negative environmental and livelihoods impact that resulted from the repeated typhoons and subsequent rebuilding efforts that gradually demolished the mature trees desperately needed for construction lumber, copra and shade.

- **To what extent did the shelter cluster assistance meet community priorities and expectations?**

Satisfaction with assistance appeared to be closely linked to perceptions of whether support had been fairly targeted. Targeting perceived as unfair included cases where more vulnerable households were given assistance quickly and therefore did not qualify to receive more substantial assistance later on, which was instead given to less vulnerable households that had not already received assistance. Similarly, it was also felt to be unfair where households were excluded from assistance due to previously received assistance, without having had a chance to choose between assistance types. In other cases, households were reported to intentionally delay rebuilding to receive assistance, since people perceived that those who had already begun rebuilding would not be eligible. Complaints were also raised that land owners received more durable assistance due to land tenure requirements of more permanent housing solutions, which excluded households that did not have formalised ownership or long-term rental agreements.

The Shelter Cluster's priority of BBS standards in particular was otherwise fully aligned with the priorities of affected populations that largely considered the BBS techniques effective and important. Shelter agencies and communities alike indicated a need to better adapt the minimum space standards depending on level of population density. However, some reported that recovery assistance was felt to have arrived too late, with households that started to rebuild their homes immediately sometimes receiving training in BBS techniques several months after finishing rebuilding.

RECOMMENDATIONS

Based on findings from this assessment, the following recommendations were developed in order to inform future responses:

- Identify ways to help affected populations prioritise the integration of BBS techniques. Such advice on prioritisation could help motivate households that struggle to implement *all* BBS

standards to achieve at least some. Similarly, provide better guidance on how to address conflicting demands between Safety, Adequacy and Accessibility standards.

- Develop a common strategy on how to source durable construction materials and replenish diminishing forests, especially coco lumber, in order to mitigate against negative environmental impacts of the reconstruction response.
- Consider a communications strategy to reach those who are recovering without assistance with BBS messaging, as opposed to only those who are targeted by aid.
- Strengthen efforts to communicate effectively with affected populations about the type and availability of different types of assistance at different times, to enable informed choices by beneficiaries. Related to this, provide effective feedback mechanisms to allow affected populations to raise concerns and help tailor the response in their area.
- Carry out a rapid tenure assessment to provide agencies with a better contextual understanding of how land is occupied. When doing so, consider engaging legal specialists to provide context-specific advice.
- Strengthen efforts to provide timely assistance in a way that better complements self-recovery activities. Consider providing 'recovery' assistance earlier on in the response.

ACRONYMS AND ABBREVIATIONS

4Ps	Pantawid Pamilyang Pilipino Program
BBS	Build Back Safer
CRRP	Comprehensive Rehabilitation and Recovery Plan
DPWH	Department of Public Works and Highways
DRR	Disaster Risk Reduction
DSWD	Department for Social Welfare and Development
DTI	Department of Trade and Industry
ESA	Emergency Shelter Assistance
HUDCC	Housing and Urban Development Coordinating Council
HLP	Housing, Land and Property Rights
IFRC	International Federation of Red Cross and Red Crescent Societies
IOM	International Organisation for Migration
LGU	Local Government Unit
NDRRMC	National Disaster Risk Reduction & Management Council
NEDA	National Economic and Development Authority
NHA	National Housing Authority
NSCB	National Statistical Coordination Board
OPARR	Office of Presidential Assistant for Recovery and Rehabilitation
PRC	Philippines Red Cross
RAY	Reconstruction Assistance on Yolanda
SC	Shelter Cluster
SRP	Strategic Response Plan
TESDA	Technical Education and Skills Development Authority
WASH	Water, Sanitation and Hygiene

GEOGRAPHIC CLASSIFICATIONS

Region	Highest form of governance below the national level
Province	Second highest form of governance comprised of multiple municipalities
Municipality	A collection of barangays that comprise a broader 'city'
Barangay	An area formed of 10,000 voters; the lowest administrative boundary
Sitio / Purok	Neighbourhood or area that is informal and not classified for administrative purposes

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METHODOLOGY

OBJECTIVES & RESEARCH QUESTIONS

The overall objective of this Shelter Response Outcome Assessment was to evaluate the outcomes of the provision of shelter and settlement programming in response to Typhoon Haiyan by agencies represented by the Shelter Cluster, through a review of existing data and a complementary primary data collection exercise in-country. It should be noted that the primary data collection component was based on a qualitative methodology with a purposive sampling strategy hence findings from this component were not intended to be representative with a specified level of precision to the particular area of interest. The aim was instead an exploratory review of the relationship between shelter, settlements, recovery and the perceptions of both affected populations and the humanitarian community. The intention was to assist in advancing theories surrounding outcomes of shelter and settlement response on affected populations, which could then be used both to inform future shelter responses and as a basis for hypothesis testing in future quantitative studies. This evaluation thus aimed to enable an understanding that is not limited to the geographic regions of interest but could be applied and tested in other areas and times in Philippines and beyond, while aiding in advancing the global discourse on shelter and settlement response.

Two overall research questions were used to address this objective:

1. Were shelters rebuilt safe and adequate?
2. Were settlements rebuilt appropriately and with access to essential facilities?⁹

Each research question generated sub-questions around which data collection tools were structured, which are outlined in Table 1 below alongside relevant objectives, indicators and priorities found in the Strategic Response Plan (SRP)¹⁰ and the Comprehensive Rehabilitation and Recovery Plan (CRRP).¹¹

⁹ The objective is here to evaluate the outcome of the shelter response against the key parameters outlined in the Shelter Cluster Philippines – Recovery Shelter Guidelines (14/11/06) and the Strategic Response Plan prepared by the Philippines Humanitarian Country Team; please see data analysis framework below for full details.

¹⁰ Prepared by the Humanitarian Country Team

¹¹ Prepared by Government of Philippines

Table 1: Research questions and corresponding CRRP and SRP Objectives, Indicators and Priorities

Overall research questions	Specific research questions
1. Were shelters rebuilt Safe, Adequate? (<i>individual shelters</i>) <i>SRP Strategic objective 2:</i> -> Families with destroyed or damaged homes, including the displaced population, attain protective and sustainable shelter solutions. <i>SRP Indicators:</i> - > Number of families that sustained house damage from the typhoon currently living in a habitable house/dwelling - > Percentage of population at displacement sites with adequate shelter... <i>SRP Priority:</i> -> "To support self-recovery while also ensuring safe temporary shelter for those unable to repair or reconstruct their homes, including support to host families of displaced persons." <i>CRRP Objectives:</i> -> To repair houses or rebuild settlements....that are more resilient to hazard events; -> To increase resilience and capacities of communities in coping with future hazard events	How did actors contribute to shelters being built back Better and Safer (Adequate and Safe)? (e.g. HH/communities, government, private sector, aid actors)
	Which type(s) of shelter assistance contributed to build back safer messages being implemented?
	How did actors complement/duplicate each other's contributions to BBS?
	Was SC definition of BBS in line with / adapted to community expectations? <i>SRP Indicator: -> Number of households that sustained house damage reporting satisfaction with assistance.</i>
	What factors if any, (including household/displacement/tenancy status vulnerabilities) prevented households from building back safer?
	Why could the assistance provided not mitigate these factors? Would other types of assistance could have been more appropriate?
2. Was the shelter response Appropriate and enhancing Access to essential facilities (Water & Sanitation, Health, Education, Livelihoods etc)? (<i>settlements</i>) <i>SRP Indicator:</i> - > Percentage of population at displacement sites with adequate ...basic services including displacement management. <i>CRRP objectives:</i> -> To restore, rehabilitate, or reconstruct damaged infrastructure necessary to sustain economic and social activities in the affected areas; -> To repair...or rebuild... basic community facilities and services that are more resilient to hazard events; -> To restore the peoples' means of livelihood and continuity of economic activities and business;	How did actors contribute to the rebuilding of more Appropriate settlements with better Access to essential facilities (e.g. government, private sector, aid actors, local community)
	Was SC definition of Appropriate and enhanced Access in line with / adapted to community expectations? <i>SRP Indicator: -> Number of households that sustained house damage reporting satisfaction with assistance.</i>
	What factors if any, prevented settlements from being built/built back more Appropriate with better Access?
	Why could the assistance provided not mitigate these factors?

DATA COLLECTION METHODOLOGY

A mixed methods approach was used to address the research questions:

1. (Phase 1) Qualitative and quantitative secondary data review (SDR) – conducted primarily through desk research covering assessments, evaluation, planning documents and other review materials produced over the course of the Haiyan response. The review had four key objectives¹²:

¹² A fifth purpose was initially envisaged (informing the purposive sampling of households within communities by enabling identification of vulnerability characteristics) but subsequently abandoned in favour of a random sampling strategy to understand the level of implementation of BBS methods at each case study location.

- a. To inform the development of research questions and indicators that guided the overall assessment in line with the specific assessment objectives.
 - b. To inform the purposive sampling of communities for the primary data collection phase by enabling identification of case study location types (see table 3 below).
 - c. To quantify the impact of the shelter response where possible, including a longitudinal/temporal analysis of how the response progressed and whether gaps remained.
 - d. To enable triangulation between primary and secondary data to inform the analysis and aiding in establishing outcomes.
2. (Phase 2) qualitative primary data collection – conducted in the Philippines through a combination of primary data collection methods to inform a qualitative study on the effectiveness of shelter provision to affected families and their communities.

Shelter cluster agencies were engaged at an early stage of the assessment for input on finalising the terms of reference, objectives and crucially, for identification of case study locations across Yolanda affected areas in Regions VI, VII and VIII. Data collection staff and resources were contributed by Catholic Relief Services, Habitat for Humanity, ACTED and PRC/IFRC.

Primary data collection at case study locations began on 8 March and completed on 14 March, preceded by a training session in Tacloban, where all teams also gathered for debriefing on 14-16 March. The data collected through this exercise is outlined in the table below.

Table 2: Primary data collected

Tacloban, Manila & Roxas		Case study locations in Region VIII, VII & VI		
1. Key informant interviews (shelter agencies): 26	1. Focus group discussions: 26	ID	Barangay	Direct Observation Questionnaires
	2. Key informant interviews: 39	1	Dumolog	31
	3. Direct observation questionnaires: 467	2	56A	42
		3	Tigbao	25
		4	Paypay	38
		5	Pinamalatican	19
		6	Maragongdong	20
		7	Cogon	50
		8	Palanog 103	24
		9	Jagnaya	40
		10	Paon	39
		11	88	25
		12	Pinamitinan	62
		13	Gibitngil	52
		TOTAL		467

Focus group discussions (FGD) and Key Informant interviews (KII) were completed using paper questionnaires and audio recordings. FGDs were moderated by the team Assessment Officers, with the aid of flipcharts and guidance materials, while an Assessment Assistant noted discussions and

impressions. At the end of each day, with the help of the recordings and notes, the team typed up the discussions and submitted these to the Assessment Coordinator for review, feedback and requests for clarifications. The field observation component was simultaneously undertaken by the Technical Assistants, who followed a random sampling methodology to select structures at the case study location that were assessed with tablets using a direct observation form hosted on the Kobo platform. The Assessment Coordinator joined the teams throughout data collection and conducted daily evening debriefs with all team leaders to review collected data, daily challenges and progress in the field.

Data collection was followed by final debriefing sessions where all outputs were reviewed, location by location, to form a comprehensive understanding of each location and identify local context specific considerations to take into account during the analysis phase. All reviewed forms with debriefing notes were then entered into a purpose built Excel matrix capturing key themes across locations and research questions. Reviewed forms were also scanned and stored to enable future cross-checks.

Text based secondary data and interviews with shelter agencies were reviewed using qualitative data analysis software QDA Miner, to identify key themes relating to the research questions. Results were summarised in frequency charts, demonstrating the number of sources mentioning a particular theme.¹³ Accessible raw secondary data, i.e. shelter cluster rapid assessment and monitoring data, was analysed using statistical software SPSS. Results were presented at a preliminary findings session in Manila on 28 March, before being circulated to shelter cluster members for feedback.

Case study locations

Thirteen barangays were selected as case studies for the primary data collection component, to represent a combination of characteristics that were suspected to have influenced how communities recovered following Yolanda:

- ✓ Whether the barangay was located in a Build Zone or No Build Zone
- ✓ Whether the barangay was in a rural or urban area
- ✓ Whether people had rebuilt on the original site of their house or were living on a permanent or temporary resettlement site
- ✓ Whether the barangay had received relatively lower or higher levels of shelter assistance
- ✓ Whether the barangay had relatively lower or higher access to community services and infrastructure

The above case study characteristics were circulated to shelter agencies with a call for nominations of case study barangays that could represent each of the case study types. Once all nominations were received the final list of barangays was identified with the aim to ensure that:

- ✓ As many agencies as possible contributed a location
- ✓ Locations were represented across all three regions of interest (VI, VII and VIII).
- ✓ All case study types were represented.

¹³ This should not be confused with number of mentions, which may have been more than once per source but was of less use for the analysis.

Case study characteristics were verified by the Assessment Coordinator through field visits during data collection and subsequent data collection team debriefing sessions. The predicted characteristics are outlined in table 3 below, followed by the verified characteristics in table 4, with updated details highlighted in **red**.

Selected findings: Case study locations

- Barangays often have a significant proportion of the population living in NBZ and BZ respectively– it is important to take this into account during analysis as it may affect whether Safe shelters can be rebuilt.
- Resettlement locations may draw the population from the local barangay population or other barangays – this is important to take into account during analysis as it may affect the level of Access the resettlement population has to community infrastructure etc.

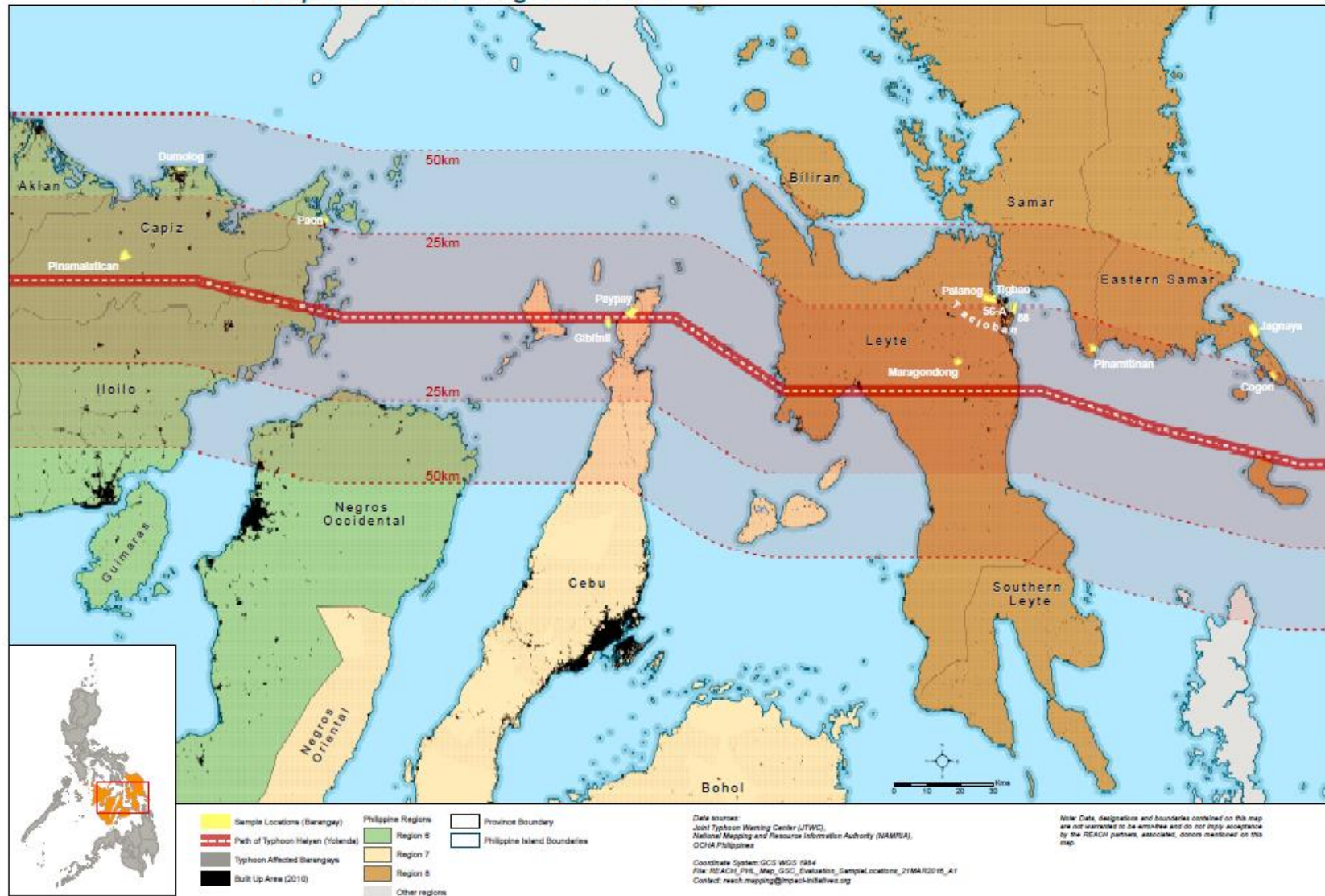
Table 3: Case study locations – predicted characteristics

#	Build Zone status	Area type	Location type	Level of assistance/services	Barangay	Municipality	Province	Region	Contact
1	Build Zone	Urban	On original site	Lower shelter assistance	Dumolog	Roxas	Capiz	6	HI
2	Build Zone	Urban	On original site	Higher shelter assistance	56A	Tacloban	Leyte	8	CRS
3	Build Zone	Urban	Transitional resettlement	N/A	Tigbao Relocation site	Tacloban	Leyte	8	CRS
4	Build Zone	Urban	Permanent resettlement	Higher access to services	Paypay	Daanbantayan	Cebu	7	PRC
5	Build Zone	Rural Inland	On original site	Lower shelter assistance	Pinamalatican	Sigma	Capiz	6	HI
6	Build Zone	Rural Inland	On original site	Higher shelter assistance	Maragongdong	Dagami	Leyte	8	World Vision
7	Build Zone	Rural Inland	Transitional resettlement	N/A	Cogon	Guiuan	Eastern Samar	8	IOM
8	Build Zone	Rural Inland	Permanent resettlement	Lower access to services	Palanog 103	Tacloban	Leyte	8	GK
9	Build Zone	Rural Inland	Permanent resettlement	Higher access to services	Jagnaya	Salcedo	Eastern Samar	8	ACTED
10	Mixed	Semi-Urban Informal/ Formal/ Coastal	On original site	Higher/Lower access to shelter assistance	Paon	Estancia	Iloilo	7	World Vision
11	No Build Zone	Urban Informal/Coastal	On original site	Lower shelter assistance	88	Tacloban	Leyte	8	Shelter Cluster
12	No Build Zone	Rural Informal/Coastal	On original site	Lower shelter assistance	Pinamitanan	Marabut	Samar	8	DSWD Kalahi
13	No Build Zone	Island	On original site	Lower shelter assistance	Gibitngil	Medellin	Cebu	7	PRC

Table 4: Case study locations – verified characteristics

#	Build Zone status	Area type	Location type	Level of assistance/ services	Barangay
1	Mixed	Urban	On original site	Higher shelter assistance	Dumolog
2	Mixed	Urban	On original site	Higher shelter assistance	56A
3	Build Zone	Semi-Urban	On original site AND Transitional resettlement	Lower assistance and lower access to services	Tigbao Relocation site
4	Mixed	Semi-Urban	Permanent resettlement of original population	Higher access to services	Paypay
5	Build Zone	Rural Inland	On original site	Lower shelter assistance	Pinamalatican
6	Build Zone	Rural Inland	On original site	Lower shelter assistance	Maragongdong
7	Build Zone	Rural Inland	On original site AND Transitional resettlement	Lower assistance and lower access to services	Cogon
8	Build Zone	Rural Inland	On original site AND Permanent resettlement	Higher access to services	Palanog 103
9	Build Zone	Rural Inland/Coastal	Permanent resettlement	Higher access to services	Jagnaya
10	Mixed	Semi-Urban Informal/ Formal/ Coastal	On original site	Higher shelter assistance	Paon
11	No Build Zone	Urban Informal/Coastal	On original site	Lower shelter assistance	88
12	No Build Zone	Rural Informal/Coastal	On original site	Lower shelter assistance	Pinamitanan
13	Mixed	Island	On original site	Lower shelter assistance	Gibitngil

Map 1: Case study locations



CHALLENGES AND LIMITATIONS

Given that the sampling methodology for the qualitative data collection component was purposive with the objective to advance theory as opposed to measure prevalence, it was not possible and indeed not the intention, to generalise the findings from the primary data collection exercise with a specified level of statistical precision. It should also be noted that the number of case studies was limited to 13 due to available resources, while there may of course be additional combinations of characteristics that would be fruitful to study in order to further understand underlying factors affecting recovery across different types of communities.

In addition, more than two years had passed since Haiyan made landfall in the Philippines and many agencies and staff members that were present during initial phases of the response have moved on to work in other countries and contexts, hence their organisational and contextual knowledge could unfortunately not be included in this assessment. Also, up-to-date response data was challenging to obtain in a format that enabled inclusion in the present analysis. The intention was to update the gap analysis conducted by the Shelter Cluster in October 2014 (see 'Overview of key previous analysis' below) with the latest response data figures to assess how the probable gaps may have changed since the original analysis was conducted.¹⁴ Unfortunately, response data could only be obtained for Region VIII and the data base was here found to be incomparable with the gap analysis database, requiring considerable cleaning and verification before an attempt could be made to update the analysis. This task could still be undertaken but was beyond the scope of the present assessment.

Finally, it has been acknowledged that countless civil society actors and smaller NGOs responded in the wake of Haiyan. Their contributions were noted during the case study data collection with communities but given lack of available reporting detailing their contributions, their efforts were not possible to fully take into account in this assessment.

¹⁴ Shelter Cluster (11 November 2014) Gap analysis of remaining shelter needs.

ASSESSMENT RESULTS

CONTEXT AND INSTITUTIONAL SETTING

When Typhoon Haiyan, locally known as Yolanda, made landfall in the Eastern Visayas region of the Philippines on 8 November 2013, it had become the strongest typhoon to make landfall ever recorded. It was also about to become the deadliest typhoon in Philippine history, with over 6,000 people killed as it crossed the Visayas. Millions were left homeless across an area that included some of the poorest provinces in the country, with poverty incidence in 2012 estimated at above 60% of the population in Eastern Samar and above 45% in Samar.¹⁵

Yolanda was followed by a large-scale response led by the Government of Philippines in coordination with the Humanitarian Country Team (HCT). A priority corridor within 50km from the storm path, covering 171 municipalities in 14 provinces across four regions, was identified and hundreds of international and national humanitarian and private sector agencies joined affected populations in recovery efforts. The timeline below outlines key events relating to typhoon Yolanda.

Table 5: Timeline of key events relating to Typhoon Yolanda

Date	Event
2 July 2005	The Republic Act 10121 which outlined the national disaster risk reduction and management framework is passed. The act defines the roles and responsibilities of government departments at different levels.
2007	Sectoral cluster system for preparing and responding to disasters in the Philippines is established by the Philippines National Disaster Coordinating Council (since replaced by the National Disaster Risk Reduction and Management Council: NDRRMC).
15 October 2013	Bohol earthquake occurs in Central Visayas, killing 222 people and affecting 670,000 responded to by governmental and non-governmental agencies.
	The Government deploys senior team to Tacloban and initiates a major relief effort in advance of typhoon Yolanda (Haiyan) making landfall , coordinating with the Humanitarian Country Team (HCT) which also begins preparations for response.
8 November 2013	Yolanda makes its first landfall in the Eastern Visayas region of the Philippines on 8 November 2013. It makes 4 more landfalls as it crosses the Visayas, killing over 6,000 people and leaving 4 million homeless, in areas already suffering high levels of poverty.
11 November 2013	A State of Calamity is declared by President Aquino on 11 November 2013 across all Haiyan-affected provinces. The Government formally accepts the offer from the Resident Coordinator/Humanitarian Coordinator (RC/HC) of international assistance, through the Presidential Proclamation No 682.
	A priority corridor covering 171 municipalities in 14 provinces across four regions is identified by the Government out of the nine regions hit by the typhoon, which become the focus of the inter-agency response.
12 November 2013	An Inter-Agency Standing Committee (IASC) system-wide level 3 (L3) emergency response is formally activated by the Emergency Relief Coordinator (ERC). The Haiyan Action Plan (Flash Appeal or Preliminary Response Plan) is produced based on available government data and key informant interviews.
25 November 2013	Municipal and regional plans are produced , based on initial damage and needs assessments requested from local government units.
December 2013	A post-disaster needs assessment (PDNA) is conducted by the Office of Civil Defence (OCD) based on ground verified information.
06 December 2013	The President appoints the Presidential Assistant for Rehabilitation and Recovery (PARR) on 6 December 2013 through the Memorandum Order (MO) No. 62, to unify the efforts of government and other agencies involved in the rehabilitation and recovery of Yolanda-affected areas.

¹⁵ <http://www.nscb.gov.ph/poverty/data/fullterm2012/Report%20on%20the%202012%20Full%20Year%20Poverty%20Statistics.pdf>

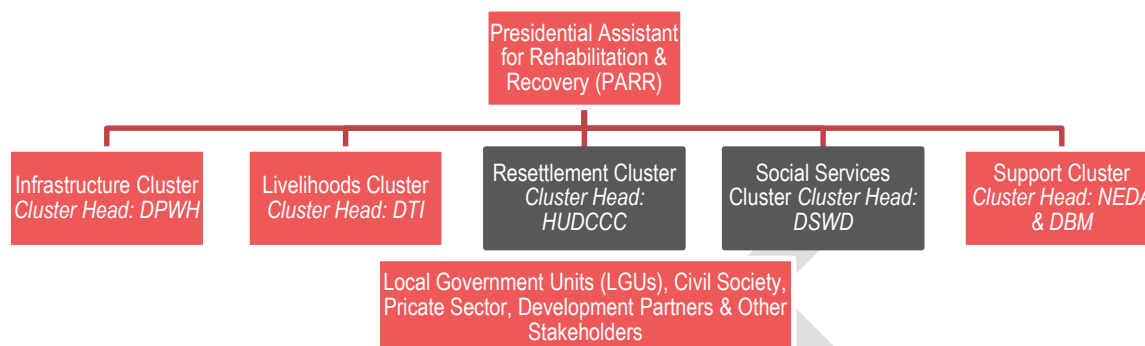
10 December 2013	The Strategic Response Plan (SRP) is launched by the HCT , with an overall goal to help ensure that communities and local governments 'recovered from the disaster, built back safer and avoided relapses, while strengthening resilience'. The SRP is organised around five inter-sectoral objectives and the total budget is US\$ 788 million.
16 December 2013	The Reconstruction Assistance for Yolanda (RAY) is published, outlining government plans to guide the recovery and reconstruction. The total RAY budget is US\$ 8.17 billion, with US\$ 2.83 billion indicated to cover critical immediate needs or short-term interventions during the first twelve months following Yolanda.
15 March 2014	Local Government Units are instructed to use hazard risk mapping to determine 'safe zones', 'unsafe zones' and 'controlled zones' , by the PARR. The guidance indicates that the originally proposed 40 metre coastal buffer as "no-build zones" should be changed to allow for livelihoods and commerce in coastal areas. Residential structures may be allowed in controlled areas where constructed above commercial units and built to a higher safety standard than houses in safe zones.
16 May 2014	The Post-Disaster Needs Assessment (PDNA) is published , using a multi-sectoral and multi-disciplinary approach to assess disaster impacts and prioritize recovery and reconstruction needs, including Damage and Loss Assessment (DaLA), a Human Recovery Needs Assessment (HRNA) and a recovery and reconstruction framework.
June 2014	Recovery Shelter Guidelines are prepared by the HSWG through consultation with agencies and government counterparts, which advocate for prioritising permanent solutions, with adherence to key principles, and parameters around safety, adequacy, appropriateness and accessibility, while emphasising that temporary assistance in high-risk areas, should include preparedness and evacuation plans.
04 July 2014	The government declares the humanitarian phase over and dedicates coordination of further response to OPARR's structures as opposed to humanitarian clusters. The RAY is replaced by the Comprehensive Rehabilitation and Recovery Plan (CRRP).
31 August 2014	The SRP is closed by the HCT three months ahead of schedule , due to the government decision to end the humanitarian phase and shift focus to rehabilitation and recovery; the significant progress already made against the goals of the SRP; and the recovery work already undertaken by many field level actors. However, at the time of closure the SRP has only been 61 per cent funded (\$468 million).
14 September 2014	Reconstruction Assistance on Yolanda – Implementation for Results (RAY-I4R) is prepared by NEDA to facilitate the Post-Yolanda recovery and rehabilitation process. RAY-I4R establishes the framework for recovery and presents detailed planning, implementation, and policy actions in four priority result areas highlighted in RAY: livelihoods and business development, housing and resettlement, social services, and infrastructure.
November 2014	Recovery Shelter Guidelines prepared by the HSWG in June 2014 are endorsed by Government of Philippines and publicly released.
3 December 2014	Typhoon Hagupit (Ruby) hits the Visayas , causing Php 5.09 billion worth of damage and 18 deaths.

Recovery institutional framework

Since 4 July 2014, the Yolanda response was officially coordinated through the five clusters overseen by PARR (see Figure 1 below and Table 5 above), according to government instructions. Shelter related programs, projects & activities were designated to two clusters:

- Social Services Cluster: On-site shelter assistance (Emergency Shelter Assistance, Cash-for Work, shelter assistance for Indigenous People (IP) communities, land-use planning)
- Resettlement Cluster: Construction of disaster resilient houses that can withstand a wind load of 250 km/h; Development of new settlement sites with basic community facilities

Figure 1: Government Cluster Framework overseeing recovery¹⁶



Recovery shelter guidelines

The indicators used here to assess recovery and inform the research questions are found in the Recovery Shelter Guidelines (November 2014) prepared by the Humanitarian Shelter Working Group (HSWG), through consultation with agencies and government counterparts, which advocate for prioritising permanent solutions, with adherence to key principles, and parameters around safety, adequacy, appropriateness and accessibility, while emphasising that temporary assistance in high-risk areas, should include preparedness and evacuation plans. The key recovery parameters are summarised below:

Safety

All programs should include and model the 8 key shelter cluster DRR messages.

1. **Foundation:** That holds the building up, down and from toppling over, resistant against pests and rot.
2. **Tie-down:** from the bottom up: ensuring continuous tie-down though all elements of the construction from the earth to the top of the building.
3. **Bracing:** In both directions in each plane of the building, from strong point to strong point, designed to act in both tension and compression.
4. **Strong joints:** that resist being pulled apart or crushed under tension or compression
5. **Roofing:** Wind resistant shape, of adequate strength and fastenings.
6. **Site:** Built in a location or manner that is site specific for the risks.
7. **Shape:** Simple strong geometrical shapes will better resist earthquakes and typhoons.
8. **Preparedness:** That communities and families are prepared for future hazards.

Adequate

All programs should ensure the adequacy of their shelters.

- **Space:** As per Sphere standards 3.5m² per person, 18m²/HH undercover space and 45m² settlement area.
- **Durability:** For the period of intended use, min 2yrs for temporary and 9yrs for permanent.
- **Drainage:** Fall of 100mm over first meter from house and pathway for water to drain away.
- **Ventilation:** Min 1m² opening in two walls of the structure, Min 1/2m² ventilation to all rooms.

¹⁶ OPARR (28 July 2014) Yolanda Rehabilitation and Recovery Efforts

- **Ceiling height:** Min floor to ceiling height at the lowest point of the walls of 2.1m (7ft).
- **Privacy:** The design should allow addition of at least one internal division to ensure privacy.
- **Security:** Should be securable to ensure personal safety and safety of goods.
- **Accessibility:** Address the needs of those with reduced mobility.

Appropriateness

All programs should be designed to be appropriate to the affected community.

- **Culturally:** Respect expression of cultural identity and ways of life using locally available material, design and technologies.
- **Local context:** Addressing the particular needs of communities such as urban versus rural context.
- **Environmentally:** Minimise adverse impact to and from the local and natural environment, enhancing the environment where possible.
- **Climatically:** Enhance human thermal comfort by reducing radiation and increasing air flow. Allow for protection from tropical rains and strong winds.

Accessibility

All shelter programs should ensure access to the facilities required to carry on daily life.

- **Cooking:** Ensure access to culturally appropriate food storage, preparation and cooking facilities.
- **WASH facilities:** Ensure access to appropriate water & sanitation incorporating hygiene promotion.
- **Livelihoods:** Ensure ongoing access to existing livelihoods and where possible support the repair of damaged livelihoods as well as creating new livelihood opportunities.
- **Community facilities:** Ensure access to communal facilities such as health care facilities, schools, government offices and public transport

Overview of key previous analysis

Previous REACH/Shelter Cluster assessments on needs and recovery following Yolanda had indicated that populations were facing challenges when rebuilding their homes (see Table 6 below).¹⁷ Firstly, the % of households indicating shelter as a priority need remained high when comparing the initial rapid assessment data collected in December 2013 and the second monitoring data collected in July 2014. Prioritisation of needs per se must not be confused with level of need, as by definition it is an indicator of need *in relation to* other needs. The increase in proportion of households that indicated shelter as a priority need may thus be partly explained by other basic needs, such as food, water and medicine, being particularly acute immediately after the typhoon. It could also indicate a change in the expected and desired quality of shelters, which may have increased as time passed following the typhoon and families strived to rebuild more permanent structures. Nevertheless, shelter remained a priority need for many households more than 6 months after the typhoon.

The consistent prioritisation of shelter needs was mirrored by the relatively persistent level of damaged dwellings, particularly when comparing the first and second monitoring rounds. This was attributed partly to the demolishing of partially damaged buildings to rebuild from the ground – a practice that had been

¹⁷ The three assessments covered households within the 50km storm path that was established as a priority range by the Government of Philippines. The initial rapid assessment actually covered households up to 100km from the storm path but any subsequent comparisons between the data sets focused only on the 50km path.

For further detail see: REACH (15 January 2014) Shelter and WASH Rapid Assessment Typhoon Haiyan, Philippines, 2013 Final Report; REACH (22 April 2014) Shelter and WASH Response Monitoring Typhoon Haiyan, Philippines, 2013 Final Report; REACH (September 2014) Shelter Sector Response Monitoring Typhoon Haiyan, Philippines, 2013 Final Report: Monitoring Assessment 2

observed by several shelter agencies.¹⁸ The second monitoring round reported that a considerable majority (82%) of households felt that they needed support to complete the recovery, while the % assisted remained below 40%. In addition, a quarter of assisted households appeared to not yet have achieved minimum levels of safety and a majority had yet to achieve minimum levels of adequacy (see table 6 below).

Table 6: Previous findings on shelter cluster indicators¹⁹

Code	Indicator Type	Description	Initial: %	Monitoring 1: %	Monitoring 2: %	Source
S1-1-2	Baseline/ Outcome	% of HHs indicating shelter as a priority need	23%	-	29%	REACH
S1-2-9	Outcome	% of beneficiary HHs satisfied or fairly satisfied with the shelter assistance they received	-	85%	78%	REACH
S1-1-3	Needs	% of damaged houses / dwellings	96%	88%	89%	REACH
S1-2-1	Output	% of HHs having received shelter assistance	15%	39%	38%	REACH
SSRP-1	Outcome	% of damaged and assisted HHs that have not yet achieved a minimum level of safety	-	-	76%	REACH
SSRP-2	Outcome	% of damaged and assisted HHs that have not yet achieved a minimum level of adequacy	-	-	39%	REACH

Challenges to satisfactory recovery had also been reported following monitoring undertaken by cluster partners which during the initial three months following Yolanda ‘...observed that household self-build efforts were usually “building back worse” with potentially dangerous dwellings being rebuilt.’²⁰ The existence of a remaining unmet need was further corroborated by the Shelter Cluster gap analysis undertaken in early October 2014, a little over one month after closure of the clusters.²¹ The analysis identified a ‘probable’ gap in the absence of data that could enable establishment of actual remaining gaps at municipal level. The probable gap was established by first withdrawing the households in each municipality that had received any type of recovery assistance from the total number of households with damaged houses. Secondly, the proportion of damaged houses was calculated at municipal level. Thirdly, the proportion of households living below the poverty level was identified in each municipality. Fourthly, the number of households located in no build zones (NBZ), potentially awaiting relocation, was established for each municipality. Each municipality received a score between 0 and 1 for each of the

¹⁸ To better track recovery and rebuilding it is recommended that future monitoring differentiates between damaged structures where rebuilding and repair efforts are yet to be made, and structures that are in the process of repair or rebuilding.

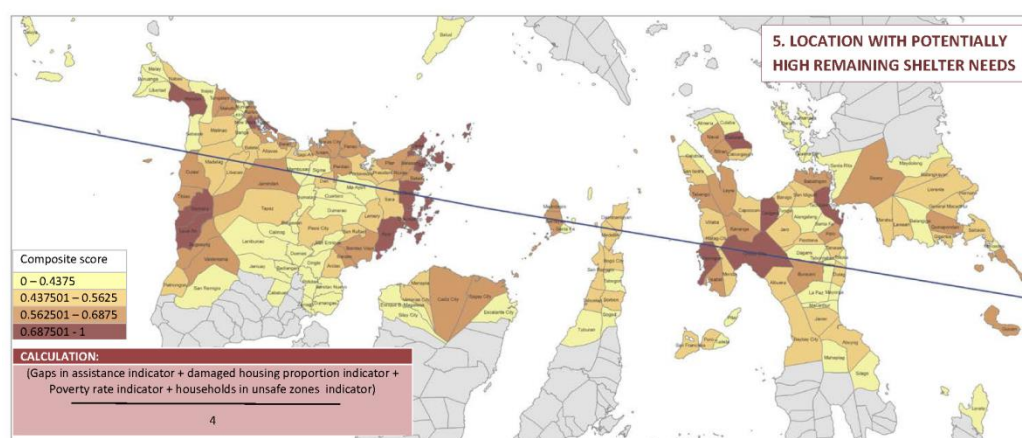
¹⁹ REACH (September 2014) Shelter Sector Response Monitoring Typhoon Haiyan, Philippines, 2013 Final Report: Monitoring Assessment 2; See Annex 3 for composite indicator methodology behind Safe and Adequate measurements used in this Assessment?

²⁰ IASC (October 2014) Inter-agency Humanitarian Evaluation of the Typhoon Haiyan Response

²¹ Shelter Cluster (October 2014) Gap analysis of remaining shelter needs; See Time-line above for sequence of events.

four factors which was then simply summed up and divided by four to identify an average across the scores, signifying the remaining probable gap (see map below).²²

Map 2: HSWG Shelter Gap Analysis map of locations with potentially high remaining shelter needs



FINDINGS

To form an understanding of factors facilitating and hampering recovery, each group of recovery standards (Safe, Adequate, Appropriate, Access) outlined in the Recovery Shelter Guidelines will be explored in detail below, followed by a review of key factors influencing recovery overall. These sections will be preceded by an outline of key characteristics of the locations where primary data was collected for this assessment.

CASE STUDY LOCATION CHARACTERISTICS

The majority of barangays assessed reported that more than 50% of homes had been totally destroyed by Yolanda (see Table 7 below), with the exceptions of Dumolog (32%) and Pinamalatican (47%). Pinamitinan, a small coastal barangay largely nestled between the sea and main road, reported 100% destruction, although some houses situated on the inland side of the main road may have partly withstood the typhoon. Several FGD participants and key informants across the assessed barangays highlighted inconsistencies in the reported damage figures. Inconsistencies were, according to some local authority officials, dependent on to what extent the assessors felt that the respective households were in need of assistance, thus essentially incorporating a subjective form of assistance targeting in the damage level reporting. This may indicate a need for training, including sensitisation around assessment objectives, of damage assessors.

²² Shelter Cluster (October 2014) Gap analysis of remaining shelter needs; The intention was here to update the gap analysis database with the latest response data figures to assess how the probable gaps may have changed since the original analysis was conducted. Unfortunately, response data could only be obtained for Region VIII where the data base was found to be incomparable with the gap analysis database, requiring considerable cleaning and verification before an attempt could be made to update the analysis. This task could still be undertaken but was beyond the scope of the present assessment.

Table 7: Population and damage figures in assessed barangays

ID	Barangay	# HH Currentl y	# HH Before Yoland a	# Totally destroye d HH	% Totally destroye d HH	# Partially destroye d HH	% Partially destroye d HH	% Affecte d HH
1	Dumolog	857	788	252	32%	215	27%	59%
2	56A		168	159	95%	9	5%	100%
3	Tigbao	77	600	420	70%	180	30%	100%
4	Paypay	763	735	662	90%	74	10%	100%
5	Pinamalatican	247	220	103	47%	65	30%	76%
6	Maragongdon g	148	123	91	74%	32	26%	100%
7	Cogon	350	340	320	94%	20	6%	100%
8	Palanog 103	1019	1020	918	90%	102	10%	100%
9	Jagnaya	69	67	46	69%	21	31%	100%
10	Paon	785	736	589	80%	147	20%	100%
11	88	805	2300	1615	70%	685	30%	100%
12	Pinamitinan	158	153	153	100%	0	0%	100%
13	Gibitngil	400	435	419	96%	16	4%	100%

Several changes were reported to have occurred in communities following Yolanda. People were said to be more depressed, which was linked to an increase in individuals attending church following the typhoon. A plethora of new religious sects were said to have flourished since Yolanda.

The population was reported to have decreased in some locations and increased in others (see Table 7 above). One potential underlying reason for growing populations that was highlighted by communities was a rise in migration due to marriages, with men in particular moving into barangays to live with their wives. This was reported in locations with access to relatively high levels of assistance, which may have partly served as a pull factor. A second underlying reason for increasing population figures was said to be an increasing preference for larger families and earlier pregnancies following Yolanda.

Some relocation sites had seen a lack of integration of relocated populations. Resettled populations sometimes had very little contact with the original population in their new barangay. On the other hand, some communities reported an increase in willingness by households to help others following the typhoon, including by participation in the bayanihan approach.

An increased lack of security was reported at several locations. Street lights were yet to be restored in some locations, which was linked to an increase in theft from households since Yolanda. Crime rates in general including burglary and theft was said to have increased which some communities linked with a rise in people engaging in negative behaviours such as gambling and drinking, which some communities in turn felt was a result of access to cash assistance.

Some communities reported an increase in unoccupied out of school youth, while others said youth were now better occupied. Where young people were left out of school this was attributed to households not being able to afford paying for further education. The opposite was seen in other communities, where young people had seen improved access to work programs abroad, Technical Education and Skills

Development Authority (TESDA) courses and other opportunities since Yolanda which meant fewer young people 'hang around doing nothing' [FGD].

SAFETY

BBS with assistance

Overall, shelter agencies generally felt that households that had been assisted now lived in stronger houses than they did before Yolanda. This was corroborated by findings from case study locations, where FGD participants frequently raised that people receiving assistance had built back safer than before and safer than those that had not received assistance, who often spent their resources on competing priorities. Communities generally reported that cost of materials and labour meant that BBS techniques were disregarded, despite having been known and proven effective both before and after Yolanda. This was echoed by shelter agencies 'Many can quote the key messages, price is the main barrier' [Shelter agency]. Similarly, carpenters generally recommended owners to use BBS methods but only well-off households were able to follow their advice, as expressed by one carpenter who was well versed in BBS methods; 'ultimately I build what people ask me to build'. Nevertheless, some locations show evidence not only of low BBS implementation but also of awareness of methods, indicating a mixture of underlying reasons for levels of BBS implementation, which will be explored in further detail below.

BBS by type of assistance

A review of secondary data and shelter agency interviews indicate that level of implementation of BBS measures amongst assisted households, was heavily dependent on the type of assistance received. Direct new build was most often mentioned to be related to higher levels of BBS implementation, simply because shelter agencies in this case had the highest control over design and implementation (see Figure 2 below). Indeed, shelters that were built entirely by shelter agencies were found during data collection, to most consistently employ BBS measures. They were sometimes criticized in relation to other factors (see adequacy section below) but there was widespread agreement across both secondary and primary data sources that as far as the BBS 8 key messages were concerned, they were most reliably found in shelter agency direct builds. Where repair or retrofitting was concerned, sources often mentioned that monitoring and technical assistance were imperative to ensure assisted households built back safer, along with training in BBS implementation. However, training was said to have had limited success where no material or cash assistance was provided in conjunction with it, as households were otherwise reluctant to attend orientation sessions. Training attendance had reportedly been lower early on during the response; '...which was understandable given that people had to work to survive [Shelter agency]'. One agency noted that training provided during shelter programming had not had the intended 'flow-on effect' to the community overall, although staff, volunteers and carpenters had all received training.²³

²³ IFRC (August 2015) Mid Term Review of IFRC support to the Typhoon Haiyan: Response Operation in the Philippines

Figure 2: Frequency of shelter agency interview and secondary data mentions about Build Back Safer implementation – by type of assistance received

BBS higher with External assistance - in Build Zone (resettlement area) BBS higher with External assistance - with livelihoods assistance to boost self recovery
 BBS higher with External assistance - Shelter Repair Assistance more efficient than direct build BBS higher with External assistance - with rental/hosting assistance
 BBS higher with External assistance - with freedom of choice (direct build/cash/how to spend cash)
 BBS higher with External assistance - direct build more effective than Shelter Repair Assistance
 BBS higher with External assistance - with access to cash grants in tranches
 BBS higher with External assistance - with Shelter Repair Assistance
 BBS higher with External assistance - with monitoring/technical assistance
 BBS higher with External assistance - with access to cash/grants
 BBS higher with External assistance - with training/outreach
BBS higher with External assistance - with direct build

A statistically significant relationship was found between 1) type of assistance and 2) level of safety of the shelter occupied by the household at the time of data collection, when exploring the most recent quantitative monitoring dataset collected in July 2014. The first overall finding was that the average difference in level of safety of the current shelter was relatively small when comparing the different assistance groups (each BBS measure that had been implemented could award up to a score of 3 if well implemented, down to 0 if non-existent).²⁴ A significant effect was found for five types of assistance in comparison with types of assistance between which no difference in effect was found (materials, rental support and bunkhouse accommodation). Amongst households that had received assistance, those having received emergency and temporary shelter assistance had a slightly lower average safety feature score compared to the others (1.6 and 0.7 points). A significant, positive, effect was found for households receiving core houses, permanent housing, or those that were hosted by other families. Households that had received core houses had an on average 1.2 point higher safety score, followed by those receiving permanent housing which had an on average 1.8 point higher score and finally, those that were hosting other families, with an on average 3.65 point higher score.

As noted above, the difference in average safety score is small; nevertheless, this does demonstrate that at the time of the monitoring in July 2014, affected families living with host families were most likely to live in a house with the highest BBS standards. This may be unsurprising, since within an extended family, the families that lived in the strongest structure, which withstood the typhoons, could be likely to host less fortunate relatives. This finding could thus also reflect the effectiveness of methods endorsed as BBS methods in the face of typhoons, if houses left standing that were used to host other families also scored the highest in the safety assessment conducted at the time of the monitoring. It may also be important to consider during beneficiary selection as shelter agencies have reported targeting families that are hosted as these are felt to be the most vulnerable. Finally, this may indicate that the majority of affected families, intentionally or unintentionally, seek out the safest available option in the face of typhoons, since it has been reported that hosting by other families was the most common solution chosen by displaced people following Yolanda.²⁵

²⁴ R-square; 0.048. BBS implementation had only been recorded for assisted households; hence comparison with non-assisted households is not possible. Type of assistance was also tested against likelihood of an affected household now living in a fully recovered home but no significant effect could be identified.

²⁵ DSWD (6 December 2013) REPORT NO. 109: EFFECTS, SERVICES AND INTERVENTIONS FOR VICTIMS OF TYPHOON "YOLANDA"

Table 8: Average increase in safety measures seen by type of assistance received²⁶

Coefficients ^a				
Model	Unstandardized Coefficients		t	Sig.
	B	Std. Error		
(Constant)	9.604	.137	70.035	.000
Emergency shelter	-1.630	.238	-6.851	.000
Temporary shelter	-.733	.306	-2.399	.017
Core house	1.241	.578	2.145	.032
Permanent housing	1.792	.857	2.092	.037
Host family support	3.199	.328	9.752	.000

a. Dependent Variable: SCORE_SAFE

General awareness and use of BBS

Although some BBS techniques were said to have been known previously, they were often reported to have been modified and strengthened after Yolanda. Preparedness in particular was consistently cited as an improvement since Yolanda, with many communities feeling that it had not been practiced as it should be before the typhoon. In particular, many had not understood the meaning of 'storm surge' and did therefore not act on warnings ahead of Yolanda making landfall, with devastating consequences. The force of the typhoon was said to have altered community attitudes towards preparedness, with people now taking immediate action to a much greater extent, when receiving warnings about approaching typhoons.

Especially men were said to adopt BBS methods by watching local carpenters at work, before implementing the techniques on their own houses to the extent they could afford. Direct beneficiaries of shelter assistance had generally participated in orientation sessions on BBS, with women in particular reporting that the sessions were useful as they had less previous knowledge of the methods than men. Shelter agencies highlighted the importance of adapting BBS methods to the local context and recommending locally available materials and achievable alternatives. Indeed, a gap in knowledge of the multiple ways in which a given BBS method can sometimes be implemented was found in some communities, which will be explored further below.

All BBS methods were generally used to a greater extent, reportedly due to increased awareness following message dissemination but also due to people simply observing what structures better withstood both Yolanda and subsequent typhoons and drawing conclusions around effectiveness as a result: 'Everybody saw roofs fly apart, we now see people with three types of tie-down and cross-bracing everywhere' [Shelter agency]. However, one shelter agency reported encountering communities as recently as January 2016 that seemed to have very limited knowledge of BBS.

Communities assessed consistently raised that all methods were dependent in particular on the quality of workmanship, along with quality and quantity of materials. There was still a notion raised by both

²⁶ Cases were weighted by municipality population before being added to the model.

communities and shelter agencies alike that BBS techniques, even if carefully followed and implemented in full, could not provide a complete guarantee in the event of a typhoon of the magnitude of Yolanda.

BBS techniques

BBS methods were reviewed in detail during focus group discussions and key informant interviews in the assessed communities. Key findings included (see Table 15 below):

1. Building a Strong foundation at a Safe site were most commonly reported to be the most difficult BBS measures to implement and more rarely achieved.
2. Preparedness and Bracing were most often reported to be the easiest and most commonly implemented BBS method.
3. All measures were generally considered very effective in helping to protect communities against typhoons

Table 9: Summary of FGD ranking exercise on difficulty, frequency of use and perceived effectiveness of BBS – number of FGDs by rank

	Strong foundations	Tie-down	Bracing	Strong joints	Good roof	Safe site	Safe shape	Preparedness
Difficulty of BBS								
Very easy	1	5	7	5	3	0	1	13
Easy	0	2	6	4	4	1	6	1
Difficult	5	4	0	4	5	4	5	1
Very difficult	8	2	1	1	2	9	2	0
Frequency of BBS use								
Very commonly	2	5	11	5	3	2	5	11
Commonly	5	3	3	3	6	4	5	3
Rarely	4	3	0	4	5	3	3	0
Very rarely	3	3	0	1	0	5	1	0
Perceived effectiveness of BBS								
Very effective	12	7	12	10	10	12	10	13
Effective	0	2	1	3	1	0	1	0
Ineffective	1	1	0	0	1	0	2	0
Very ineffective	0	2	0	0	0	1	0	0

These findings were corroborated by direct observation data from the locations, where evidence of strong foundations was more rarely seen on assessed structures, compared to other BBS measures. Cogon was the only location where only shelters constructed by shelter agencies were observed, which partly explains the comparatively high evidence of assessed BBS methods (see Table 10 below).

Table 10: Evidence of BBS methods in assessed barangays – all assessed households

ID	Barangay	Evidence of tie down	Evidence of bracing	Evidence of strong joints	Evidence of strong foundation	Evidence of strong roof
1	Dumolog	65%	81%	84%	45%	87%
2	Barangay 56A	69%	67%	64%	26%	88%
3	Tigbao	20%	44%	56%	12%	40%
4	Paypay	89%	71%	76%	71%	76%
5	Pinamalatican	68%	84%	95%	42%	84%
6	Maragongdong	10%	40%	80%	10%	70%
7	Cogon	100%	100%	100%	100%	100%
8	Palanog 103	42%	25%	29%	4%	63%
9	Jagnaya	90%	90%	93%	80%	90%
10	Paon	64%	85%	97%	54%	90%
11	Barangay 88	32%	48%	28%	36%	40%
12	Pinamitinan	81%	63%	69%	37%	94%
13	Gibitngil	96%	69%	90%	83%	98%

1. Build on strong foundations

As mentioned above, strong foundations were generally less frequently observed than other BBS methods, as reflected in FGDs and KI interviews. Strong foundations seen included reinforced concrete columns/post and elevated wooden posts embedded in concrete pedestal. These still represented a minority of houses assessed, as demonstrated by Table 11 below.

Table 11: Materials used for stronger foundations – all assessed households

ID	Barangay	Reinforced concrete column/post	Wooden post embedded in concrete pedestal	Elevated wooden post embedded in concrete pedestal
1	Dumolog	39%	6%	0%
2	Barangay 56A	2%	14%	10%
3	Tigbao	8%	4%	0%
4	Paypay	39%	5%	26%
5	Pinamalatican	21%	16%	5%
6	Maragongdong	10%	0%	0%
7	Cogon	0%	96%	4%
8	Palanog 103	0%	0%	4%
9	Hagnaya	53%	8%	20%
10	Paon	44%	3%	8%
11	Barangay 88	32%	0%	4%
12	Pinamitinan	13%	15%	10%
13	Gibitngil	13%	23%	46%

Wooden posts were often seen by data collection teams to have been embedded directly into the ground. This was also reported by shelter agencies that struggled to convince beneficiaries to use stronger materials: 'It is common to use a sacrificial piece of lumber that is replaced every two years when rot spreads up the post' [Shelter agency].

Several reasons for lack of implementation of strong foundations were raised in FGDs and KII, many which seemed interconnected. People remaining in no build zones said they avoided building strong foundations because they did not have the right to do so and in any case they were expecting to leave the location; 'We know the typhoon will hit us but the land is not ours and we are waiting for relocation' [FGD]. This was corroborated by Shelter agencies that reported seeing households being less likely to build strong foundation in coastal areas.

People that lived in build zones also reported that they did not have the right to construct a strong foundation as this was not permitted by landowners (see Recovery challenges and mitigations: Land section below for further discussion).

Where people had permission and incentive to build, barriers mentioned included the comparatively expensive materials and technical knowledge required to achieve a strong foundation: 'Few carpenters know how to do a proper foundation' [FGD]. Shelter agencies felt foundations were particularly challenging for beneficiaries to implement correctly; 'It was also felt to be time-consuming, a barrier when the owner wants to complete the house quickly, which was often raised as an objective in the weeks following Yolanda. Fast self-recovery was also a challenge for shelter agencies during the response, as discussed further below; 'Foundations were hard for people, the ratio when mixing cement was hard to get right and people were not treating the wood before going into the concrete [Shelter agency].

Finally, some simply did not see the value in building stronger foundations, reporting that it was unnecessary to do so and that they were happy to continue using round timber placed directly in the ground as they had before Yolanda.

However, the particular effectiveness of strong foundations was highlighted by most communities. Foundations were felt to hold the structures down and most importantly, to remain when all else is gone; 'At least part of the house will remain when the rest is blown away'. **One consequence of the value attached to strong foundations was that households were reported to return to build on old foundations to save money and time, even when these were located in no build zones (NBZ).**

Foundation construction was reported to have changed in several respects since Yolanda. Some reported that 'footing' made with concrete hollow blocks was no longer used as it was no longer felt to be strong enough. Smaller, weaker materials including bamboo was said to be used less, people used more concrete, stronger steel bars and more wood and nails if they could afford to. In some cases people had stopped using concrete foundations to elevate their house due to flooding.

1. Tie-down from bottom up

It became clear during the debriefing with data collection teams that despite several types of materials reviewed in the training, some teams had not accepted methods as tie-down unless they corresponded *exactly* with the tie-down pictures in the BBS message brochures used for data collection, which showed examples with metal.²⁷ This was reflected in FGDs where lack of knowledge of available methods and range of suitable materials was particularly evident in discussions around tie-down. Tie-down was also understood as only referring to metal straps or metal plates, including at locations where houses were

²⁷ See Annex 5 for BBS brochure in English.

seen to have tie-down with timber cleats, the most commonly observed method (see Table 12 below). Metal straps and plates were often felt to be out of reach for many due to cost.

Table 12: Materials used for tie-down – amongst households with evidence of tie-down

ID	Barangay	Tie-down materials - thick wires	Tie-down materials - rope nylon	Tie-down materials - timber cleats	Tie-down materials - galvanised metal
1	Dumolog	5%	60%	20%	5%
2	Barangay 56A	3%	0%	52%	3%
3	Tigbao	20%	0%	60%	0%
4	Paypay	3%	9%	65%	6%
5	Pinamalatican	8%	8%	54%	0%
6	Maragongdong	0%	0%	0%	50%
7	Cogon	0%	0%	100%	0%
8	Palanog 103	0%	0%	50%	0%
9	Jagnaya	0%	0%	94%	14%
10	Paon	8%	12%	72%	28%
11	Barangay 88	13%	0%	63%	0%
12	Pinamitinan	4%	0%	80%	4%
13	Gibitngil	6%	8%	76%	0%

Tie-down was also frequently understood by many, including carpenters, to only refer to specific techniques such as tying the house down with ropes when a storm is coming. Tying the house down with ropes before a storm was said to be hard as it was not always possible to find something adequate to tie the ropes to. Many also felt that this technique was ineffective because the materials they used (nylon/rope/tie-wire) were not strong enough. On the other hand, some felt this tie-down technique was effective as the wind was allowed to flow through.

Where tie-down was well understood it was generally considered a relatively easy BBS method to use. It was felt to be inexpensive, especially where timber cleats could be applied using excess construction materials. Some reported that tie-down methods were traditional techniques known and used by carpenters. Reported difficulties with tie-down implementation included in particular the bending of metal bars and straps.

Tie-down techniques were said to have changed considerably since before Yolanda. Some had stopped using flat bar post straps as they were too time-consuming to apply and use folded steel bars instead, although most were unable to afford either. Rattan was said to be used less now as it was considered too weak, as were nails driven into joints at an angle. **Some reported stopping using tie-down techniques after Yolanda as they built temporary shelters in anticipation of relocation, which they need to be easy to dismantle.**

2. *Brace against the storm*

Bracing methods and materials were clear to all teams and clear in most FGDs and were generally felt to be more used following Yolanda, by both shelter agencies and communities themselves. The main discussion point around bracing was what level of bracing was considered sufficient. Nails and timber were overwhelmingly the most common materials used for bracing, as seen in Table 13 below.

Table 13: Materials used for bracing – amongst households with evidence of bracing

ID	Barangay	Bracing materials - steel wire	Bracing materials - tie rebar	Bracing materials - nail timber	Bracing materials - steel straps	Bracing materials - Masonry concrete hollow block
1	Dumolog	4%	4%	92%	12%	20%
2	Barangay 56A	0%	0%	96%	0%	4%
3	Tigbao	18%	0%	100%	0%	0%
4	Paypay	7%	19%	89%	37%	48%
5	Pinamalatican	6%	0%	100%	0%	13%
6	Maragongdong	13%	0%	100%	0%	0%
7	Cogon	0%	0%	100%	0%	0%
8	Palanog 103	0%	0%	100%	0%	0%
9	Jagnaya	0%	0%	100%	8%	33%
10	Paon	24%	12%	100%	18%	21%
11	Barangay 88	8%	0%	92%	0%	25%
12	Pinamitnan	0%	0%	92%	0%	10%
13	Gibitngil	8%	11%	100%	28%	11%

Bracing was generally felt to be comparatively inexpensive, as salvaged materials could be used and the principle of bracing techniques were already known to some extent before Yolanda. However, some felt that doing sufficient bracing was difficult and one shelter agency reported that bracing had been the greatest challenge to implement as sufficient materials were difficult for beneficiaries to obtain, with another agency raising that it was more challenging to relay an understanding that bracing in walls was needed as well as bracing in roofs. This was reflected during the direct observation exercise where bracing between roof trusses were almost twice as likely to be seen (59.3%) compared to bracing in walls (34.3%).

Another agency highlighted the importance of locally available materials to make the method more accessible to households that were rebuilding and repairing by themselves. **BBS guidelines relating to bracing was felt to be insufficient in areas where destroyed structures had mostly been made of concrete masonry.** This was also noted in the direct observation component where data collection teams had recorded no bracing for structures where walls consisted of masonry concrete hollow blocks, which had not been outlined as a bracing method in the BBS guidelines and were subsequently recoded during the data cleaning stage (see table 13 above). This indicates scope for adapting the BBS guidelines to encompass different types of bracing depending on type of structure.

3. Use **strong joints**

Direct observation results indicated that most joints were strengthened using plain nails, although some data collection teams struggled to identify whether interlocked joints had been used so the proportions below may in reality have been slightly higher for this method (see Table 14 below).

Table 14: Materials used for joints – amongst households with evidence of strong joints

ID	Barangay	Strong joints materials - plain nails	Strong joints materials - screw	Strong joints materials - interlocked joints	Strong joints materials - metal strap	Strong joints materials - wire rope
1	Dumolog	92%	8%	0%	4%	19%
2	Barangay 56A	81%	0%	44%	0%	0%
3	Tigbao	100%	0%	43%	0%	0%
4	Paypay	90%	7%	31%	48%	0%
5	Pinamalatican	100%	0%	0%	0%	0%
6	Maragongdong	100%	0%	6%	6%	0%
7	Cogon	100%	0%	0%	98%	0%
8	Palanog 103	100%	0%	71%	0%	0%
9	Jagnaya	100%	0%	27%	76%	0%
10	Paon	100%	3%	3%	21%	0%
11	Barangay 88	86%	14%	43%	0%	0%
12	Pinamitinan	100%	0%	47%	12%	0%
13	Gibitngil	98%	2%	47%	74%	11%

Strong joints were generally considered difficult and time-consuming to achieve, hence often avoided due to time and cost. **Lack of capacity amongst carpenters to construct strong joints was raised by both communities and shelter agencies**, one of which had observed that carpenters avoided following the interlocked joint models that had been shared with them through translated guidance materials. However, some carpenters raised that BBS training had enabled them to make stronger joints than what they used to do before Yolanda and some shelter agencies raised that joints in particular appeared to be constructed stronger after Yolanda.

4. A good house needs a **Good Roof**

Strong roofs were consistently discussed as a key priority in FGDs and KII and BBS methods were commonly observed to have been implemented with roofs across assessed locations. Umbrella nails were the most commonly recorded materials to fasten roofing – the proportion using nails with washers may be higher than indicated in the table below as the washers were not always visible to data collection teams. Styrofoam was sometimes used where rubber washers were unavailable and nylon was commonly used along with nipa amongst fishermen households in Dumolog (see table 15 below).

Table 15: Materials used for roofing – amongst households showing evidence of strong roofing

ID	Barangay	Good roof materials - umberlla nail	Good roof materials - umberlla nail and washer	Good roof materials - umbrella screw and washer	Good roof materials - screw and washer	Good roof materials - nylon / natural fibres
1	Dumolog	45%	26%	13%	16%	35%
2	Barangay 56A	98%	24%	2%	2%	0%
3	Tigbao	100%	0%	0%	0%	0%
4	Paypay	95%	3%	0%	5%	0%
5	Pinamalatican	84%	5%	0%	0%	0%
6	Maragongdong	100%	0%	0%	0%	0%
7	Cogon	100%	2%	0%	0%	0%
8	Palanog 103	96%	0%	0%	0%	0%
9	Jagnaya	95%	70%	0%	0%	0%
10	Paon	62%	8%	31%	31%	3%
11	Barangay 88	100%	4%	0%	8%	0%
12	Pinamitinan	98%	11%	0%	0%	0%
13	Gibitngil	94%	6%	0%	2%	2%

Multiple sloped roofs were repeatedly highlighted in FGDs as the most desired – and sometimes the only – BBS roof shape, given the perceived resilience of this shape when facing typhoons. Multiple slope roofing was also frequently said to be too expensive for most households, which was reflected in direct observation findings where A-frames were most commonly seen across assessed households, except in Cogon where all shelters had been constructed by a shelter agency.

Table 16: Roof shapes – amongst all assessed households

ID	Barangay	A frame	Multiple slopes	Single slope	None (e.g. tarps)
1	Dumolog	74%	26%	0%	0%
2	Barangay 56A	67%	17%	17%	0%
3	Tigbao	80%	20%	0%	0%
4	Paypay	84%	11%	5%	0%
5	Pinamalatican	63%	37%	0%	0%
6	Maragongdong	75%	20%	5%	0%
7	Cogon	0%	100%	0%	0%
8	Palanog 103	75%	21%	4%	0%
9	Jagnaya	83%	13%	5%	0%
10	Paon	85%	10%	3%	3%
11	Barangay 88	80%	20%	0%	0%
12	Pinamitinan	85%	11%	2%	2%
13	Gibitngil	98%	2%	0%	0%

Good roofs were often said to be difficult to construct, due to the need for materials and technical skills. Especially multiple sloped roofs needed more lumber, more CGI and more technical skills to construct. Multiple sloped i.e. 'cuatro aguas' was frequently perceived as the only 'good' roof.

Effectiveness of good roofing in the face of typhoons was the most frequently raised example after preparedness. Many highlighted how they had seen houses with multiple sloped roofing be the only structures left standing and used what they had seen happen during typhoons to make modifications. This included a switch to wooden trusses after some had seen trusses made of steel bars blow off during

typhoons and a preference for shorter CGI sheet after long CGI sheets gaining a reputation as being more likely to be ripped off. Those who could afford quarto aguas had started having them welded with steel trusses.

Poor materials were frequently raised as a key barrier to strong roofs. Communities observed that even where 'every groove of a CGI is nailed down' the roof will blow off if the purlins are made of weaker materials, such as bamboo.

Some BBS techniques for roofing were avoided due to competing priorities. **People reported using wide spacing between nails despite knowing that this made the roof weaker, partly because nails were felt to be expensive but also due to plans to transfer the roof to another location in the future.** Similarly, some opposed the short eaves promoted in BBS messaging as doors and windows had to be closed when it rained to avoid soaking the inside of the house.

Roofing techniques had changed considerably since Yolanda. Nipa and thin CGI sheets were reportedly used less, while thicker purlins were preferred and quarto aguas design was more common. High-slope, A-shape and single slope roofs were all said to be used less.

5. *Site your house safely*

Data collection teams also assessed whether shelters had been built away from steep slopes to avoid landslides, away from coastlines on top of hills, away from possible falling trees and sheltered from winds. Data was both challenging to collect and to interpret because households often struggled to implement all safe site considerations simultaneously – i.e. a house may be situated away from slopes and trees but close to the shoreline and vice versa. This was reflected in FGDs and KIIs where finding a safe site was frequently raised as particularly challenging, even impossible, for many households to achieve.

Buying or renting a space in a safe site was reported to be prohibitively expensive for some, compounded by a need to remain in NBZ to remain close to livelihoods. This was a particularly severe challenge in heavily populated coastal barangays. **Lack of access to a safe site was raised as a key barrier to achieving assistance, and thus by consequence a key barrier to obtaining the means to implement other BBS methods.** In addition to lack of access to assistance, **households that could not find a safe site were often not permitted and had little incentive to build a permanent structure by their own means**, hence negatively affecting their ability to implement BBS techniques including strong foundations (see Strong foundation section above).

People living in NBZ frequently reported feeling scared listening to the sea. By contrast, one of the key positive aspects raised about relocation sites, was the distance from the sea: 'We can sleep well now, because we are far from the sea and we can't hear the waves' [FGD].

Some had tried to mitigate the risks they faced in NBZ at least partly by elevating their houses, which sometimes meant abandoning their concrete foundations (see Strong foundation section above).

6. *A simple **shape** will keep you safe*

A worryingly high proportion of homes assessed during the direct observation component were found to have extensions attached directly to the main roof (see Table 17 below). This was also the case at Cogon where all assessed original structures had been built by a shelter agency, according to BBS standards.

This trend was also highlighted by other shelter agencies, where households that had been sensitized about BBS methods and had fully BBS compliant shelters, were seen to ignore the advice about separation between extensions and the main roof. Some similarly raised that they found communities particularly reluctant to take on board the messaging around safe shapes and that messaging was too abstract to explain; ‘the concept is difficult even for architects to grasp’ [Shelter agency].

Table 17: Extensions position against main roof – amongst all assessed households

ID	Barangay	Extension separate from main roof	Extension attached to main roof	No extension	Not clear
1	Dumolog	61%	35%	0%	3%
2	Barangay 56A	50%	31%	19%	0%
3	Tigbao	44%	48%	8%	0%
4	Paypay	45%	37%	18%	0%
5	Pinamalatican	58%	26%	11%	5%
6	Maragongdong	50%	30%	20%	0%
7	Cogon	40%	26%	34%	0%
8	Palanog 103	50%	38%	13%	0%
9	Jagnaya	70%	8%	23%	0%
10	Paon	51%	41%	5%	3%
11	Barangay 88	28%	28%	44%	0%
12	Pinamitinan	26%	37%	37%	0%
13	Gibitngil	54%	33%	13%	0%

Even though all BBS measures were perceived as effective during the ranking exercises, when probed specifically about shape, several FGDs either expressed that the shape was less important as it ‘does not necessarily provide a stronger and safer house’ or a general confusion over the meaning of this message, which was understood to refer to materials used for construction or to the size of house possible to achieve depending on available funds. FGD participants also frequently confirmed that households often connect the roof of their extensions directly to the main roof. One exception in terms of awareness was found in a coastal heavily populated barangay where the community raised fears that shelters were too close together to allow wind to pass through.

However, many communities and carpenters in particular raised that two storey buildings are less common following Yolanda, as these are perceived to be weaker than one storey buildings. This is arguably related to shape although not specified in BBS guidelines.

7. Be prepared

Preparedness was repeatedly raised as the most effective BBS technique. Communities highlighted both the ease of receiving messages e.g. by radio and of taking action and relocating to a safe location: ‘Preparedness can be practiced by everyone, including people in the no build zone; they know where to transfer to a safe location [LA].’

Preparedness was also the BBS area where communities reported the most change following Yolanda. People were more prepared, ‘ready to evacuate at slightest wind or talk of upcoming typhoon’ [LA].

Attitudes to preparedness had changed considerably, with people showing a serious interest in gaining knowledge and understanding; 'Before Yolanda people did not know the meaning of 'storm surge' [FGD]. It was apparent in discussions that the force and impact of Yolanda had altered community perceptions around preparedness and the need for immediate action in the event of approaching typhoons.

Government agencies also reported feeling more prepared compared to before, with disaster response procedure training conducted with communities and more evacuation centres being constructed. Evacuation centres were reportedly readily available although some were perceived by communities to not be strong enough to withstand heavier typhoons. Shelter agencies also called for evacuation centres to be strengthened and generally for investment in evacuation centres to be increased 'including identification, construction, management and networking' alongside reconstruction assistance, to enable displaced households to choose a solution that best meet their needs.²⁸

It was raised that municipalities with limited funds have in particular struggled to implement DRR measures due to lack of resources as well as technical capacity, with the legally required Local Disaster Risk Reduction Management Office (LDRMO) in some municipalities not being staffed and some lacking DRR plans and budgets, relying on 30 year old land use plans.²⁹ The strain imposed by repeated typhoons and lack of sufficient response capacity was mentioned for some locations.³⁰

However, effective implementation of DRR planning has also been highlighted, including in Tacloban where people were successfully evacuated from high risk areas ahead of Typhoon Hagupit (Ruby) in December 2014.³¹

ADEQUACY³²

Shelter agencies reported feeling that awareness of adequacy standards was generally low amongst the affected population. This was corroborated in FGD and KII interviews, where discussion around adequacy measures was limited, although direct observation showed evidence of adequate shelter measures, most notably on ventilation (see table 18 below). As noted above, previous monitoring data had found that households were much less likely to have achieved the adequacy measures (39%) compared to safety measures (76%).³³

Durability: One key exception in awareness was durability of materials. It was noted above that BBS methods were widely felt to be heavily dependent on the quality of available materials. Lack of durability of materials used for rebuilding after Yolanda was frequently raised as a key concern by FGDs, KIs and shelter agencies, and by data collection teams during the direct observation exercise.

²⁸ IOM (June 2015) Resolving Post-Disaster Displacement: Insights from the Philippines after Typhoon Haiyan (Yolanda)

²⁹ OXFAM (November 2014) In the shadow of the storm: Getting recovery right one year after typhoon Haiyan

³⁰ World Vision (May 2015) Typhoon Haiyan Response 18-months report

³¹ Ramboll Foundation (18 November 2015) Learning from Tacloban

³² Height from floor to ceiling and surface area of ground floor were excluded as debriefings revealed inconsistent measuring; Accessibility by wheelchair was also excluded as not clear whether households included wheelchair users; \

³³ REACH (September 2014) Shelter Sector Response Monitoring Typhoon Haiyan, Philippines, 2013 Final Report: Monitoring Assessment 2

Table 18: Adequacy indicator present – amongst all assessed households

ID	Barangay	Water falls at least 10 cm down from the house	At least 1 m2 opening on one side and 1 1/2 m2 opening on the other side	House is lockable	At least one internal division
1	Dumolog	100%	90%	81%	81%
2	Barangay 56A	24%	98%	62%	76%
3	Tigbao	68%	100%	52%	96%
4	Paypay	97%	95%	50%	79%
5	Pinamalitan	95%	100%	53%	63%
6	Maragongdong	65%	100%	15%	85%
7	Cogon	64%	100%	90%	28%
8	Palanog 103	79%	100%	29%	96%
9	Jagnaya	95%	98%	88%	88%
10	Paon	100%	100%	56%	64%
11	Barangay 88	72%	100%	76%	96%
12	Pinamitinan	87%	89%	60%	60%
13	Gibitngil	98%	100%	17%	96%

Durability was said to be better for those that could afford to pay for stronger materials – especially during price hikes due to increasing rebuilding demand. As with BBS implementation, durability was reportedly better for those that received assistance – although quality differed according to shelter agencies, communities and data collection teams. Some shelter agencies reported struggling to obtain good quality materials, especially lumber, due to the high quantities they needed at a time of strained availability. Young coco-lumber had reportedly been continuously used instead of mature lumber which was no longer available. Young lumber was said to be weaker and to shrink with time, rendering it unsuitable for construction.

Space: Families that had been able to move out of shared households as a result of assistance received following Yolanda reported access to increased space. On the other hand, some standard shelters built by shelter agencies were said to be too small for larger families. Space falling short of Recovery Shelter Guideline requirements (based on Sphere Standards) was the most frequently mentioned adequacy issue in shelter agency interviews and reviewed secondary data (see Figure 3 below). It was often raised that expectations around space differed depending on level of population density in the area and that standards needed to be more nuanced as a result.

Figure 3: Shelter agency interview and secondary data mentions about Adequacy being lower

Adequate lower - ventilation Adequate lower - privacy Adequate lower - in bunkhouses
Adequate lower - drainage/flooding
Adequate lower - accessibility
Adequate lower - space

Drainage: Lack of adequate drainage was also raised in shelter agency interview and secondary data (see Figure 3 above). Water was reportedly collecting beneath houses in Cogon, sometimes rising high enough for floors to get wet (despite structures being raised from the ground). One shelter agency reported discontinuing a shelter model with solid concrete foundations in favour of an elevated design due to repeated issues with flooding.

Ventilation: CGI sheets were frequently reported to make shelters very hot, considerably hotter than with nipa roofing used before Yolanda. Shelter agencies were advocating for ventilation or inner ceilings to help mitigate the raised temperatures.

Privacy: It should be noted that the Eastern Samar team considered internal divisions only where they had solid doors, while the other teams considered those accessed through curtains, which partially explains the lower proportion of households in Cogon and Pinamitan recorded to have at least one internal division.

Security: Ability to secure and lock homes varied across locations, as seen in table 18 above. Again the location where only shelter agency built shelters (Cogon) were assessed had the highest proportion of lockable homes. It was notable that the second lowest proportion (17%) of lockable homes was found in Gibitngil, where the community reported that crime rates had dropped and willingness to help others had increased since Yolanda.

APPROPRIATENESS

Environmentally: The environmental impact both of Yolanda and of the subsequent rebuilding efforts was raised at most case study locations. Large swathes of trees, particularly coconut, were felled by Yolanda, with much of the fallen lumber used for rebuilding. However, the lumber felled by the typhoon ran out and shelter agencies as well as households and private sector actors had to turn to fresh lumber. Eventually mature lumber suitable for construction was reportedly depleted at several locations and people were forced to use young coco-lumber (see above under Adequacy regarding limitations of young coco lumber for construction purposes). Diminishing tree cover had left many communities scorching hot as shade was no longer provided by trees. Lack of trees was also blamed for recent increases in flash floods in some communities (see further review in satellite imagery section below). It is feared that the continuous logging of young lumber is unsustainable in the long-term as it ultimately prevents the replenishing of forests and copra farms.

Climatically: The climatic appropriateness of CGI sheets widely used by both shelter actors and households themselves was also raised in many FGDs as these tended to make shelters extremely hot. However, both FGDs, KIIs, direct observation exercises and the satellite imagery analysed below indicated that households tended to rely on CGI sheets to a great extent despite this downside, as they were reportedly considered safer in the face of typhoons and falling debris than the more comfortable but lighter nipa roofing. As noted above in the Adequacy/Ventilation section, shelter agencies were seeking to mitigate this challenge by ensuring and advocating for adequate ventilation during shelter repair and rebuilding.

Culturally: Communities assessed here indicated that considerable change had occurred in local preferences for materials, designs and technologies, often based on a mixture of disseminated BBS messages and direct observations of effective and less effective shelter structures in the face of typhoons

(see individual BBS methods above). This was also raised by shelter agencies that had sometimes suggested 'traditional' structures to assisted communities only to be told that people now preferred concrete as this was considered more resilient. Nevertheless, previously used materials such as nipa for roofing or amakan for walling were often highlighted as more comfortable, especially in maintaining cooler temperatures inside, although people frequently pointed out that they were less durable and safe.

Figure 4: Shelter agency interview and secondary data mentions about Appropriate rebuilding of shelters

Appropriate higher - environmentally

Appropriate higher - materials/structure (changing preferences)

Appropriate lower - climatically/CGI sheets very hot

Appropriate lower - environmentally

Appropriate lower - materials/structure

DRAFT

ENVIRONMENTAL IMPACT, NBZ AND CHANGING ROOFING: EVIDENCE FROM SATELLITE IMAGERY

Satellite imagery can help illustrate changes that occurred in settlements following Yolanda, including an **increased reliance on CGI sheets for roofing; a reduction in tree cover inside and surrounding settlements; and the rebuilding of homes along shorelines at higher risk of impact from typhoons.**

The imagery comparison from Guiuan below shows how households that prior to Yolanda (27 August 2013) did not use CGI sheets, had by 7 November 2014 used the sheets for roofing. The imagery also shows how households rebuilt their homes along the shoreline, despite the apparent lack of safety when facing future typhoons.

Satellite imagery 1: Guiuan imagery comparison before, just after and one year after Yolanda



Pre-Typhoon Haiyan (Yolanda), 27 August 2013

QNES / Astrium



Aftermath of Typhoon Haiyan (Yolanda), 15 November 2013

Digital Globe - QNES / Astrium



One year after Typhoon Haiyan (Yolanda), 7 November 2014

Digital Globe

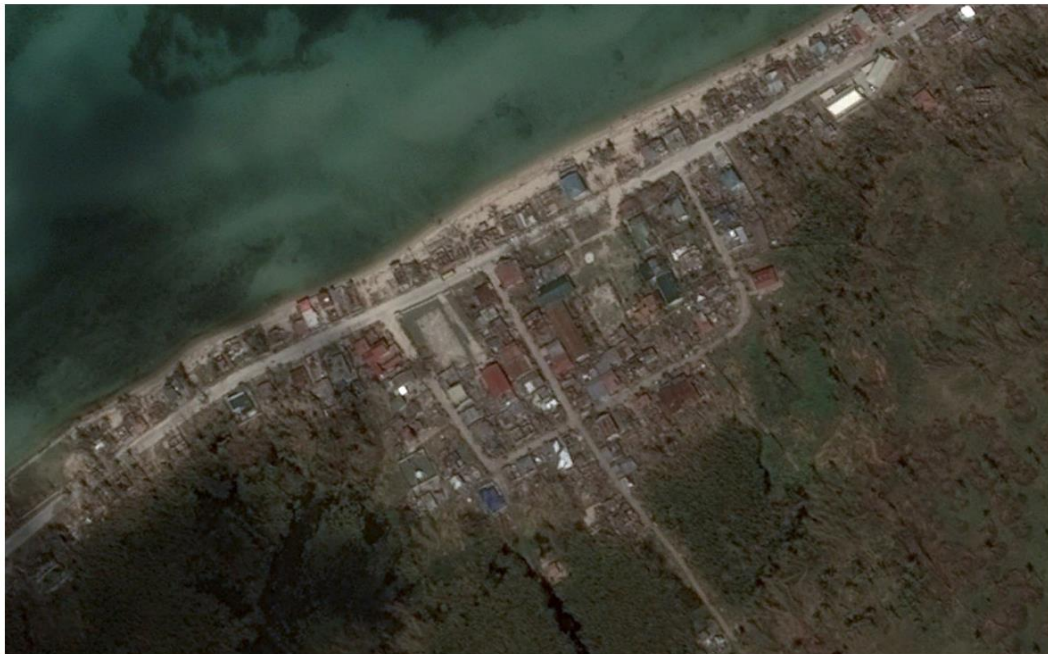
Post-recovery satellite imagery of Paypay barangay in Northern Cebu is not freely available but analysis of images showing the location before and just after Yolanda shows the devastation not only of dwellings but of the surrounding tree-cover.

Satellite imagery 2: Paypay before and just after Yolanda



Pre-Typhoon, 20 November 2005

Digital Globe



Aftermath of Typhoon Haiyan (Yolanda), 14 November 2013

CNES / Astrim

The increase in CGI sheet use is also evident when studying pre and post typhoon imagery of Tacloban Barangay 56A in Leyte, particularly along the shoreline where people had rebuilt their homes 9 months after Yolanda, despite the evident risk faced here in the face of future typhoons. Reduction in tree cover can also be seen.

Satellite imagery 3: Tacloban Barangay 56A before, just after and 9 months after Yolanda



Pre-Typhoon Haiyan (Yolanda), 18 May 2013

Digital Globe



Aftermath of Typhoon Haiyan (Yolanda), 13 November 2013

CNES / Astrium



9 months after Typhoon Haiyan (Yolanda), 30 August 2014

Digital Globe

The reduction in tree cover amongst houses that was complained about in Palanog 103 (Leyte) focus group discussions is apparent when viewing satellite imagery from the location. Construction of new homes for relocated households is also visible.

Satellite imagery 4: Palanog 103 before, just after and one year after Yolanda



Pre-Typhoon Haiyan (Yolanda), 23 February 2012

Digital Globe



Aftermath of Typhoon Haiyan (Yolanda), 11 November 2013

Digital Globe



One year after Typhoon Haiyan (Yolanda), 12 November 2014

Digital Globe

Barangay 88 in Tacloban in Leyte, which covers the peninsula where Tacloban airport is located, was fully submerged by storm surges during Yolanda. The devastation is evident from satellite imagery captured just after the typhoon had passed. Here the reduction in tree cover, raised in FGDs in the barangay, is evident. It is also clear that many households have rebuilt their homes at the pre-typhoon location, including along the shoreline where they are at risk of future typhoons.

Satellite imagery 5: Tacloban Barangay 88 before, just after and 9 months after Yolanda



Digital Globe

18 May 2013



CNES / Astrium

13 November 2013



CNES / Astrium

30 August 2014

ACCESSIBILITY TO ESSENTIAL FACILITIES AND NEEDS

Livelihoods

Fishing and copra farming income sources remained heavily affected by Yolanda. Fish stocks were widely reported to have dropped due to the destruction of coral reefs by the typhoon, while many fishermen feared the sea following Yolanda, finding it difficult to return to fish. Fishing was on the other hand reported to have increased in some locations, as fishermen that had previously worked on others' boats had been provided with their own boats through livelihoods assistance projects.

Copra farmers and fishermen had reportedly turned to a range of alternative income sources following Yolanda. The surge in demand for construction labour right after the typhoon was widely reported by communities to have mitigated some of the loss of income suffered by copra farm workers and fishermen. However, as rebuilding efforts slowed, job opportunities dried up and many started to struggle. Amongst those that had not taken on construction work, some had started farming new crops, including cassava and banana but had faced challenges finding buyers for their produce, while others had given up on finding local work opportunities and migrated to Manila in search of employment.

Access to livelihoods was reported as a particular challenge at relocation sites. Since coastal areas were considered NBZ, safe sites for relocation were often identified inland, far away from livelihoods dependent on coastal access, such as livelihoods. Some households were reported to be using their new shelters at relocation sites only in the event of approaching typhoons while they lived day-to-day in their rebuilt shelters by the coast (see Satellite imagery analysis above for evidence of rebuilding along the shore lines). Some households had tried to transfer their livelihoods to the relocation site, including livestock farming, only to find that the new sites did not have space for livestock.

Access challenges around livelihoods were corroborated by shelter agency interview and secondary data (see Figure 5 below), being the most commonly raised challenge, particularly relating to the destruction of coco nut trees and coral reefs caused by Yolanda.

Figure 5: Shelter agency interview and secondary data mentions about Access

Access lower - high cost of services/facilities Access higher - where high social capital
Access lower - rural areas Access lower - lack of multi-sectoral assistance
Access lower - Community facilities Access higher - WASH

Access lower - Livelihoods

WASH

Sanitation was consistently reported to have improved considerably in the assessed communities, compared to before Yolanda. People reported having better access to latrines due to support from response actors and open defecation had generally decreased. However, several challenges were reported relating to the increased reliance on latrines, including lack of regular emptying of latrines at relocation sites which had led to some households emptying their latrines directly onto the ground. Similarly, lack of access to water for flush latrines had prevented households from using them at all. Water access challenges were reported both at original sites, one where network pipes damaged by

Yolanda had not yet been restored – and at relocation sites where water infrastructure had not yet been constructed.

When looking at differences in access to facilities between different types of sites, shelter agency interview and secondary data sources frequently highlighted challenges in providing WASH and livelihoods as key shortfalls at relocation sites compared to original sites. Shelter agencies were both frustrated with the access challenges and limited in to what extent they felt they could intervene; ‘Why didn’t NGOs get into water supply? There is a line we cannot go beyond’ [Shelter agency].

Figure 6: Shelter agency interview and secondary data mentions about Access – by type of site

Access lower in relocation site - food supply Access lower in relocation site due to high cost of transport to reach facilities/livelihoods Access higher in relocation site

Access higher at original site - livelihoods Access lower at original site - WASH

Access higher at original site - community facilities Access lower in relocation site - cooking

Access lower in relocation site - community facilities/schools

Access lower in relocation site

Access lower in relocation site - WASH

Access lower in relocation site - livelihoods

Community facilities

Similar to sanitation, community facilities had reportedly improved considerably compared to pre-Yolanda at some locations. However, other communities reported that facilities had either not been restored or were restored in terms of structure but were still lacking stocks destroyed by Yolanda, such as medicines, leaving facilities partly non-functional. Access to community facilities at relocation sites were reported to be a challenge for several reasons. In some cases facilities were simply not available locally while at other locations the relocated population had not been registered in the new barangay and could not avail of local facilities, instead returning to their barangay of origin for school, health and other facilities, costing money and time. It was also notable that some relocated populations preferred to return to use facilities in their barangays of origin, even where they had access to local facilities, because they preferred facilities and facility staff they were already familiar with. Unsurprisingly, better access to facilities could be seen in situations where the relocated population had moved from another location from within the same barangay.

Cooking

Access to culturally appropriate food storage preparation and cooking facilities was not raised as a challenge in any of the communities assessed, with increasing prices of charcoal being the only significant change highlighted in FGDs. Charcoal price hikes were seen as a direct result of the forest destruction and subsequent high consumption of lumber following Yolanda (see Environment section above). Some shelter agencies and secondary data sources reported that cooking facilities at temporary relocation sites were inappropriate as people were expected to cook in public, not customary in Philippine culture.

Table 19: Summary of access status in assessed communities

Build Zone status (mostly)	Area type (mostly)	Location type	Level of assistance/ services	Barangay	ACCESS
Mixed	Urban	On original site	Higher shelter assistance	Dumolog	Mostly improved
Mixed	Urban	On original site	Higher shelter assistance	56A	Mostly improved
Build Zone	Semi-Urban	On original site AND Transitional resettlement	Lower assistance and lower access to services	Tigbao Relocation site	Mostly restored
Mixed	Semi-Urban	Permanent resettlement of original population	Higher access to services	Paypay	Mostly improved
Build Zone	Rural Inland	On original site	Lower shelter assistance	Pinamalatican	Not restored
Build Zone	Rural Inland	On original site	Lower shelter assistance	Maragongdong	Mostly restored
Build Zone	Rural Inland	On original site AND Transitional resettlement	Lower assistance and lower access to services	Cogon	Not restored
Build Zone	Rural Inland	On original site AND Permanent resettlement	Higher access to services	Palanog 103	Mostly restored
Build Zone	Rural Inland/Coastal	Permanent resettlement	Higher access to services	Jagnaya	Mostly restored
Mixed	Semi-Urban Informal/ Formal/ Coastal	On original site	Higher shelter assistance	Paon	Mostly improved

RECOVERY AND ASSISTANCE CHALLENGES AND MITIGATIONS

Land

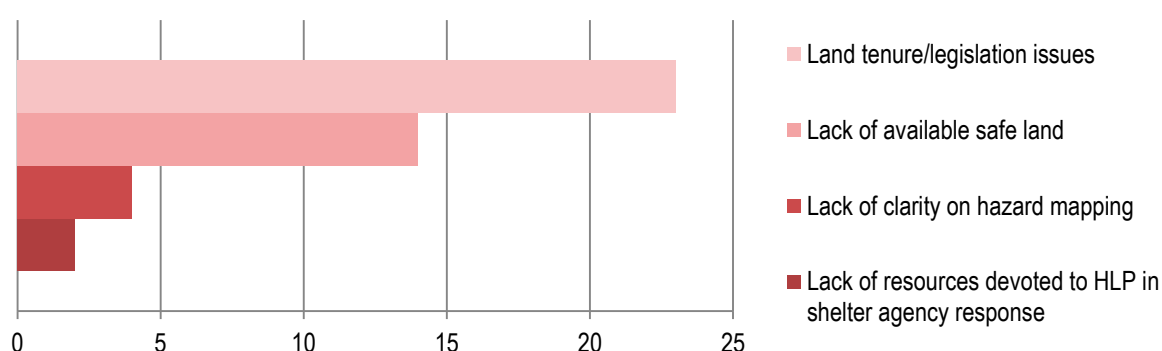
Land related issues were overwhelmingly the most frequently highlighted recovery challenge in shelter agency interviews and secondary data (see Figure 7 below). Land access issues were a key barrier to implementing BBS measures, as seen above particularly in relation to building strong foundations at safe sites. In general terms, lack of secure land tenure to safe sites was said to decrease the incentive to apply BBS methods in rebuilding due to the perceived temporary status of shelters, sometimes compounded by the awaited relocation. Safe sites in turn were often reportedly not accessed, firstly due to lack of available land close enough to livelihoods and facilities and secondly where land could be located, lack of resources to buy a plot.

One theme around land issues related to lack of clarity around land tenure agreements, with many households especially in rural areas having no confirmation of their tenure status beyond a 'handshake agreement' with the land owner. The landowner's personal preferences appeared to determine to what extent tenants could build safe, adequate structures, with many for example prohibiting stronger, more permanent foundation designs. Almost every community assessed reported that owners of the barangay land were located either in Manila or in some cases abroad, with limited interest in challenges faced by the local population inhabiting their land.

Lack of access to safe relocation land was a widely reported issue, which had left entire barangays in limbo as populations were well aware that they lived in a NBZ but had nowhere to go. Sometimes safer sites were available on adjacent land but could not be accessed pending land owner decisions on site planning. Estimates from August 2014 indicated that this was affecting as many as 205,000 families in need of relocation to safer areas who were living in coastal areas considered to be NBZ.³⁴

Lack of access to safe land had also prevented households from receiving better quality, more durable assistance as they could not be provided with more permanent shelter solutions from agencies. Several communities reported vulnerable households ‘missing out’ on assistance as they were unable to access the land needed for agencies to be able to assist. Shelter agencies were then unable to provide more permanent shelter solutions.

Figure 7: Sources that highlighted land issues as recovery and implementation challenge



Shelter agencies had tried several strategies to mitigate challenges faced due to land issues. Rental assistance and host family subsidies had been offered to households with damaged homes in no build zones. Some agencies offered legal assistance to households to put in place a Memorandum of Agreement (MoA) between tenants and their landowners to formalize longer term tenancy and thus enable construction of more durable homes. Inserting a clause in the agreement awarding the tenant/beneficiary ownership of the materials used for the structure helped increase protection of the tenant. Land issues constituted a significant drain on agency resources, with paralegal staff hired to handle land disputes and draw up agreements full time. Some had tried coordinating with the government to procure land, facing considerable delays in programming. Community remortgage programmes offered by the government had helped some communities rebuild before they had procured the land. Relocation sites for families in no build zones were searched for in nearby areas to minimize disruption of livelihoods and access to services. Agencies both expressed frustration with the challenges encountered due to the land tenure situation and felt limited in how far they could mitigate these: ‘there are areas we can’t go because we are encroaching on government responsibility’ [Shelter agency]. Some argued that the national government could do more to help local government units obtain the land needed for relocation. Procurement was ongoing at the time of the assessment but the process was said to be expected to take several years to complete.

³⁴ (OPARR, 1 August 2014, p.10)

Humanitarian system, guidelines & priorities

The sometimes conflicting demands of recovery standards highlighted by both primary and secondary data sources have already appeared in the sections above. The most frequently raised conflict reported across sources was between Safe and Access areas, largely due to the difficulty faced by households in finding a safe location for their homes, within reasonable distance from their livelihoods (see Figure 8 below). The challenge of finding a safe site near community facilities similarly underpinned the conflict between Safe and Access to community facilities. BBS methods being deprioritised in favour of basic needs has also been touched upon in previous sections. Lack of guidance on how to handle the conflict between standards was frequently raised as a key challenge in achieving the recovery standards.

Figure 8: Shelter agency interview and secondary data mentions about conflicting demands of Safe (BBS) and Access

Safe (BBS) vs Access (Community facilities)

Safe (BBS) vs Access (Livelihoods)

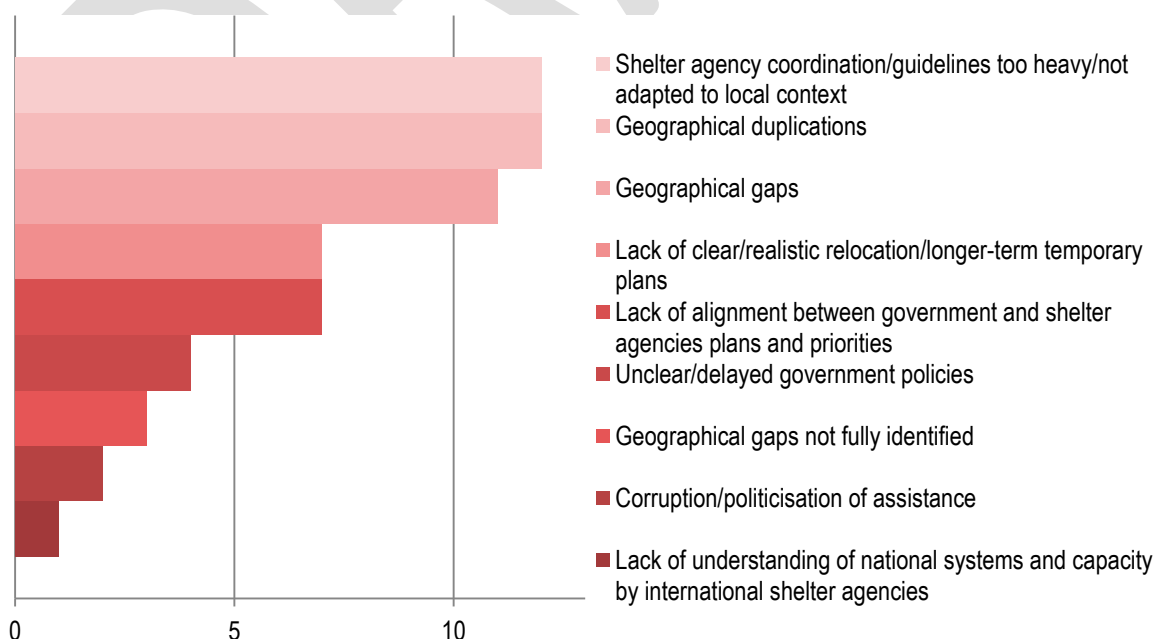
Safe (BBS) vs Adequate (Space)

Safe (BBS) vs Appropriate (Climatically)

Safe (BBS) vs basic needs

Related to the conflicting demands of recovery standards was the frequently expressed sentiment that the humanitarian system and guidelines overall could have been less heavy and better adapted to the local context (see figure 9 below). Shelter agencies had tried adapting guidelines to suit the local context, including use of model houses to help demonstrate BBS methods. Still it was felt that more could be done, including familiarising new generations with the messages; 'I wonder if there is enough communication with the education cluster - in countries where you have annual disasters you could integrate these messages in the education system from the outset [Shelter agency].'

Figure 9: Sources reporting planning challenges



Other planning challenges highlighted in shelter agency interviews and secondary data included concerns over geographical duplications, especially in relation to smaller NGOs that had not engaged with the coordination system. Conversely, fears were raised that geographical gaps remained, particularly in remote areas that may not have been identified during the recovery phase due to weakening coordination between actors as the response transitioned into recovery. This was related to a perceived lack of alignment between government and shelter agency planning and implementation during the recovery phase and a realisation that relocation plans could have been more realistic in terms of time-frames and provision of appropriate and sufficiently durable temporary measures. This was corroborated by the temporarily relocated community assessed in Cogon who lived in fully BBS compliant structures where the main concern was durability of the materials which had not been intended for longer term use.

Access and availability

Cash assistance was frequently highlighted as extremely useful by both communities and shelter agencies. In particular cash was said to be less sensitive to timing, meaning households could put the assistance to best possible use, regardless of which stage they were at in terms of recovery. The provision of the Government's Emergency Shelter Assistance (ESA) cash grant at a fairly late stage was for instance reported to have complemented previously provided assistance where permitted to do so, in enabling some to pay off debts incurred during reconstruction, while others could buy the remaining materials needed to fully rebuild or repair their shelters.

However, the success of cash assistance was heavily dependent on availability of materials at markets, an issue raised frequently by both communities and shelter agencies. Lack of availability of durable materials had left households with inadequate structures, including those with the means to normally afford better quality. This was one reason why shelter agencies argued that in kind assistance was more beneficial in more remote communities; 'that way the burden of delivery is with the organization, not with the community [Shelter agency]. Logistics was a key barrier especially highlighted at remote locations, sometimes stated as the main issue hampering self-recovery. This included poor quality roads that reportedly isolated some remote inland communities for several months during rainy seasons, or lengthy journeys by boat for island communities which led to high transportation costs.

The flexibility of cash of course also meant that households not always used the assistance as it had been intended. Cash received through rent assistance intended for use to cover household bills had reportedly in some cases been used by households to rebuild their shelters near their livelihoods in NBZ, with families moving to their rented apartments only during emergencies when a typhoon was approaching. Cash assistance had also been used by some households to cover basic needs (which was also reported for other types of assistance that sometimes had been sold to enable households to cover other basic needs).

Cash had in some instances been used for less beneficial purposes, with some beneficiaries reportedly spending their assistance on alcohol or gambling: 'Gambling has become rampant after Yolanda because of dependency on 4P and assistance they have received from many shelter agencies' [LA]. Shelter agencies had attempted to mitigate improper use of cash assistance by releasing cash in tranches upon completion of their shelters to the required standards. It was also noted that cash assistance must be accompanied by monitoring and technical advice to ensure implementation to desired standards.

Mirroring the perceived benefits of cash assistance, lack of resources was constantly raised as the key barrier to self-recovery by both shelter agency interviews and secondary data sources and communities themselves, with some households that had begun reconstruction independently halting their activities due to lack of funds. This was particularly the case for families that faced challenges covering their basic needs.

A correlation was found when testing previously collected shelter monitoring data, between income having been negatively impacted as a result of the Typhoon and whether houses had been fully repaired or rebuilt. Households that had experienced a drop in income following Yolanda were indeed more likely to live in homes that were not yet restored, compared to those that had experienced no impact (see table 20 below).

Table 20: Households with drop in income since Yolanda were less likely to have completed house repairs/rebuilding³⁵

LIVELIHOOD_impact * RECOVERY Cross tabulation					
			RECOVERY		Total
			no	yes	
LIVELIHOOD_impact	No	Count	33	676	709
		% within LIVELIHOOD_impact	4.7%	95.3%	100.0%
	Yes	Count	440	2358	2798
		% within LIVELIHOOD_impact	15.7%	84.3%	100.0%
Total	Count		473	3034	3507
	% within LIVELIHOOD_impact		13.5%	86.5%	100.0%

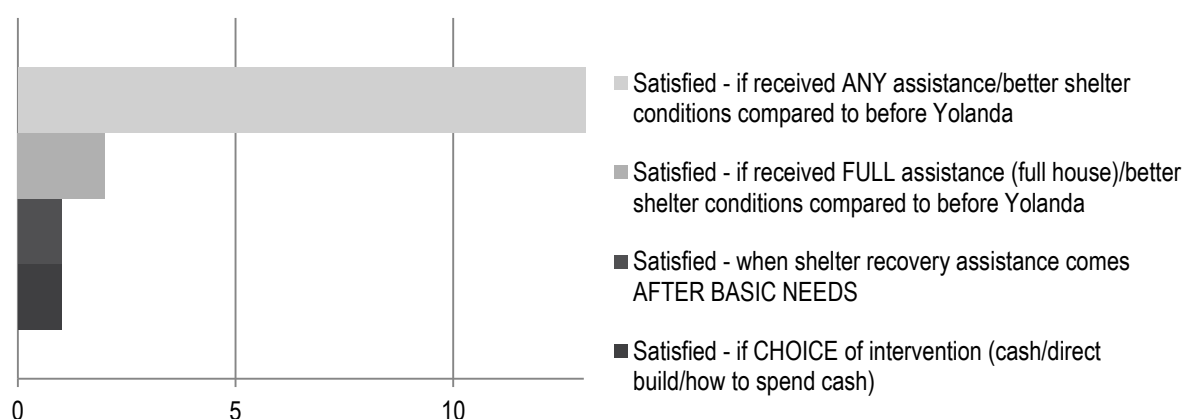
Some communities assessed during the present evaluation reported that it was more common to borrow and lend money following Yolanda, often to buy materials for shelter or livelihoods, which had led to increasing debt levels. Some reported borrowing from micro finance corporations to build latrines, start small businesses and rebuild homes.

Targeting and community satisfaction

Overall, in line with the reported increased likelihood of BBS implementation where shelter assistance was received, shelter agencies and secondary data sources frequently found that beneficiary households were overall satisfied with assistance where assistance had been received. It was noted that satisfaction was highest where a full shelter was received and where basic needs had already been covered (see Figure 10 below).

³⁵ Pearson's X²: p-value=0.00; Valid n: 3544; 0 cells (.0%) have expected count less than 5. The minimum expected count is 99.35. Cases were weighted according to municipality population size.

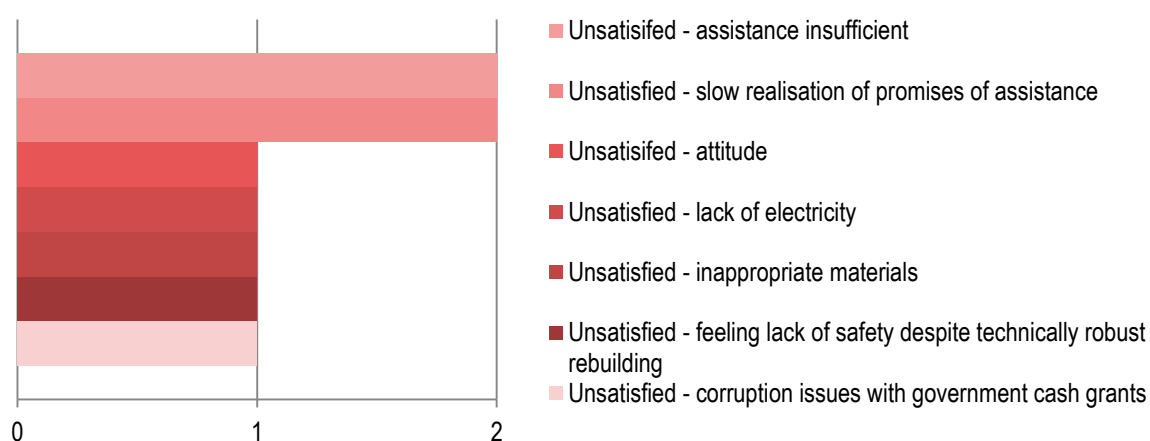
Figure 10: Sources reporting communities satisfied with assistance



As noted above, previous monitoring rounds by the Shelter Cluster identified that more than three-quarters of households that had received assistance, were satisfied.³⁶

Explicit reasons for lack of satisfaction identified by shelter agencies and secondary data sources reflected what communities reported, including perceived delays in provision of assistance, insufficient assistance, inappropriate materials and insufficient strength of structures in the face of forthcoming typhoons. In addition lack of satisfaction due to perceived corruption issues related to government cash grants were raised as was lack of services at shelter locations, specifically lack of electricity (see Figure 11 below).

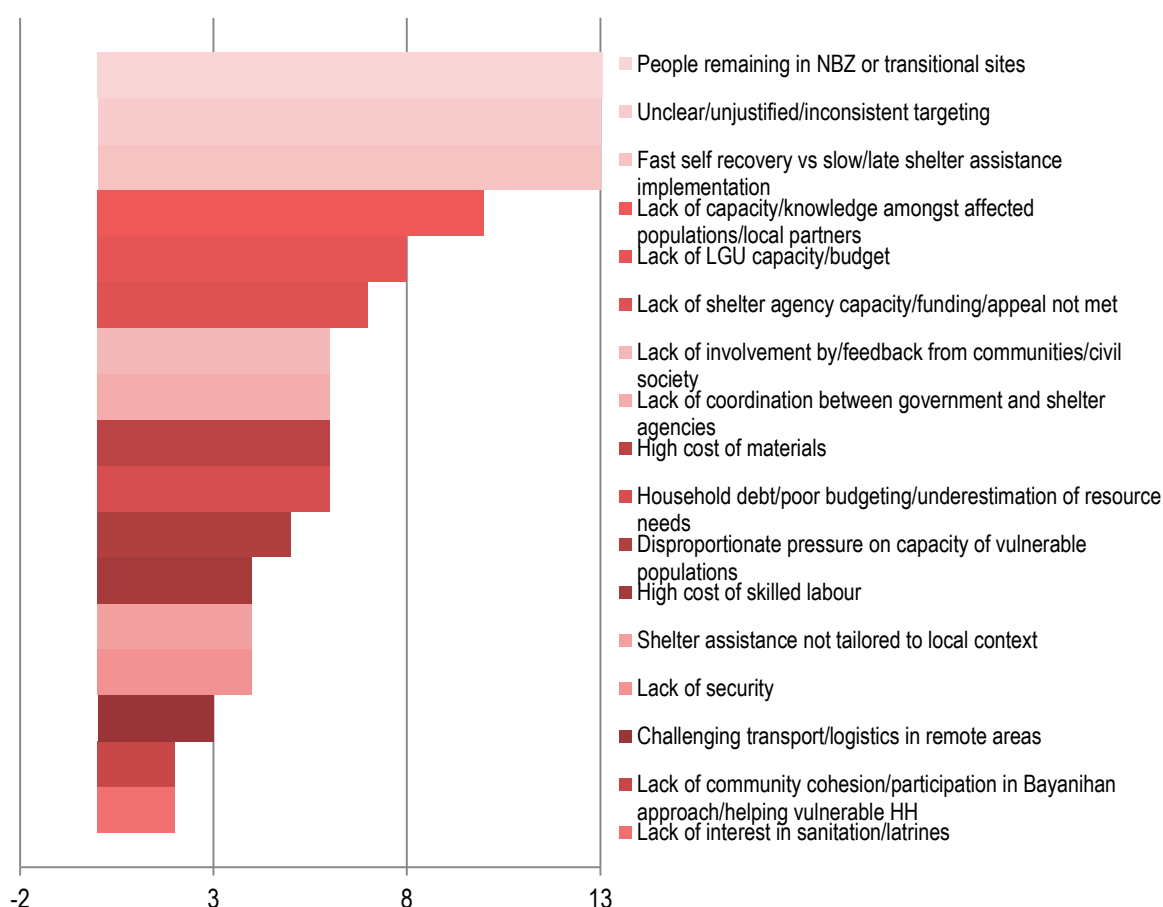
Figure 11: Sources reporting communities dissatisfied with assistance



It was widely felt that recovery assistance would have been even more useful if provided at the time when self-recovery was at its peak, which in some communities was said to be during the first three months following Yolanda. BBS training sessions had sometimes been provided by shelter actors six months after the last households completed their rebuilding, with most participants not having the time or resources to redo the work on their houses in accordance with BBS guidelines. This was corroborated by shelter agency and secondary data sources as a key implementation challenge (see Figure 12 below).

³⁶ REACH (September 2014) Shelter Sector Response Monitoring Typhoon Haiyan, Philippines, 2013 Final Report: Monitoring Assessment 2

Figure 12: Sources highlighting implementation challenges



In addition to the tenuous situation facing people in NBZ, heavily related to the land issues discussed above, shelter agency interviews and secondary data also frequently raised unclear and inconsistent targeting as a key implementation challenge (see Figure 12 above).

Shelter agencies expressed frustration that not all households in need could be assisted due to funding shortfall.³⁷ Targeting strategies were put in place to ensure assistance reached the most vulnerable households, however although well intended these strategies sometimes had unintended consequences that led communities to perceive them as unfair.

For instance, one community reported how the most vulnerable households had been given assistance first in the form of 'starter houses', after which the less vulnerable were assisted in the form of more solid, permanent houses. Having to wait for a more permanent durable solution was here considered preferable to receiving less durable temporary solutions more quickly; hence the targeting was felt to be unfair.

Several communities complained that some households were perceived to intentionally delay reconstruction of their homes and hence succeed in receiving assistance ahead of households that had scraped together what they could to begin rebuilding, although the two types of households had the access to the same level of resources. Similarly, a shelter agency reported concern that prioritization of hosted families ahead of families that were living on the site of their damaged house and rushing to rebuild what they could, carried a risk of excluding the most vulnerable households. This was due to

³⁷ At the time of closure the SRP has only been 61 per cent funded (\$468 million).

hosted families making no effort to rebuild potentially being more comfortable living with their hosts than families that were living on the site of their damaged house and rushing to rebuild what they could. Hosted families had also been noted to most likely live in homes with higher BBS standards than other affected households (see 'BBS by type of assistance' above).

Land access barriers discussed above had led to some instances where only landowners could be provided with the most permanent, durable solutions, which communities felt was an unfair advantage for families that were already relatively better off compared to those in a similar situation that did not own the land they lived on.

Lesser requirements demanded of relocated populations compared to the original community at some relocation sites had created a source of tension. This was seen where the relocated population received full assistance while the original population, that also had their houses damaged by Yolanda, had to provide a counterpart in the form of material and/or labour. Vulnerable households were said to have been excluded as a result, where they were unable to provide a counterpart.

Communities reported frustration over the inconsistent policy applied to the Government's ESA (Emergency Shelter Assistance), which had sometimes only been given to households that had not already received shelter assistance, regardless of need. The key frustration expressed was that households had not been informed about the choice at the time of accepting the alternative assistance. As noted in the Case Study Locations section above, there were also instances where the community felt that targeting had been incorporated in the damage assessment itself, with assessors reporting households that they felt were less deserving of assistance as having less damaged homes than what they actually had, and vice versa.

Livelihoods assistance was sometimes felt to have an unfair focus where it had targeted replacement of assets, leaving the most vulnerable households that did not own assets pre-Yolanda, without assistance.

Insufficient assistance provided was raised by both communities and some shelter agencies. Communities reported that households that had received a partial kit of materials often struggled to raise the remaining materials needed to complete reconstruction. Attempts to provide complementary assistance was reported to have failed in one community as one agency did not provide the specified assistance and thus left a gap in materials across all households. These reports were corroborated by secondary data sources: 'Repairs and retrofits account for 70% of the overall recovery shelter response. Given the substantial impact on livelihoods and the pre-Yolanda poverty rates, especially in Region VIII, these are only likely to be a suitable solution for those people whose homes were partially destroyed, as beneficiaries have shown low ability to top up assistance provided using their own resources.'³⁸

Communities expressed frustration that agencies that visited to conduct assessments did not inform communities if they had been 'successful' or not. It was felt that communication in these instances that assistance would *not* be provided could help households and community in their own planning.³⁹ Conversely, Shelter agencies that had stayed with communities over a longer period of time were

³⁸ Analysis of Shelter Recovery (Shelter Cluster)

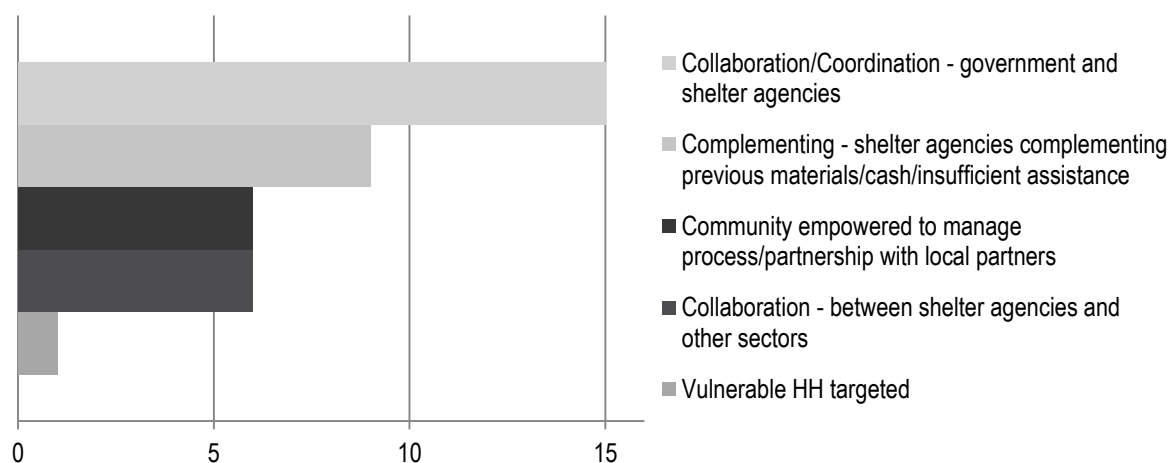
³⁹ Email addresses were collected from all participants in this assessment that were interested in receiving this assessment report, with the intention of circulating the report to all interested parties once validated by the Shelter Cluster.

perceived as the most helpful. 'Not in the form of relief goods or something but more on moral support, we felt their sympathy, they make us strong' [LA]

Response implementation successes

Given the considerable challenges faced during recovery, it was notable that several achievements were frequently highlighted by shelter agency interview, secondary data and communities themselves. Collaboration and coordination between government bodies and shelter agencies was apparent, including where local authorities facilitated settlement of land issues to enable shelter assistance to vulnerable households. Shelter agencies were often reported to have complemented assistance to help vulnerable households complete rebuilding, while striving to identify land at or near original sites to minimise disruption to livelihoods and services. Collaboration between shelter sectors and other sector actors, particularly WASH, was often highlighted. Involvement and empowerment of communities to manage shelter programming was also raised as a factor contributing considerably to the recovery, as was the successful targeting of vulnerable households (see Figure 13 below).

Figure 13: Sources highlighting implementation successes aiding recovery



CONCLUSION

A multitude of factors have affected the recovery of people affected by Typhoon Yolanda, but it is clear that many aspects of the Shelter Cluster strategy to rebuild safe, adequate, accessible and appropriate homes are in line with rebuilding efforts made by communities and emergency responders alike.

The large majority of households covered in this assessment had attempted to build back safer than before, with evidence from across affected areas pointing to an uptake of Build Back Safer practices. Messaging on safer construction had been both heard and acted upon and many techniques were observed to be in use and had become part of community discourse. However, at times, requirements for safety have competed with other recovery standards, particularly those related to space and accessibility of community services and infrastructure. The issue of access to land has proved a key underlying challenge for populations affected by Yolanda and has indirectly affected the outcome of many recovery indicators explored in this study.

The often inherent conflict between recovery standards for shelter safety, adequacy, accessibility and appropriateness have often made it difficult for households to determine what should be prioritised with their available resources. In many cases, a similar set of questions was asked: should I focus on a house large enough to comfortably host all family members, or rather build a smaller house fully in line with BBS techniques? Or would a mid-sized house in line with some but not all BBS techniques be almost as good? Similar questions arose in relation to the conflict between siting and safety, with sufficient space for rebuilding often unavailable in areas with access to services, livelihoods and infrastructure.

With many households unable to meet recovery standards in all four areas, it is clearly better to achieve some standards than none at all. However, limited information or advice has been available to help households prioritise based on a better understanding of the potential risk and consequences of their decision. In future responses, an understanding of need for increased flexibility and specialist advice to help households prioritise standards could increase the uptake of BBS techniques among all members of the affected population, and avoid the perception among poorer households that a safer shelter is entirely out of their reach.

The issue of prioritisation of recovery standards also relates to the wider question of what it means to recover. Is a family that is comfortably hosted by extended family and able to cover basic needs less recovered than a family that has drawn considerable debt to rebuild their own house and struggle to send their children to school? How should the Recovery Shelter Guidelines or indeed, any humanitarian guidelines relating to shelter be implemented? One shelter agency felt that assisted families should more clearly be given a choice in how to build their houses; “Even SPHERE have said that communities themselves should set the standard, sure we can inform them of international standards but they should decide for themselves” [Shelter agency]. Finally, it is also important to note that communities’ own self-recovery has often outpaced the response to support self-recovery. This raises questions about what more could be done to better prepare and stockpile recovery materials ahead of the next major typhoon, or how to launch recovery assistance at an earlier stage.

ANNEXES

Annex 1: Secondary data sources – published documents

Organisation	Title	Publication date
ACAPS	Secondary data review - Philippines: Typhoon Yolanda	Jan-14
Brookings-LSE	Resettlement in the wake of Typhoon Haiyan in the Philippines; a Strategy to mitigate risk or a risky strategy?	Jun-15
CARE Philippines	Typhoon Haiyan shelter recovery project evaluation	Nov-15
CARE Philippines	Typhoon Haiyan Emergency and Recovery Response: One Year Later	Nov-14
CRS	Pintakasi: A review of Shelter/WASH delivery methods in post-disaster recovery interventions	Feb-16
CRS	Cash-for-shelter pilot findings: Typhoon Haiyan	Nov-14
CRS	Support to the local tool market post-Typhoon Haiyan	
DSWD	REPORT NO. 109: EFFECTS, SERVICES AND INTERVENTIONS FOR VICTIMS OF TYPHOON "YOLANDA"	As of 06 December 2013 / 6:00 A.M.
HCT	Final Periodic Monitoring Report: Typhoon Haiyan (Yolanda)	Aug-14
HCT	Periodic Monitoring Report: Typhoon Haiyan (Yolanda)	Apr-14
HCT	Periodic Monitoring Report: Typhoon Haiyan (Yolanda)	Jan-14
HCT	Multi-Cluster Needs Assessment	Dec-13
HCT	Typhoon Haiyan (Yolanda): Strategic Response Plan	Dec-13
IASC	Inter-agency Humanitarian Evaluation of the Typhoon Haiyan Response	Oct-14
ICRC	Shelter Report 2015 Philippines: Typhoon Haiyan Response	Sep-15
IDMC	Philippines: Long-term recovery challenges remain in the wake of massive displacement	Feb-15
IFRC	Mid Term Review of IFRC support to the Typhoon Haiyan: Response Operation in the Philippines	Aug-15
IFRC	Emergency appeal operation update Philippines: Typhoon Haiyan	Jun-15
IFRC	Mid-term Review: BRC/PRC Typhoon Haiyan - Iloilo Recovery Programme	Apr-15
IFRC	Real-Time Evaluation of the Philippines Haiyan Response	Mar-15
IFRC	All Under One Roof: Disability-inclusive shelter and settlements in emergencies	Mar-15
IOM	Resolving Post-Disaster Displacement: Insights from the Philippines after Typhoon Haiyan (Yolanda)	Jun-15
NEDA	Yolanda Comprehensive Rehabilitation and Recovery Plan	01-Aug-14
NEDA	NEDA: Reconstruction Assistance on Yolanda: Implementation for results	Sep-14
NEDA	NEDA: Reconstruction Assistance on Yolanda: Build Back Better Region VIII (got it); Region VI & VII (awaiting response after Easter)	Dec-13
NEDA	In the shadow of the storm: Getting recovery right one year after typhoon Haiyan	Nov-14
OXFAM Plan International	Plan's performance based on people's perception	Jan-16
Ramboll Foundation	Learning from Tacloban	18-Nov-15
REACH	Shelter Sector Response Monitoring: Typhoon Haiyan, Philippines 2013 Final Report Monitoring Assessment 2	Sep-14

REACH	Shelter and WASH Rapid Assessment: Typhoon Haiyan, Philippines 2013 FINAL Report	Jan-14
Refugees International	Philippines: Post-typhoon resettlement plan carries risks	Feb-15
Shelter Cluster	Gap analysis of remaining shelter needs	11/11/2014
Shelter Cluster	Recovery Shelter Guidelines	Nov-14
Shelter Cluster	Shelter Cluster Meeting Minutes	Jun-14
Shelter Cluster	Analysis of Shelter Recovery	
Shelterbox	Post-Haiyan Reconstruction Pilot Shelter Project	Apr-16
UNHCR	Protection: Haiyan affected areas - Current situation and remaining needs in Region VIII	2014
USAID	An Integrated Approach to Assistance in the Philippines	
World Vision	Typhoon Haiyan Response 18-Month Report	May-15
World Vision	Post-Distribution Monitoring (PDM) Report Shelter Materials Distribution Project (Package A)	Aug-14

Annex 2: LIVELIHOODS_impact, RECOVERY and SAFE variable calculations⁴⁰

SPSS variable name	Monitoring 2: Value	SPSS score
RECOVERY	if house completely repaired	Yes
	if house repairs ongoing and household can complete with own resources	Yes
	if house repairs ongoing but household cannot complete without support	No
	if house repairs not yet started	No
	if house completely rebuilt	Yes
	if house rebuilding ongoing and household can complete with own resources	Yes
	if house rebuilding ongoing but household cannot complete without support	No
	if house rebuilding not yet started	No
SAFE	if Safety score is None	0
	if Safety score is Poor	1
	if Safety score is Okay	2
	if Safety score is Good	3
LIVELIHOOD_impact	if household income covers basic needs before/after is Not_at_all	1
	if household income covers basic needs before/after is Partially	2
	if household income covers basic needs before/after is Sufficiently	3
	if household income covers basic needs before/after is Completely	4
Calculation	Before income - After income if 0 or minus = NO if >0 = YES	

Annex 3: Safety scores⁴¹

The following minimum safety features were assessed: (1) site, (2) shape, (3) foundation, (4) tie-down, (5) bracing, (6) strong joints and (7) roofing. Each of these features was rated as “none”, “poor”,

⁴⁰ Applied on data set collected through Shelter Sector Response Monitoring Typhoon Haiyan, Philippines, 2013: Final Report: Monitoring Assessment 2

⁴¹ Composite score constructed during Shelter Sector Response Monitoring Typhoon Haiyan, Philippines, 2013: Final Report: Monitoring Assessment 2

“okay” or “good” by enumerators. A scale was developed to provide a classification for each dwelling to measure how resistant to future disasters the dwelling is:

- Safe dwelling = all specifications good or okay
- Fairly safe dwelling = 1 to 3 specifications were poor or were not present
- Fairly unsafe dwelling = 4 to 6 specifications were poor or were not present
- Very unsafe dwelling = all 7 specifications were poor or were not present

Annex 4: Primary data collection questionnaires

Shelter Response Outcome Assessment: Key Informant (LOCAL AUTHORITY) Questionnaire				
Date: __/__/__	Barangay: _____	Municipality: _____	Province: _____	
Moderator Name: _____		Transcriber Name: _____		
Key Informant details				
First name:	Surname:	Age: __	Sex: ☐ M ☐ F	Phone:
Role in the community:				
First name:	Surname:	Age: __	Sex: ☐ M ☐ F	Phone:
Role in the community:				
First name:	Surname:	Age: __	Sex: ☐ M ☐ F	Phone:
Role in the community:				
Introduction				
– We are working for the Global Shelter Cluster, which is a partnership of organisations around the world that work together to support households and communities as they rebuild their homes when disaster strikes. – We are not representing a specific organization and we are not here to assess for the purpose of providing assistance. We are simply collecting information to understand how communities managed to recover after Yolanda, particularly focusing on shelter, to understand how external actors can better assist if something similar would happen again in Philippines or other places. – Please note that this interview does not have any impact on whether you or your family or your community receives any assistance in the future. These discussions are only meant to explore how you, your households and this community overall rebuilt after Yolanda. – I would like to assure you that the interview will be anonymous. We note your personal details only so that the data analysis team can contact you to clarify anything we failed to record properly during the interview. If there are any questions you do not wish to answer or do not know the answer to, just let us know and we will skip these. – The interview may take 45 minutes or more if you have a lot of things to tell us about. We appreciate all the time you can give us. – We will be taking notes as we talk so that we do not miss anything you say. – May we begin?				
QUESTION 1: (Engagement question): First of all we want to understand how this community was affected by Yolanda.				
1.a. How many households <u>lived here</u> at the time of Yolanda? _____				

1.b. Amongst these households, how many had their homes <u>totally destroyed</u> ?	_____ , _____
1.c. Amongst these households, how many households had their homes <u>partially destroyed</u> ?	_____ , _____
Calculation check: $1a - 1b - 1c = ?$ If the result is less than 0 (-) something is wrong, that means totally destroyed + partially destroyed totals more than the total number of households > recheck the figures with the KI)	
You can add any comments regarding the respondent's answer (e.g. level of certainty in figures) in the space below:	

QUESTION 2: Did this community receive any assistance following Yolanda that helped people rebuild?

Prompts:

- What type(s) of assistance?
- Who provided the assistance?
- In what ways did it help people rebuild?
- Was any assistance more helpful than other types? In what ways?

QUESTION 3: We want to understand if people have built back stronger and safer houses since Yolanda. (View chart of BBS techniques)

Prompts:

- Which of these BBS techniques do you think have been used when rebuilding after Yolanda?

Used	Technique		Used	Technique
☐	Build on strong foundation		☐	A good house needs a good roof
☐	Tie down from bottom up		☐	Site your house safely
☐	Brace against the storm		☐	A simple shape will keep you safe
☐	Use strong joints		☐	Be prepared

You can add any comments regarding the respondent's answer below:

➤ Do you think any of these techniques were used more commonly after, compared to before, Yolanda?

Used	Technique		Used	Technique
☐	Build on strong foundation		☐	A good house needs a good roof
☐	Tie down from bottom up		☐	Site your house safely
☐	Brace against the storm		☐	A simple shape will keep you safe
☐	Use strong joints		☐	Be prepared

You can add any comments regarding the respondent's answer below:

QUESTION 4: Did some people in this community have greater difficulties than others to rebuild?

Prompts:

- What kind of difficulties did they face?

QUESTION 5: Did the rebuilding following Yolanda affect the local environment in any way?

QUESTION 6: How has access to facilities changed in this community since Yolanda?

Prompts:

- What about access to schools?
- Access to health facilities?
- Access to government offices?
- Access to public transport?

QUESTION 7: How has access to livelihoods changed in this community since Yolanda?

QUESTION 8: Are there any challenges or changes that this community has faced as a result of Yolanda, that we haven't talked about already? Please describe.

Thank you for your time! Please make a note of email addresses if the KI are interested in receiving the final report:

Shelter Response Outcome Assessment: Key Informant (PRIVATE SECTOR) Questionnaire

Date: __/__/__	Barangay: _____	Municipality: _____	Province: _____	
Moderator Name: _____		Transcriber Name: _____		
Key Informant details				
First name:	Surname:	Age: __	Sex: ☐ M ☐ F	Phone:
Role in the :				
First name:	Surname:	Age: __	Sex: ☐ M ☐ F	Phone:
Role in the :				
First name:	Surname:	Age: __	Sex: ☐ M ☐ F	Phone:
Role in the :				

Introduction

- We are working for the Global Shelter Cluster, which is a partnership of organisations around the world that work together to support households and communities as they rebuild their homes when disaster strikes.
- We are not representing a specific organization and we are not here to assess for the purpose of providing assistance. We are simply collecting information to understand how communities managed to recover after Yolanda, particularly focusing on shelter, to understand how external actors can better assist if something similar would happen again in Philippines or other places.
- **Please note that this interview does not have any impact on whether you or your family or your community receives any assistance in the future. These discussions are only meant to explore how you, your households and this community overall rebuilt after Yolanda.**
- I would like to assure you that the interview will be anonymous. We note your personal details only so that the data analysis team can contact you to clarify anything we failed to record properly during the interview. If there are any questions you do not wish to answer or do not know the answer to, just let us know and we will skip these.

- They interview may take 45 minutes or more if you have a lot of things to tell us about. We appreciate all the time you can give us.
- We will be taking notes as we talk so that we do not miss anything you say.
- May we begin?

QUESTION 1: (Engagement question): Can you please describe how you were involved in the rebuilding of homes after Yolanda?

QUESTION 2: Did this settlement receive any assistance following Yolanda that helped people rebuild?

Prompts:

- What type(s) of assistance?
- Who provided the assistance?
- In what ways did it help people rebuild?
- Was any assistance more helpful than other types? In what ways?

QUESTION 3: We want to understand if people here have built back stronger and safer houses after Yolanda.

(View chart of BBS techniques)

Prompts:

- Which of these BBS techniques have you used when rebuilding after Yolanda?

Used	Technique	Used	Technique
☐	Build on strong foundation	☐	A good house needs a good roof
☐	Tie down from bottom up	☐	Site your house safely
☐	Brace against the storm	☐	A simple shape will keep you safe
☐	Use strong joints	☐	Be prepared

You can add any comments regarding the respondent's answer (e.g. level of certainty in figures) in the space below:

- Which of these BBS techniques have you seen people in this settlement use when rebuilding after Yolanda?

Used	Technique	Used	Technique
☐	Build on strong foundation	☐	A good house needs a good roof
☐	Tie down from bottom up	☐	Site your house safely
☐	Brace against the storm	☐	A simple shape will keep you safe
☐	Use strong joints	☐	Be prepared

You can add any comments regarding the respondent's answer (e.g. level of certainty in figures) in the space below:

- Do you think any of these techniques are used more after than before Yolanda?

Used	Technique	Used	Technique
☐	Build on strong foundation	☐	A good house needs a good roof
☐	Tie down from bottom up	☐	Site your house safely
☐	Brace against the storm	☐	A simple shape will keep you safe
☐	Use strong joints	☐	Be prepared

You can add any comments regarding the respondent's answer (e.g. level of certainty in figures) in the space below:

QUESTION 4: Do you think some techniques are more difficult for people to implement?

Prompts:

- Which techniques?
- Why were they difficult?
- Did some people in this settlement struggle more than others to use these?
- Why did they find them difficult do you think?

QUESTION 5: Are there any techniques that were used before Yolanda that you see being less used after?

Prompts:

- Which ones?
- Why do you think they are less used now?

QUESTION 6: What do you think about the materials and techniques that were used during the rebuilding? What do you like/not like? Why?

QUESTION 7: Do you think the rebuilding following Yolanda affected the local environment in any way?

QUESTION 8: Has your work changed as a result of Yolanda?

Prompts:

- Do people request different techniques/assistance?

QUESTION 9: Are there any challenges or changes that this community has faced as a result of Yolanda, that we haven't talked about already? Please describe.

Thank you for your time! Please make a note of email addresses if the KI are interested in receiving the final report:

Shelter Response Outcome Assessment: Key Informant (HUMANITARIAN AGENCY) Questionnaire				
Date: __/__/__	Barangay: _____	Municipality: _____	Province: _____	
Moderator Name: _____		Transcriber Name: _____		
Key Informant details				
First name:	Surname:	Age: __	Sex: ☐ M ☐ F	Phone:
Organisation:		Role in the organization:		
First name:	Surname:	Age: __	Sex: ☐ M ☐ F	Phone:
Organisation:		Role in the organization:		
First name:	Surname:	Age: __	Sex: ☐ M ☐ F	Phone:
Organisation:		Role in the organization:		
Introduction – We are working for the Global Shelter Cluster, which is a partnership of organisations around the world that work together to support households and communities as they rebuild their homes when disaster strikes. – We are not representing a specific organization and we are not here to assess for the purpose of providing assistance. We are simply collecting information to understand how communities managed to recover after Yolanda, particularly focusing on shelter, to understand how external actors can better assist if something similar would happen again in Philippines or other places. – I would like to assure you that the interview will be anonymous. We note your personal details only so that the data analysis team can contact you to clarify anything we failed to record properly during the interview. If there are any questions you do not wish to answer or do not know the answer to, just let us know and we will skip these. – They interview may take 45 minutes or more if you have a lot of things to tell us about. We appreciate all the time you can give us. – We will be taking notes as we talk so that we do not miss anything you say. – May we begin?				
QUESTION 1: Can you please describe how you and the organization you work with were involved in the rebuilding of homes after Yolanda? ➤ What types of assistance did you provide? ➤ Which geographical area did you cover?				
QUESTION 2: Do you think any of these BBS techniques have been <u>used more in affected areas now after Yolanda</u> (compared to before)?				

Used	Technique	Used	Technique
☐	Build on strong foundation	☐	A good house needs a good roof
☐	Tie down from bottom up	☐	Site your house safely
☐	Brace against the storm	☐	A simple shape will keep you safe
☐	Use strong joints	☐	Be prepared
Comments: 			
QUESTION 3: Do you think some of the techniques are more difficult for people to implement? Prompts: ➤ Which techniques? ➤ Why were they difficult? ➤ Did some people in this community struggle more than others to use these? ➤ Why did they find them difficult do you think?			
QUESTION 4: What do you think about the materials and techniques that were used during the rebuilding? What do you like/not like? Why?			
QUESTION 5: Do you think the rebuilding following Yolanda affected the local environment in any way? How?			
QUESTION 6: In what ways do you think government, private sector and aid actors worked <u>together</u> to support people rebuilding after Yolanda? Can you think of examples of collaboration?			
QUESTION 7: Do you think there were any cases of <u>duplication</u>? Where actors unintentionally duplicated assistance?			
QUESTION 8: Do you think there were any gaps in unmet need for shelter assistance?			
QUESTION 9: What are the key challenges you faced when providing assistance to people affected by Yolanda?			
QUESTION 10: Are you satisfied with the assistance that has been provided to affected populations? In what ways?			

Thank you for your time! Please make a note of email addresses if the KI are interested in receiving the final report:

Date: __/__/__	Barangay: _____	Municipality: _____	Province: _____
----------------	-----------------	---------------------	-----------------

Moderator Name: _____	Transcriber Name: _____
-----------------------	-------------------------

Participant details

[illegible]

- A. **Facilitator's welcome, introduction and instructions to participants [5 minutes]**
 - Welcome and thank you for volunteering to take part in this focus group. You have been asked to participate as your point of view is important. We appreciate your time.
 - This discussion is designed to establish how your community managed to recover after Yolanda, particularly focusing on shelter and to understand how external actors can assist better if something similar would happen again in Philippines or other places.
 - **Please note that this meeting does not have any impact on whether you or your family receives any assistance in the future. These discussions are only meant to explore how you, your households and this community overall rebuilt after Yolanda.**
 - **Anonymity:** I would like to assure you that the discussion will be anonymous. I and the other focus group participants would appreciate it if you would refrain from discussing the comments of other group members outside the focus group. If there are any questions or discussions that you do not wish to answer or participate in, you do not have to do so; however please try to answer and be as involved as possible.
 - The discussion will take no more than two hours. After each 45 minutes we will have a quick break and refreshments. The bathroom is give direction. With this in mind, may I tape the discussion to facilitate its recollection? (if yes, **switch on the recorder**)

- B. Ground rules [2 minutes]**
- The most important rule is that only one person speaks at a time. There may be a temptation to jump in when someone is talking but please wait until they have finished.
 - There are no right or wrong answers
 - You do not have to speak in any particular order
 - When you do have something to say, please do so. There are many of you in the group and it is important that I obtain the views of each of you

- You do not have to agree with the views of other people in the group
- Does anyone have any questions? (answers).
- OK, let's begin

QUESTION 1: What do you think about the design and materials of houses that were rebuilt after Yolanda? Are they comfortable? What aspects do you like, not like? Why?

QUESTION 2: We are interested in any techniques you have used in this community since Yolanda to make your houses stronger and safer. Which of the following techniques have you used or seen used?

Used	Technique	Used	Technique
☐	Build on strong foundation	☐	A good house needs a good roof
☐	Tie down from bottom up	☐	Site your house safely
☐	Brace against the storm	☐	A simple shape will keep you safe
☐	Use strong joints	☐	Be prepared

You can add any comments regarding the respondent's answer below:

QUESTION 3: We want to understand how commonly you think these techniques have been used to strengthen shelters in your community.

- First, which of these techniques do you think were **very commonly used** (1)? *(Add '1' under 'Ranking' column)*
- Secondly, which of these techniques do you think were **very rarely used** (4)? *(Add '4' under 'Ranking' column)*
- Which of the **remaining techniques** would you count as **commonly used** (2) but not as common as those ranked 'very commonly used' (1)? *(Add '2' under 'Ranking' column)*
- Which of the **remaining techniques** would you count as **rarely used** (3) but not as rare as those ranked 'very rarely used' (4)? *(Add '3' under 'Ranking' column)*

Ranking	Technique	Consensus	Ranking	Technique	Consensus
_____	Build on strong foundation	____/____	_____	A good house needs a good roof	____/____
_____	Tie down from bottom up	____/____	_____	Site your house safely	____/____
_____	Brace against the storm	____/____	_____	A simple shape will keep you safe	____/____
_____	Use strong joints	____/____	_____	Be prepared	____/____

You can add any comments regarding the respondent's answer below:

QUESTION 4: Which techniques do you think are easier/more difficult to implement?

- First, which of these techniques do you think were **very easy** (1)? *(Add '1' under 'Ranking' column)*
- Secondly, which of these techniques do you think were **very difficult** (4)? *(Add '4' under 'Ranking' column)*
- Which of the **remaining techniques** would you count as **easy** (2) but not as easy as those ranked 'very easy' (1)? *(Add '2' under 'Ranking' column)*
- Which of the **remaining techniques** would you count as **difficult** (3) but not as difficult as those ranked 'very difficult' (4)? *(Add '3' under 'Ranking' column)*

Ranking	Technique	Consensus	Ranking	Technique	Consensus
_____	Build on strong foundation	____/____	_____	A good house needs a good roof	____/____
_____	Tie down from bottom up	____/____	_____	Site your house safely	____/____
_____	Brace against the storm	____/____	_____	A simple shape will keep you safe	____/____
_____	Use strong joints	____/____	_____	Be prepared	____/____

You can add any comments regarding the respondent's answer below:

Question 4.1: Now think about the techniques ranked as 3 (difficult) and 4 (very difficult) – what makes them more difficult to implement?

Question 4.2: Now think about the techniques ranked as 2 (easy) and 1 (very easy) – what makes them more easy to implement?

QUESTION 5: Which techniques do you think are more/less effective in making your house stronger and safer?

- First, which of these techniques do you think were **very effective** (1)? *(Add '1' under 'Ranking' column)*
- Secondly, which of these techniques do you think were **not at all effective** (4)? *(Add '4' under 'Ranking' column)*
- Which of the **remaining techniques** would you count as **effective** (2) but not as effective as those ranked 'very effective' (1)? *(Add '2' under 'Ranking' column)*
- Which of the **remaining techniques** would you count as **ineffective** (3) but not as ineffective as those ranked 'not at all effective' (4)? *(Add '3' under 'Ranking' column)*

Ranking	Technique	Consensus	Ranking	Technique	Consensus
_____	Build on strong foundation	____/____	_____	A good house needs a good roof	____/____
_____	Tie down from bottom up	____/____	_____	Site your house safely	____/____
_____	Brace against the storm	____/____	_____	A simple shape will keep you safe	____/____
_____	Use strong joints	____/____	_____	Be prepared	____/____

You can add any comments regarding the respondent's answer below:

Question 5.1: Now think about the techniques ranked as 3 (ineffective) and 4 (not at all effective) – what makes them less effective?

Question 5.2: Now think about the techniques ranked as 2 (effective) and 2 (very effective) – what makes them more effective?

QUESTION 6: How did you/others in this community become aware of these techniques?

Prompts:

- When did you become aware?
- Were any techniques known and used before Yolanda? Which ones?

QUESTION 7: Are there any techniques that were used before Yolanda that you see being less used after? Which ones? Why do you think they are less used now?

QUESTION 8: What types of livelihoods do people rely on in this community? Have they changed since Yolanda? In what ways?

QUESTION 9: How does your access to schools compare to before Yolanda? Access to health care? Access to government offices? Access to public transport?

QUESTION 10: What type of cooking facilities are the most common in this community at this time? How do they compare to what people had before Yolanda?

QUESTION 11: What type of latrine/bathing facilities are most common in this community? How do they compare to what people had before Yolanda?

QUESTION 12 (Ending question): Finally, are there any other changes in your situation since Yolanda that you feel we have missed?

Thank you for your time! Please make a note of email addresses for any participants that are interested in receiving the final report:

Annex 5: Build Back Safer – 8 Key Messages

8 BUILD BACK SAFER KEY MESSAGES V1.1

1 BUILD ON STRONG FOUNDATIONS

2 TIE-DOWN FROM BOTTOM UP

3 BRACE AGAINST THE STORM

4 USE STRONG JOINTS

5 A GOOD HOUSE NEEDS A GOOD ROOF

6 SITE YOUR HOUSE SAFELY

7 A SIMPLE SHAPE WILL KEEP YOU SAFE

8 BE PREPARED

- EVACUATION
- COMMUNICATION
- GRAB BAG

HOW DOES A TYPHOON AFFECT YOUR HOUSE?

Yolanda showed us that the way we build houses needs to be stronger. These are 8 key messages on how to repair your house and build back safer.

Shelter Cluster Philippines
ShelterCluster.org
Coordinating Humanitarian Shelter

DSWD
Department of Social Welfare and Development

BUILD BACK SAFER KEY MESSAGE 1 of 8 V1.1

A Stops the building flooding

Build on strong foundations

Foundations are very important as they anchor your house to the ground. Ensuring foundations are suitable to your building's location and ground conditions protect your house from strong winds, earthquakes and flooding.

F Stops the building sinking into the ground

B Protects the building from pests - like termites

C Keeps the timber away from water so it does not rot

D Stops the building from being pushed over

E Weights the building down so it can't be sucked up

WHAT CAN I USE AS A FOUNDATION FOR MY HOUSE?

Above ground timber post

Too Weak ❌

Below ground timber post

Strong ✅

Anchors increase foundation strength

Stronger ✅

Treated hardwood post below ground protects from rotting

Strongest ✅✅

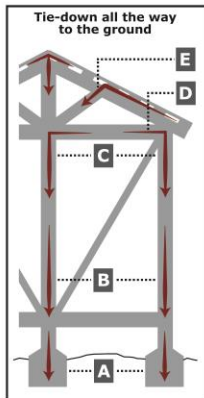
Hardwood post set into concrete foundation

Rebar set into concrete foundation

Steel strap bolted to post with gap to avoid rotting

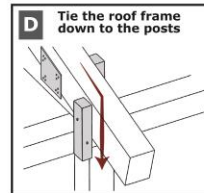
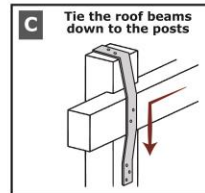
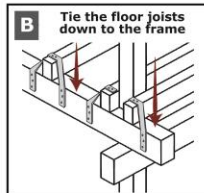
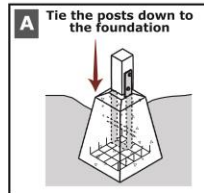
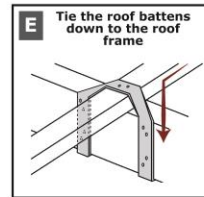
Shelter Cluster Philippines
ShelterCluster.org
Coordinating Humanitarian Shelter

DSWD
Department of Social Welfare and Development

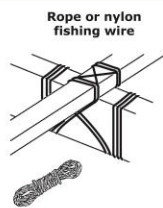


Tie-down from bottom up

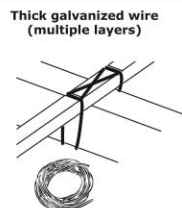
In a typhoon your house can be sucked apart or blown away by the wind. Tie every part of your building right through to the ground. Start thinking about this from the bottom up.



WHAT CAN I USE TO TIE-DOWN MY HOUSE?

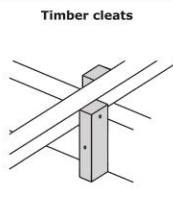


Rope or nylon fishing wire

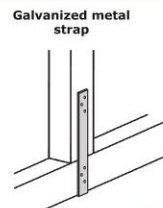


Thick galvanized wire (multiple layers)

Strong ✓



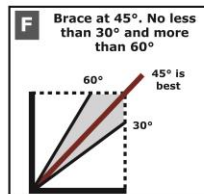
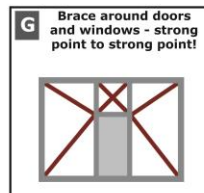
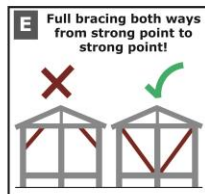
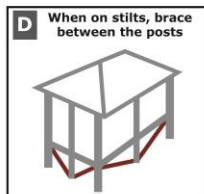
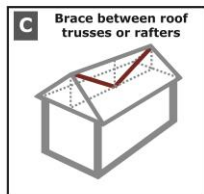
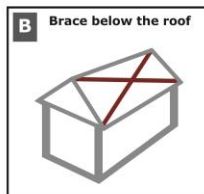
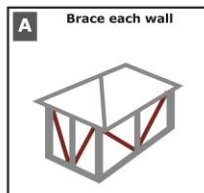
Timber cleats



Galvanized metal strap

Strongest ✓✓

STRONG WINDS COMING?

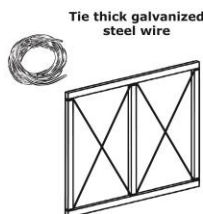


Brace against the storm

Strong bracing stops your house being pushed over or pulled apart by the wind. Bracing needs to be strong against being crushed along its length or pulled apart. Brace between the strong points of your house.

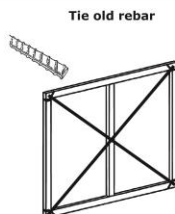


WHAT CAN I USE TO BRACE MY HOUSE?

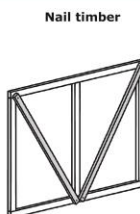


Tie thick galvanized steel wire

Strong ✓



Tie old rebar



Nail timber

Stronger ✓

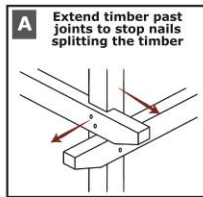


Nail galvanized steel straps



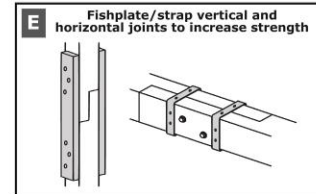
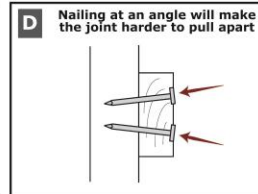
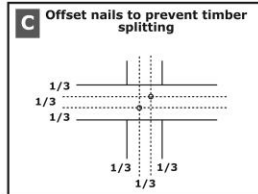
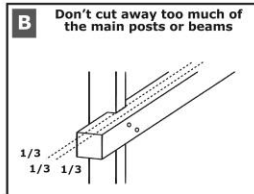
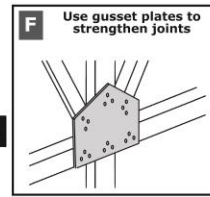
Nail timber and galvanized steel straps

Strongest ✓✓



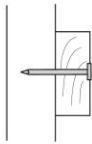
Use strong joints

Your house is only as strong as the weakest joint. Build every joint so it can't be pushed or pulled apart. Horizontal nails are better as they can't be pulled apart by the wind sucking your house up or pulling it down.



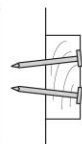
WHAT CAN I USE TO STRENGTHEN JOINTS?

Single nail



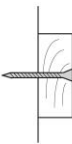
Too Weak ❌

Nails

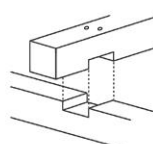


Strong ✅

Screw



Interlock joint and nail

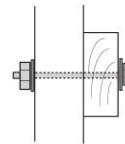


Stronger ✅

Fishplate or cleats



Bolt

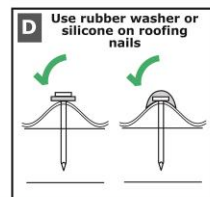
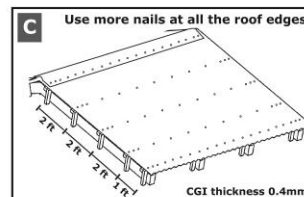
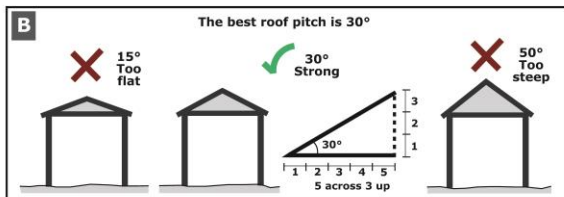
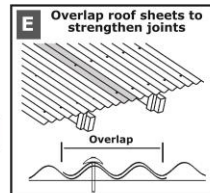


Strongest ✅✅



A good house needs a good roof

The way you design and build your roof is critical to protect you against strong winds and rain. Build your roof the right shape and pitch, and well nail down to protect against a storm.



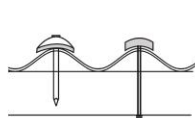
WHAT CAN I USE TO SECURE MY ROOF?

Regular nail



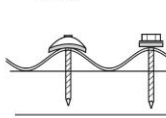
Too Weak ❌

Umbrella head nail and washer



Strong ✅

German wire (good for bamboo)



Strongest ✅✅

Twisted umbrella head nail and washer



Roofing screw and washer



Single slope roof



Too Weak ❌

Two sided gable roof



Strong ✅

Multiple roof slopes reduce the risks of your roof being pulled apart



Strongest ✅✅

A Raise your house above the floods

Site you house safely ✓

Identify the hazards in your location and build as well as you can to resist them.

E Use wind breaks to protect your house from strong winds

B Don't build too close to edges or where rocks might fall

D Build away from large trees or remove trees near the house to reduce risk of damage

C Reduce risks and build away from hazards where possible

A Overhangs weaken the strength of your house

A simple shape will keep you safe ✓

The shape of your house is important to reduce damage in strong winds. Always keep the design simple and strong.

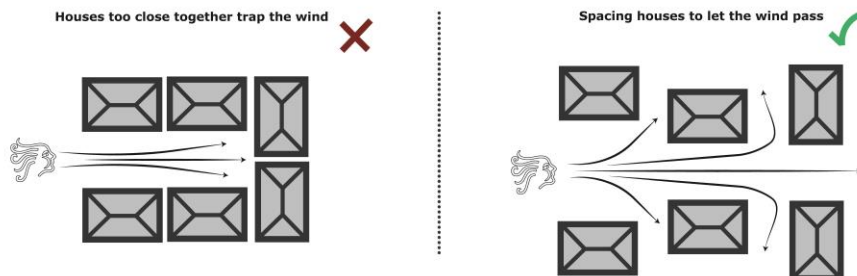
D Lean to roofs separate to main roof

B Simple, compact shapes are the safest

C Don't extend too long

D Lean to roofs separate to main roof

HOW SHOULD WE PLAN A GROUP OF BUILDINGS?





HOW CAN I PREPARE MYSELF AND COMMUNITY FOR A DISASTER?



EVACUATION ✓

- Make a plan and practice it
- Decide early if you will evacuate or stay in place
- Prepare safe evacuation route
- Know where the evacuation sites are
- Know what transport you can use



COMMUNICATION ✓

- Know the disaster warnings signals
- Know how you can receive information about a disaster
- Inform your relatives and friends where you will evacuate to
- Know how you will communicate with relatives and friends after disaster
- Know how and who to inform of your situation after a disaster
- Know where to find information on missing persons



GRAB BAG ✓

- Prepare a waterproof 'grab bag' prior to a disaster
- Make the 'grab bag' easy to carry and include:
 - medical kit
 - extra clothing and safe shoes
 - batteries
 - torch and matches
 - basic food
 - cooking equipment
 - basic tools
 - important personal records/ID
- Don't forget some water