Typhoon Pablo 2012
ShelterCluster.org
Coordinating Humanitarian Shelter

SHELTER CLUSTER ASSESSMENT IN MINDANAO, PHILIPPINES

SHELTER CLUSTER REPORT

FINAL ASSESSMENT REPORT

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REACH Informing more effective humanitarian action

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This assessment was facilitated (in the framework of the shelter cluster) by REACH, an interagency program of IMPACT Initiatives (IMPACT).

REACH was born in 2010 as a joint initiative of two INGOs (IMPACT and ACTED) and one UN program (UNOSAT). Based in Geneva, REACH operates through global advocacy and country-level deployments.

REACH's **purpose** is to promote and facilitate the development of information products that enhance the humanitarian community's decision making and planning capacity.

REACH's **overall objective** is to enhance the effectiveness of planning and coordination by aid actors in countries that are in crisis or at-risk of crisis.

Since 2011 REACH has formalized a partnership with the Global Shelter Cluster (GSC) to support the strengthening of its coordination and planning capacity, with financial support from the European Commission Humanitarian Aid Office (ECHO). Dedicated REACH teams (including assessment, database and mapping experts) are available to be rapidly deployed to the field in the immediate hours after emergencies in order to facilitate interagency assessments and mapping activities on behalf of the shelter cluster. Resulting information products are used to enable better planning and coordination by the cluster, and are widely disseminated.

REACH's partnership with the GSC is directed by a dedicated Steering Committee including representatives from ACTED, IFRC (as GSC co-lead), IMPACT, the European Commission's Joint Research Centre and UNOSAT.

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TABLE OF CONTENTS

FIGURES AND MAPS

Typical Wind Damage in Coastal Davao Oriental Province

ACRONYMS

CCCM	Camp Coordination and Camp Management
CfW	Cash for Work
CGI	Corrugated Galvanized Iron
COSE	Coalition of Services of the Elderly
CRS	Catholic Relief Services
DSWD	Department for Social Welfare and Development
ERC	Early Recovery
ECHO	European Commission Humanitarian Aid Office
GSC	Global Shelter Cluster
HLP	Housing Land & Property
ICRC	International Committee of the Red Cross
IFRC	International Federation of Red Cross and Red Crescent Societies
IOM	International Organization for Migration
MSWD	Municipal Department for Social Welfare and Development
NDRRMC	National Disaster Risk Reduction and Management Council
OCHA	Organization for Coordination of Humanitarian Affairs
PRC	Philippine Red Cross
UN	United Nations
WASH	Water, Sanitation and Hygiene

GEOGRAPHIC CLASSIFICATIONS

Name Used in Report	Definition
Region	Highest form of governance below the national level
Province	Sub division of a region where many government agencies reside
Municipality	A collection of barangays that comprise a broader 'city'
Barangay	An area formed of 10,000 voters; the lowest administrative boundary
Sitio / Purok	Neighborhood or area that is informal and not classified for administrative purposes

1. EXECUTIVE SUMMARY

1.1. CONTEXT

Typhoon Bopha (known in the Philippines as Pablo) made landfall on the island of Mindanao early on 4 December 2012 bringing heavy rain and wind gusts of up to 210 km/h (130mph). The typhoons high wind speed and flooding caused extensive damage to the housing stock and infrastructure and widespread disruption in power supply and communications. Bopha comes a year after Tropical Storm Washi (known in the Philippines as Sendong) killed more than 1,500 people in southern Philippines.

As of 16 December 2012, the Philippine government Department for Social Welfare and Development (DSWD) estimated that 268,738 families or 1,152,789 individuals were affected by Typhoon Bopha across all regions – as shown in the table below:

Region	Families	Individuals	% affected population based on census data
Caraga	44,599	212,347	9%
IV-B	1,196	5,700	<1%
VI	1,580	6,665	<1%
VII	12,641	60,602	1%
VIII	1,356	5,884	<1%
IX	888	3,721	<1%
X	60,766	250,818	6%
XI	144,506	601,022	13%
XII	1,206	6,030	<1%
Total	268,738	1,152,789	3%

Drawing on census figures, this indicates that over 80% of the affected population is located in the Region XIprovinces of Davao Oriental and Compostela Valley. The table below shows the breakdown of Region XI.

PROVINCE/CITY/ MUNICIPALITY/ CONGRESSIONAL DISTRICT	TOTAL NUMBER OF BRGYS (NSO 2010)	TOTAL POP. (NSO 2010)	NUMBER OF AFFECTED		
			BRGYS	FAMILIES	PERSONS
GRAND TOTAL	838	3,257,997	444	199,991	840,172
DAVAO ORIENTAL	183	486,104	98	45,105	180,699
DAVAO DEL SUR	223	1,461,016	10	1,003	4,012
DAVAO DEL NORTE	180	673,511	98	33,263	157,269
COMPOSTELA VALLEY	252	637,366	238	120,620	498,192

As a result of this, the municipalities of Boston, Cateel and Baganga in Davao Oriental province and New Bataan in Compostela Valley province in Region XI as well as some parts of the southern Caraga Region (XIII) were targeted as priority areas for detailed assessment due to the level of impact there.

The humanitarian community and the Government of the Philippines have identified shelter damage from high winds, flooding and landslides in the highland areas as a critical sectoral focus. DSWD estimates that out of 46,831 totally destroyed houses, 21,166 (45%) are from Davao Oriental, while 25,462 (54%) are located in Compostela Valley. Similarly, almost 92% of all partially damaged houses are estimated to come from these two provinces.

1.2. ASSESSMENT METHODOLOGY

The assessment was conducted 6-22 December 2012 by ashelter cluster assessment team facilitated by a REACH assessment coordinator and DB/GIS specialist, based on the following Terms of Reference:

Emergency	Natural Disaster ☑	Conflict ☐	Complex Emergency ☐
Sector	Shelter	**Cluster Lead**	IFRC, IOM
Donor	DG ECHO		
Country	Philippines		
Regional Focus	Region XI, Davao Oriental (Boston, Cateel, Baganga); Compostela Valley (New Bataan)		
Mission Timeframe	Preparation: 7-10 December 2012 Data Collection: 11-19 December 2012 Analysis & Reporting: 19-23 December 2012		
Description of Context	Typhoon Bopha (Pablo as it is known in the Philippines) made landfall on Mindanao early on December 4th, bringing heavy rain and wind gusts of 210 km/h (130mph). The storm has caused widespread power cuts, travel disruption and flooding in areas at risk of landslides. Bopha comes a year after Typhoon Washi killed more than 1,500 people in southern Philippines. The wind speed was two and a half times the top winds of Severe Tropical Storm Washi, known in the Philippines as Sendong, whose heavy rains set off landslides that swept away entire villages in the same region a year ago. At sea, waves reached as high as 52 feet, according to the Joint Typhoon Warning Center. On land, the outer bands of the storm had already begun to bring intense rain and high winds to coastal communities before landfall, according to the National Disaster Risk Reduction and Management Council (NDRRMC). Critical damage areas have been identified by initial 'go and see' assessments led by the Department for Social Welfare and Development and data from the NDRRMC. The Government of the Philippines (GoP) has requested international support for the provinces of Compostela Valley and Davao Oriental. Through its global partnership with the Shelter Cluster, REACH will support the cluster in conducting assessments in the target areas, mapping of data and remote sensing with shelter analysis for inaccessible or hardest hit areas.		
Main objective	To contribute to an effective and timely humanitarian response in Compostela Valley and Davao Oriental Provinces in line with key humanitarian milestones.		
Specific objectives	1. The completion of an assessment that provides information for cluster coordination in target areas; 2. Mapping and sharing of shelter related data at the field and international level to support a planned and coordinated humanitarian aid response in targeted locations.		
Data Sources	PRIMARY DATA COLLECTION: Household surveys with affected households, ground-truthing of satellite images through field teams. SECONDARY DATA COLLECTION: GoP, Shelter Cluster, Other Clusters, OCHA, other UN Agencies, INGO and LNGOs. REMOTE SENSING and SATELLITE IMAGES: UNOSAT		
Targeting	Primary focus on Davao Oriental and Compostela Valley Provinces. Specific target areas are Boston, Cateel, Baganga and New Bataan. These areas may be expanded as further damage and needs are assessed.		
Period of field assessment	*Planned* 10.12.2012 – 23.12.2012 [14 days]		

REACH Resources	1 Assessment Coordinator (IMPACT) 1 Database/GIS Coordinator (ACTED) 4 Enumerator Team Leaders (locally recruited) 44 Enumerators (locally recruited) 15 Data Entry Assistants (locally recruited) 4 Logistics Assistants (locally recruited)
Expected Results	1. Collection and collation of secondary data (including government, UN, aid agencies and other assessments or data that has been collected) 2. Key informant interviews with barangay chiefs and local government officials in high priority areas including those not previously accessed 3. A sample of household interviews in high priority areas including those not previously assessed 4. Detailed information regarding shelter and NFI needs are outlined and mapped
Expected Deliverables	1. A shelter cluster assessment report shared with agencies 2. Sharing of information with UNOCHA for dissemination 3. Static maps created using secondary and primary data 4. An interactive web map made available through www.reach-initiative.org and www.sheltercluster.org

The shelter assessment includes four components of data collection and analysis:

1. **Collection of secondary data from government and agency sources** which has been integrated into the analysis for the final report.
2. **Household surveys** conducted by the assessment teams in rural and urban/ semi-urban locations.
3. **Key informant interviews** conducted in each of the communities visited aiming to provide contextual information regarding the impact of the typhoon at a community level, land and resettlement issues, economic impact of livelihoods, and location of highly affected populations.
4. Finally, there is a **GIS and mapping component** which includes the production of static and web-based interactive mapping of all collected, collated and analyzed data.

The assessment team consisted of four teams of twelve enumerators – one team per target municipality. Assessment target municipalities were chosen using purposive sampling based on initial reports of highest numbers of casualties and shelter damage. Within each target municipality, the assessment team sampled from 90% of all barangays (Simulao, Caathian, Magangit, Camanlangan, Batinao were not assessed) and subsequently all puroks in sampled barangays. Unfortunately, transportation and security constraints limited full coverage of all barangays. As part of the sampling process, key informant interviews were conducted with local government officials, DSWD representatives and barangay captains. These individuals provided background information on the specific situation in assessment target areas and worked with the assessment team to identify the areas of each barangay with the most damage. Once identifying high impact areas of each barangay, the assessment team conducted household interviews in groups of two. Every fifth house was surveyed, to ensure wide coverage.

In total, the assessment team surveyed 3,056 households. All data was entered into a standard database by a team of data entry assistants and systematically cleaned to ensure consistency and accuracy of data. Analysis was conducted by the Assessment Coordinator and GIS Specialist in the form of GIS, mapping and standard binary and cross-tabulation techniques.

Full Sets of Data and Maps from the Project

All of the research's raw data, including databases, reports, web-maps, static maps, questionnaires, fact sheets and more can be accessed through the Shelter Cluster at https://www.sheltercluster.org/Asia/Philippines/TyphoonPablo2012/Pages/default.aspx and the REACH portal of IMPACT Initiatives: http://www.reach-initiative.org/countries/philippines/philippines-reports. The Philippines web-map can be found here: http://philippines.reach-initiative.org/

1.3. KEY FINDINGS AND RECOMMENDATIONS

1. **The shelter impact of this typhoon was extreme, with 98% of surveyed houses destroyed or damaged. 93% of all surveyed households were classified as uninhabitable: 72% as Category 5 (**completely destroyed house) **and 21% as Category 4 (**significantly damaged and uninhabitable but could be repaired**)**. This means that 93% of all surveyed households are considered uninhabitable. Of those surveyed the vast majority of the houses destroyed and damaged were **timber framed with about 50% having CGI roof and 50% neppa palm roofing**.
2. **A priority focus of assistance programs should be on livelihood recovery and support to reduce the vulnerability of households on single sources of income.** The affected area was already highly vulnerable **(79% under 1USD per person per day)** and reliant on single sources of income that were depleted by the typhoon**.** Protecting or diversifying the income sources of households will ensure an increased ability of households to improve their shelters of their own accord.
3. **In parallel to a livelihood intervention, humanitarian action should prioritize shelter kit distribution for those families most in need (falling into the prioritization below) as well as a CfW program for debris removal and other necessary activities**. In order to alleviate the pressure on the meager incomes at a time when their food associated costs are highest given the loss of their agriculture crops, the prioritized households will benefit from shelter material kits. In addition, there is currently a very high level of debris blocking access to some houses and the land on which houses will need to be rebuilt. Around 50% of households reported needing major cleaning and debris removal before they could even begin rebuilding. Similarly, many of the fields are strewn with downed trees. This would be an opportunity to provide Cash for Work (CfW) programming that would provide much needed cash for affected households and clear debris for rebuilding. Within each group, the most vulnerable should be targeted first, especially female single-headed households and the disabled, as they are the least likely to be able to reconstruct their homes on their own. The following list is given in order of priority:
    3.1. **Households located in makeshift shelters off of their previously inhabited land should be prioritized for relocation or resettlement**. Many of these households are living in informal settlements in the urban areas of each municipality and either have no land to return to or are unable to return to their land. These households are only a minority of the caseload (2%), but are currently some of the most vulnerable.
    3.2. A second priority for shelter support should include **households located on their previously inhabited land in makeshift shelters (29%)**.
    3.3. Third, **households living in Evacuation Centers (12%)** – the vast majority of whom are located in New Bataan – should be slated for shelter support.
    3.4. As fourth priority, shelter repair and reconstruction should target **households living in their affected house (28%) on their previously inhabited land**.
    3.5. Lastly, **households living with host families (17%)**, should be the next priority for resettlement and shelter construction.
4. **Two follow-up assessments should be conducted before medium term shelter programming is planned and implemented: (1) land ownership type for affected households and (2) medium term shelter and non-shelter needs in affected communities**. Anecdotal evidence suggests that most households in the highlands are tenant farmers, meaning they do not own the land on which they lived before Bopha, while those households in the lowlands are predominately landowners. A full assessment on land reform and agrarian reform policies in Mindanao and how the affected households fit into those policies seems particularly relevant and should be preferably conducted before or in conjunction with any large-scale government relocation program. Data collection for this assessment began only 5 days after the typhoon hit the affected region. While this allowed the assessment team to get an understanding of the extent of the damage and the profile of the population affected, it did not allow for an accurate picture of the medium-term needs of the population, as most respondents perceived that they needed all support in the immediate aftermath of the storm. The follow-up assessment on shelter and

non-shelter needs should focus on capturing disaggregated assistance data both for what is needed and what has already been provided.

5. **Disaster risk reduction and disaster management programs should be a key component of both response and recovery programming.** . Given the existence of two large storm events in the past year and the prediction of more frequent similar events, further focus will be required on DRR/DM issues by the government (namely NDRRMC) and communities. These types of programs work best when started at the lowest grassroots level – perhaps at the purok or barangay level. Topics should include more durable shelter construction techniques, disaster information communication, early warning systems, evacuation strategies and disaster response plans.

2. Context of Typhoon Bopha in Assessment Area

Typhoon Bopha (known in the Philippines as Pablo) made landfall on the island of Mindanao early on 4 December 2012 bringing heavy rain and wind gusts of up to 210 km/h (130mph). The storm caused widespread power cuts, substantial infrastructure damage and flooding in areas at risk of landslides. The eye of the typhoon tracked across the Davao (XI) and Caraga (XIII) Regions, bringing substantial damage to the coastal provinces of Davao Oriental and Compostela Valley (see ***Figure 1***). Bopha comes a year after Tropical Storm Washi (known in the Philippines as Sendong) killed more than 1,500 people in southern Philippines.

As of 16 December 2012, the Philippine Department for Social Welfare and Development (DSWD) estimated that nearly 200,000 families, or 840,000 individuals were affected by Typhoon Bopha. Drawing on census and emergency estimate figures, this indicates that over 80% of the affected population is located in the provinces of Davao Oriental and Compostela Valley. As a result of this, the municipalities of Boston, Cateel and Baganga in Davao Oriental province and New Bataan in Compostela Valley province in the Davao region (XII) as well as some parts of the southern Caraga region (XIII) were targeted as priority response areas due to the level of impact there.

The humanitarian community and Government of the Philippines have identified shelter damage from high winds and mudslides in the highland areas as a critical sectoral focus. DSWD estimates that out of 46,831 totally damaged houses, 21,166 (45%) are from Davao Oriental, while 25,462 (54%) are located in Compostela Valley. Similarly, almost 92% of all partially damaged houses are estimated to come from these two provinces.

The primary shelter response at the national level has been coordinated by DSWD as the cluster lead with the International Federation of Red Cross and Red Crescent Societies (IFRC) and the International Organization for Migration (IOM) as the international shelter cluster coordinators. Consequently, REACH was requested by IFRC to facilitate an inter-agency shelter cluster assessment as well as to provide database and GIS support to the shelter cluster. AREACH team[1]was deployed to undertake an assessment in order to inform the shelter cluster and national and international actors and stakeholders on the scale and impact of the typhoon on shelter. Oversight and support was provided by REACH and the United Nations Office of Satellite Imagery (UNOSAT) from their Geneva offices[2].

The purpose of the deployment and this assessment was to inform humanitarian decision-making and coordination in relation to shelter. Household level surveys were undertaken to verify and provide additional detail (particularly in terms of technical assessments) to information that had been collected through various government agencies and international organizations, while key informant interviews were held with local government officials to understand broader issues and identify highly impacted areas. Static maps and a web-map with interactive functions were developed based on key data collected by the assessment to enable any humanitarian stakeholders to quickly reference of the scale and extent of damage across targeted areas, the relief assistance being provided, and various other baseline social, economic and technical information. Further mapping requests from humanitarian agencies can be provided upon request either to the shelter cluster or REACH's GIS unit in Geneva.

[1] Please refer to Impact & REACH overview at the beginning of this report
[2] Within the United Nations Institute of Training and Research (UNITAR)

3. ASSESSMENT METHODOLOGY

This section describes the methodology developed and implemented in undertaking the shelter assessment. A sample of affected households across all accessible areas was taken in line with time and resource availability.

This section highlights (a) the overall objectives of the assessment mission;(b) coordination in planning and implementation of the assessment;(c) the general methodology of the assessment including the use of key informant and household surveys; (d) the coverage of the assessment in terms of households and effected areas; and (e) the scale and scope of the assessment.

3.1. OBJECTIVES

The key objective of the assessment is **to contribute to an effective and timely humanitarian response in Compostela Valley and Davao Oriental Provinces**. Specifically, the assessment aims to inform actors and stakeholders involved in the development of:

- **Relevant and timely early recovery projects** based on identified needs and gaps;
- **Coordination mechanisms** which ensure that most vulnerable communities or groups are provided timely assistance, and;
- **Non-shelter cluster planning**, particularly where shelter is inter related such as early recovery (ERC), protection, water sanitation and hygiene promotion (WASH), camp coordination and camp management (CCCM) and housing land and property (HLP)

3.2. COORDINATION WITH CLUSTERS &AGENCIES

Despite the limited initial presence of humanitarian actors on the ground in Mindanao, coordination with key stakeholders and actors was undertaken through the shelter cluster coordinator. As part of the planning for the shelter assessment the shelter cluster team participated in DSWD and Humanitarian Country Team (HCT) meetings in which the shelter assessment purpose and plans were shared with NGOs and UN agencies active in the region. At this time attendees were: (a) provided with the questionnaire for feedback and input; and (b) requested to identify areas of interest for the assessment. Participants at these meetings included representatives of DSWD, the United Nations Organization for the Coordination of Humanitarian Affairs (OCHA), IOM, Catholic Relief Services (CRS), Oxfam Great Britain, Philippine Red Cross (PRC), Save the Children, HelpAge, Goal and the International Committee of the Red Cross (ICRC).

Local institutions were also directly engaged in support of the shelter assessment, including the Municipal Department for Social Welfare and Development (MSWD), municipal administrators and the municipal local government units for agriculture and health.

At a country level, coordination was done with the humanitarian country team led by DSWD and OCHA, including organizations and agencies such as IOM, Save the Children and HelpAge.

Drawing on this coordination, an agreement was garnered with Save the Children and HelpAge to expand the geographic coverage of the shelter assessment. Save the Children agreed to use the same tools and methodology in Montevista and Monkayo municipalities in the province of Compostela Valley. HelpAge, in partnership with the local organization Coalition of Services of the Elderly (COSE), will conduct the assessment among its targeted population of older people in order to provide a snapshot of issues for this demographic group. HelpAge's geographic coverage will include the municipalities of Trento, Rosario and Bunawan in Agusan del Sur province. Both agencies will provide the data to REACH for an updated assessment report in January.

3.3. General Methodology

The shelter assessment includes four components of data collection and analysis. First, there are the secondary data sources of national and regional government and agencies. Second there are the household surveys that serve as the backbone of the assessment. Thirdly, key informant interviews were held in the communities visited. And finally, there is the GIS and mapping component which includes static and web-based interactive mapping of all data collected, collated and analyzed. The use of these different data collection methods further facilitates the cross-verification of field information, which was conducted as part of the analysis.

Secondary data: The assessment team reviewed available data related to the typhoon impact at both national and regional levels, namely DSWD and the National Disaster Risk Reduction and Management Council (NDRRMC), as well as from initial assessments conducted by other agencies. Moreover, the team reviewed available institutional information related to the shelter sector. This information has been integrated into the analysis of the primary data for this assessment report.

Household surveys: The assessment team designed a household survey for households located in typhoon affected areas with the support of the shelter cluster coordinator. This included demographic information on the households, socio-economic household data, as well as a technical assessment of the shelters in which respondents to the survey were currently residing. *See* ***Annex 2*** for the assessment template. The purpose was to generate specific data to inform the needs and type of projects required, and to assess the level of vulnerability of households affected. The assessment team sought wide coverage of the affected areas, with 90% of all barangays in the target area assessed and a small sample from each purok within those barangays. Households were surveyed in intervals of five, to ensure wide coverage.

Key informant interviews: Key informant interviews were designed to generate discussion about the impact of the typhoon at a community level across sectors including shelter. The information generated by these interviews aims to inform actors on how communities have been affected, what kind of priority needs the community identifies, and how support can best be provided or targeted. These interviews were also part of the sampling process. Key informant interviews were conducted with local government officials, DSWD/MSWD representatives and barangay captains. These individuals provided background information on the specific situation in assessment target areas and worked with the assessment team to identify the areas of each barangay with the most damage.

GIS and mapping: Multiple scales of mapping have been undertaken to inform the shelter assessment in the planning and implementation stages, to support the dissemination of data collected by the shelter assessment, as well as to support the identification of priority areas; particularly in urban settings. In partnership with a team of technical experts from UNOSAT, satellite imagery was incorporated into static and web based maps. The web-based interactive map is also being made available with data being updated on an ongoing basis (see www.sheltercluster.org).

3.4. Assessment Area

Among the multiple locations affected by typhoon Bopha across the region of Mindanao, the initial focus of humanitarian coordination and action has been on the provinces of Davao Oriental and Compostela Valley in Region XI. In large part, this is due to the significantly larger scale of the numbers being reported from the area. As of 16 December 2012, DSWD estimated that nearly 200,000 families, or 840,000 individuals, were affected by Typhoon Bopha in Region XI. Drawing on census and emergency estimate figures, this indicates that over 80% of the affected population is located in the provinces of Davao Oriental and Compostela Valley. Furthermore, DSWD estimates that out of 46,831 totally damaged houses, 21,166 (45%) are from Davao Oriental, while 25,462 (54%) are located in Compostela Valley. Similarly, almost 92% of all partially damaged houses are estimated to come from these two provinces. As a result of this, the municipalities of Boston, Cateel and Baganga in Davao Oriental province and New Bataan in Compostela Valley province in the Davao region (XI) were targeted as priority assessment areas due to the level of impact there.

Assessment target municipalities were chosen using purposive sampling based on the following criteria:

- Most affected areas;
- Communities that have the least amount of support (Sitio / Purok level);
- Are considered to be the most vulnerable; and

Generalizing Results and Statistical Analysis

A non-random sampling method was used to identify households and communities that were included (see above for how communities were selected). Therefore, it is important to note that the results are not able to accurately be generalised across all affected communities. This decision was based on the fact that at the time of launching the assessment limited data on typhoon impact was available to the assessment team beyond informal recommendations by primary actors in the region. Therefore, this assessment does not include a statistical analysis. Nonetheless, given the efforts to select target locations by taking into consideration factors such as highest number of affected individuals and greatest shelter damage as well as nearly full coverage of each target municipality, the assessment is considered sufficient for results to be considered indicative of the areas in Davao Oriental and Compostela Valley – particularly for those in urban municipalities where a greater sample size was collected. Agencies are encouraged to verify all information.

- Communities that the administrators believe may require shelter or housing assistance

3.5. Training, Logistics and Human Resources

Although the primary aim of the shelter assessment was that it be undertaken in an inter-agency manner, the limited availability of human resources and other resources by key aid actors in Mindanao meant that the field assessment was fully conducted by the shelter cluster REACH assessment team, in consultation with other cluster members for technical advice. The understanding is that other cluster members will widen the geographic scope of the assessment once they have scaled-up their capacity in the region.

The shelter assessment formally began on 10 December 2012 with the assessment team recruiting data enumerators from Philippine Normal University (Agusandel Sur campus) in Prosperidad, Agusan del Sur. Forty four data enumerators were recruited along with four team leaders (four teams of twelve – one team for each assessment municipality). The assessment coordination team conducted a half-day training at the university covering topics such as interview techniques, the specificities of the questionnaire tool and the use of GPS units and GPS-enabled cameras.

One of the greatest challenges in this assessment was logistics. Given the distance between the assessment base in San Francisco, Agusan del Sur and the assessment locations in Davao Oriental and Compostela Valley, two vans were employed to regularly travel between assessment sites to allow for regular monitoring of the data collection by the assessment coordination team, delivery of food and water for the enumerators and collection of completed questionnaires for return to San Francisco and entry by the data entry team there. The data entry team consisted of students from San Francisco College and the Informatics Computer Institute of San Francisco. These individuals received a half-day training reviewing the Microsoft Access database and techniques for minimizing data entry error. Data collection was completed on the 20 December 2012. Data entry was completed on the 21 December 2012.

3.6. SCOPE OF ASSESSMENT

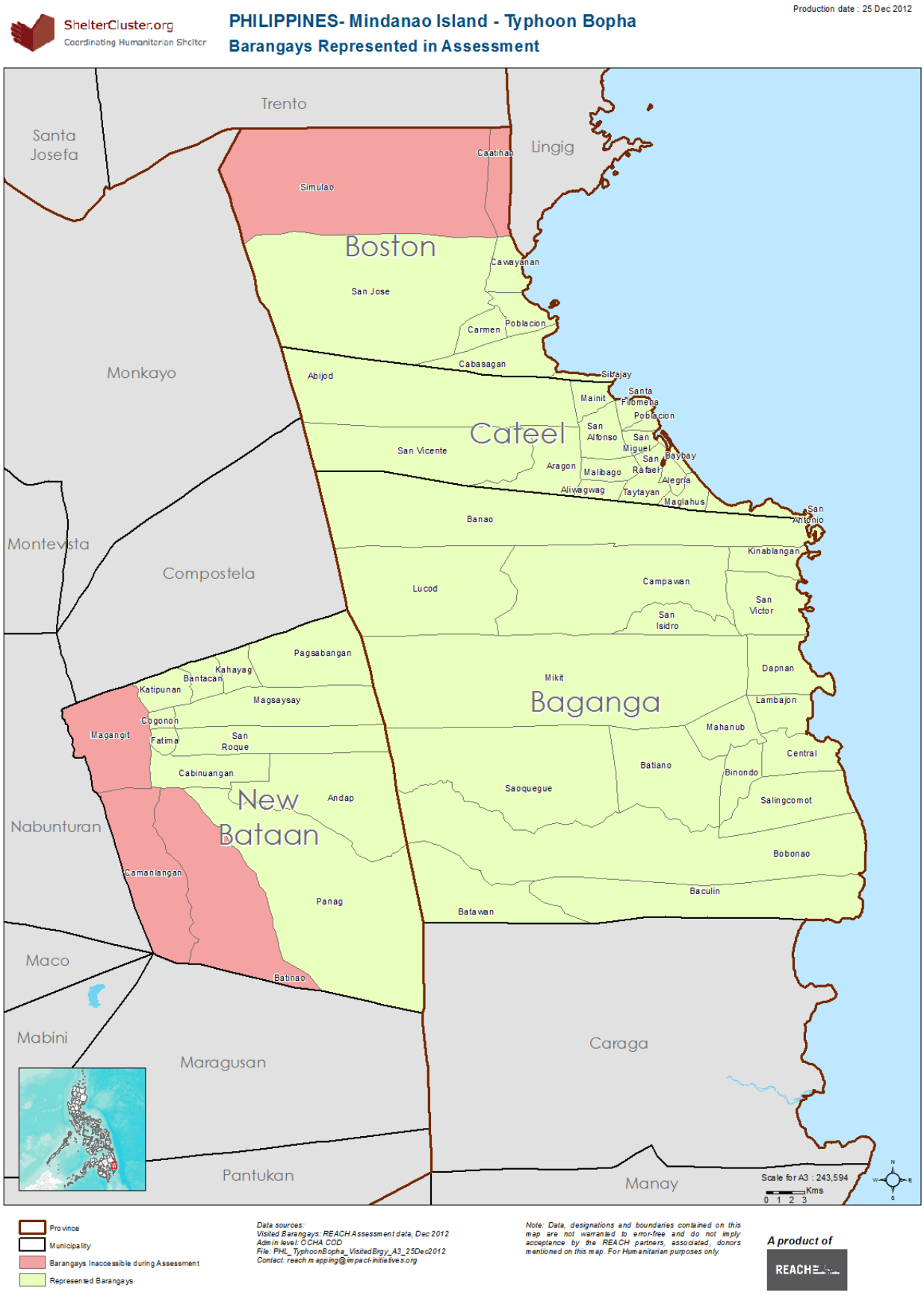
The table below show the areas in which households were surveyed (a geographical representation of the table can be seen in ***Map 1*** on the subsequent page below).

Province	Municipality	Barangay	# of Surveys
Davao Oriental	Baganga	Baculin	48
		Banao	44
		Batawan	40
		Batiano	63
		Binondo	26
		Bobonao	22
		Campawan	25
		Central	159
		Dapnan	35
		Kinablangan	33
		Lambajon	19
		Lucod	37
		Mahanub	32
		Mikit	14
		Salingcomot	32
		San Isidro	26
		San Victor	21
		Saoquegue	31
	Boston	Cabasagan	68
		Carmen	179
		Caatihan	0
		Cawayanan	169
		Poblacion	89
		San Jose	184
		Sibajay	70
		Simulao	0
	Cateel	Abijod	59
		Alegria	53
		Aliwagwag	73
		Aragon	29
		Baybay	15
		Maglahus	87
		Mainit	53
		Malibago	4
		Poblacion	89
		San Alfonso	81
		San Antonio	97
		San Miguel	63
		San Rafael	22
		San Vicente	81
		Sta. Filomena	60
		Taytayan	71
TOTAL			2403

Province	Municipality	Barangay	# of Surveys
Compostela Valley	New Bataan	Andap	76
		Bantacan	47
		Batinao	0
		Cabinuangan	184
		Camanlangan	0
		Cogonon	61
		Fatima	4
		Kahayag	41
		Katipunan	48
		Magangit	0
		Magsaysay	23
		Pagsabangan	5
		Panag	26
		San Roque	12
TOTAL			527[3]

[3] Total number of households surveyed equals 3,056. Due to minor data inconsistencies for some surveys, some households were not used for the analysis. The total number of households used in the analysis is reflected here: 2403 for Davao Oriental; 527 for Compostela Valley, for a total of 2,930 households used in the analysis.

Map 1: Assessment Coverage by Barangay



3.7. LIMITATIONS OF ASSESSMENT

While every effort was made to ensure that this assessment yielded the highest quality data with the lowest incidence of error, there were a few constraints that limit the internal and external validity of the results:

- **Timeframe**: Given that this assessment was conducted five days after the typhoon hit the assessed areas, its findings enabled only a limited analysis of needs and recovery patterns. Most households indicated that they needed assistance in all sectors and that they lacked forms of self-recovery that could be integrated into medium-term planning. Furthermore, it is possible that some household responses may have been partially inaccurate either due to distraction or attempt to affect results in their favor given the difficult situation they were facing in the immediate aftermath of the typhoon.
- **Sampling**: As this was a rapid assessment intended to survey the most affected areas, the results cannot be considered as statistically representative and do not include a statistical analysis. However, given the large sample size and the extent of the damage, the results can be confidently considered indicative of the overall situation, but should always be verified by agencies using the data.
- **Security/Logistics**: Although most areas of each targeted municipality were surveyed, five barangays could not be accessed due to security or logistical concerns. While this is not a large proportion of the total assessed areas, it does mean that perhaps some of the most remote, insecure and (therefore) possibly most vulnerable areas were not surveyed and thus not included in this analysis.

4. Assessment Results

This section includes the results from the household surveys and the key informant interviews. The analysis highlights the summary level information, with detailed breakdowns accessible through the database subject to the removal of any confidential information. Analysis at the barangay level is provided, where feasible given time constraints.

Summary information is complemented by a sub-categorization by rural or urban / semi-urban locations wherever possible. It is worthwhile noting that the information included here has some variations across sites. This is due to the fact that the urban-rural nexus means that the scale of impact on communities differs. For example, while an urban setting may have more damage in aggregate numbers and cost of impact, a rural setting may be more affected as a proportion.

This section first considers demographic information of those surveyed and affected, including identification of vulnerable groups. This is followed by socio-economic information of affected people and respondents, a considerable influence on households' coping mechanisms. Technical assessments and the scale and type of impact is summarized, highlighting the variation within existing statistics. Finally, the type of support needed is highlighted along with any support that has already been provided.

As part of a global effort to standardize information and indicators within the shelter sector,(with the aim of improving transparency, impact monitoring, and cross-country / thematic comparisons) a set of shelter-related indicators has been developed. The final section of the results section provides statistics for some of the indicators as far as the data allows.

The assessment has collected a significant amount of information across a range of data sources. This being a rapid assessment, the amount of time available for in depth analysis and reporting is limited.

This report provides a synopsis of the key issues and summary of the data that has been collected. It is not intended or able to provide detailed programmatic information in its current form - rather, the assessment is designed to be useful for a broader audience. Where it is of value, specific case studies are identified which may differ from the summary information.

In addition, the database of information is available to interested parties, with confidential information removed where necessary.

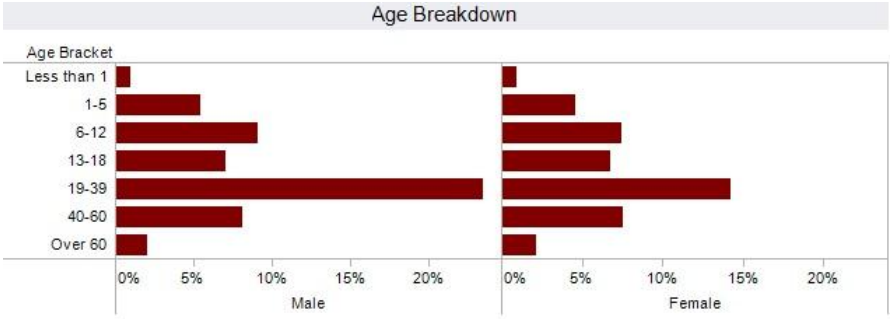
For more information see: www.sheltercluster.org

4.1. DEMOGRAPHIC CHARACTERISTICS

Key Statistics

- Average number of persons per family: **5.41**(**5.37**Urban/Semi-Urban areas; **5.46** Rural areas)
- Average male to female ratio: **1.09:1** (**52%** male; **48%** female)
- Percentage of indigenous households: **48%**
- Percentage of large households (7 or more members): **28%**

Figure 1: Age Breakdown

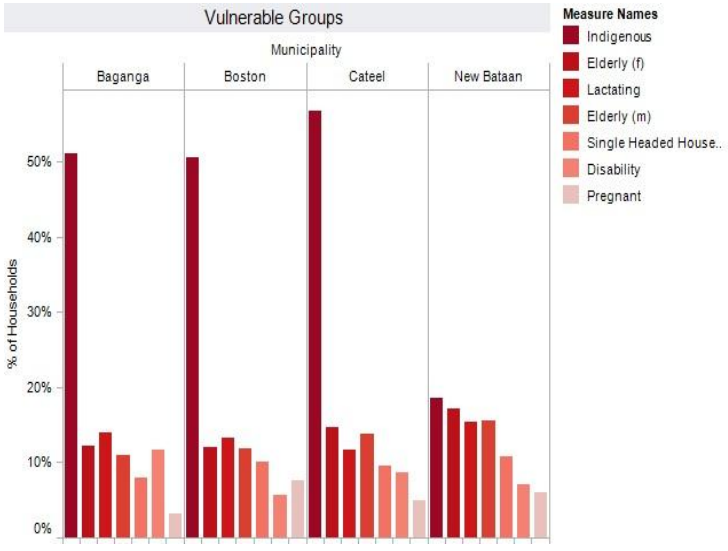


A total of **3,056 households** (2,930 for analysis) were surveyed as part of the household assessment. This represents around **16,000 individuals**. The age profile of respondents highlights not only the relative young nature of the population in general, with **42.36%below the age of 19 years of age**, but also the number of children that have directly been affected. Moreover, the vast majority of those affected are working-age people, highlighting the intricate relationship of livelihoods needs as well as shelter needs. It is interesting to note that within the 19-39 age bracket, there is a significant gender variation between men and women (23% and 14% respectively).This is likely due to the fact that the majority of the sample was from rural households (80%) where males make up a greater share of sampled households (53% compared to 50% in urban and semi-urban households).

Vulnerability

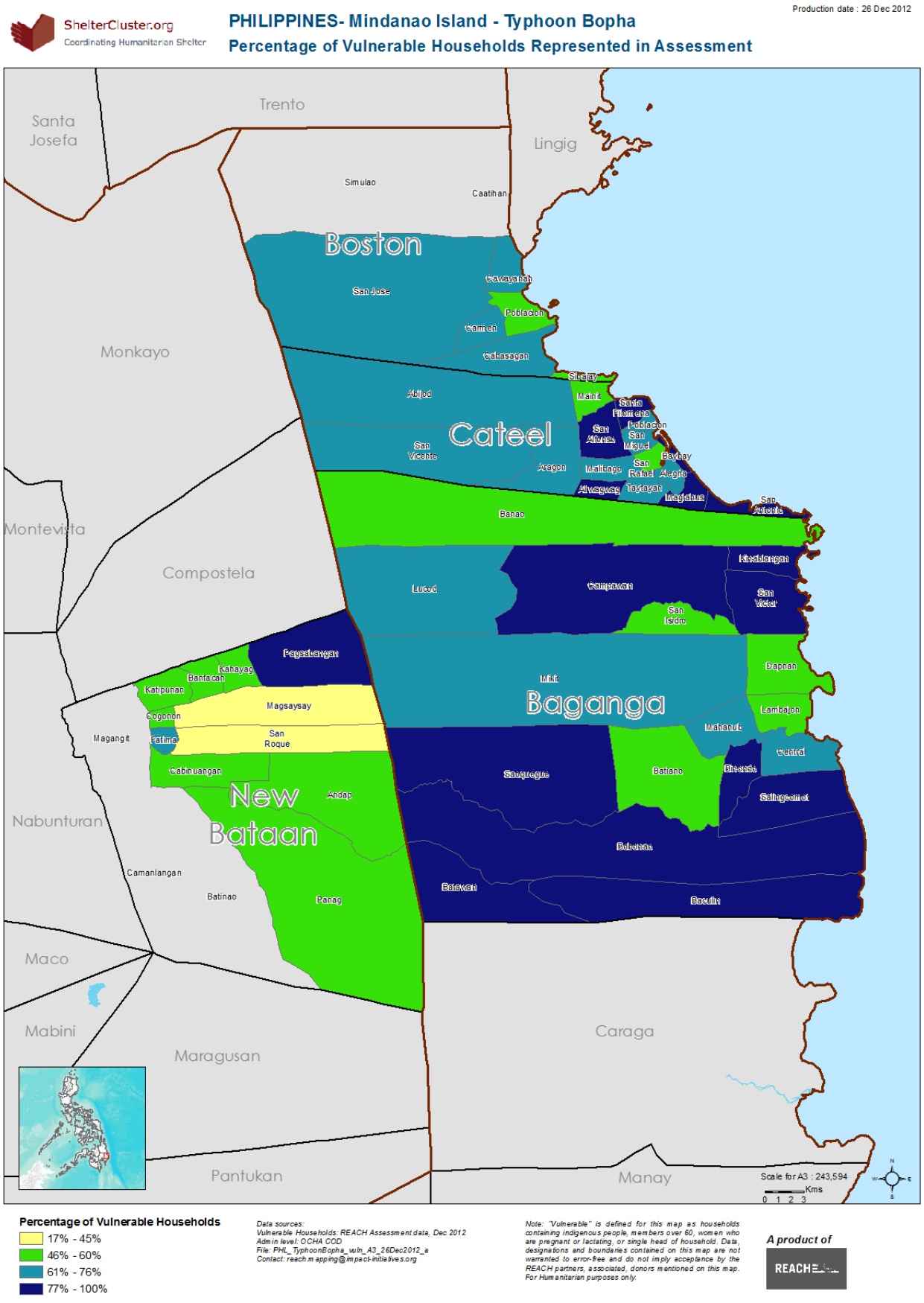
A large number of those affected can be considered vulnerable households. Most significantly, 48% of households reported having at least one member of an indigenous group residing within it. The largest proportion of the **indigenous households** is located in the province of Davao Oriental at **48%** of all surveyed households. Despite the overall young makeup of the surveyed population (**45%** of households reported a member of the family **under 5 years old**), around **21%** of households reported having an **elderly person** living in the house. In addition, **15%** of households had a member that is **pregnant or lactating.28%** of households reported having **seven or more individuals** living within their house. ***Figure 3*** outlines the vulnerable groups by municipality while ***Map 2*** shows vulnerability by barangay by using an index of vulnerable groups (i.e. pregnant, lactating, indigenous, elderly, single-headed households and disability).

Figure 2: Vulnerable Groups by Municipality



This highlights the need for shelter and other programs to be aware of vulnerable households, particularly those that would not be capable of constructing their own shelters and would require technical and labor assistance.

Map 2: Percentage of Vulnerable Households by Barangay



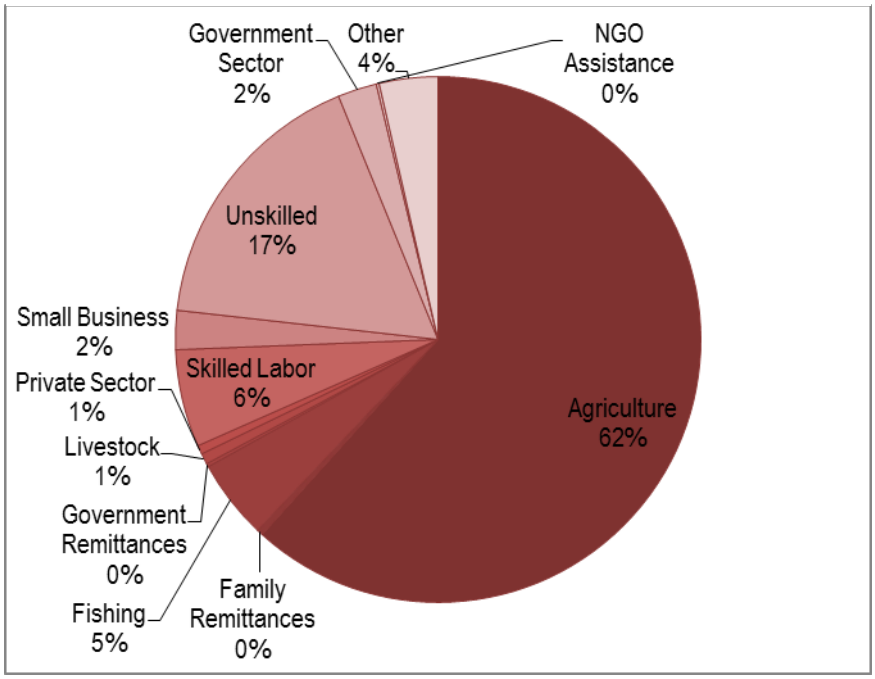
Single headed households only make up 10% of all surveyed households, but the gender disparity warrants discussion. Woman single-headed households seem to be significantly more prevalent when compared to male single-headed household (**68% versus 23%**). It is likely that women single-headed households are more vulnerable than other households in the aftermath of the crisis – particularly if they are unable to rehabilitate their own homes – and therefore their needs in terms of assistance should be ranked as high priority.

4.2. Socio Economic Context

Key Statistics

- % of families with at least two income sources: **29%**
- Average monthly income: **PHP 3,000 / USD 73.03**
- % of households reporting their primary income source highly affected by typhoon: **87%**
- Primary livelihood sectors: **Agriculture, Fishing, Skilled & Unskilled Labor**

Figure 3: Income Sources



The main sources of livelihoods among the affected population are crop agriculture (mainly banana, coconut and rice), fishing and unskilled/skilled daily wage labor. While nearly all households reported some source of primary income, **33% did not report a secondary source of income**. There was only a small difference between urban and rural areas in this trend with rural households being **4%** less likely to have a secondary source of income. Given the highly seasonal nature of **crop agriculture and fishing, which together make up 67% of the affected population's livelihood strategies**, the absence of a secondary source of income would make income flow highly unstable even without a shock such as the typhoon. ***Figure 4*** illustrates the income sources proportionally across all affected households surveyed. With **87% of respondents reporting that their livelihood was highly affected by the typhoon**, livelihood support must be a concern of any shelter intervention, given its inextricable link with the household's ability to rebuild. **Unskilled and skilled labor were also significant sources of income for the affect population at 17% and 6%**, respectively. Looking at regional differences, it is important to note that whereas the coastal municipalities and barangays of Davao Oriental rely on fishing in addition to agriculture (**7%**), **residents of New Bataan rely slightly more on skilled and unskilled labor (29% in New Bataan versus 21% in Davao Oriental)** in the absence of a viable fishing industry. ***Map 3***shows the information by barangay for the percentage of households that reported crop agriculture as their primary source of income.

The average monthly income within the affected areas was reported as **PHP 3,000** or the equivalent of **USD[4] 2.43 per day per family** or given the average family size of 5.41 individuals, **USD 0.45 per person per day**. This would place approximately **79% of the affected population under the poverty rate of USD 1 per person per day** (see ***Figure 6***).

[4] Exchange rate based on 1 USD : 41.08 PHP

It should be noted that this data is only indicative and could vary substantially between households and barangays. This would especially be true for the majority of the population relying on agriculture as its livelihood, as average income figures from agricultural activities is difficult to estimate.

To place these figures into relative terms, families were asked whether their monthly incomes would cover their monthly household expenses before and after the typhoon. In response to this question about the current situation, **0.27%** responded that their income currently completely covers their monthly expenditures, **1%** sufficiently, **15%** partially, and **84% indicated that they experienced regular problems meeting their monthly expenditures with their monthly income**. These high numbers are likely due in part to the fact that the assessment was conducted immediately after the disaster and, thus, households had not had a chance to employ coping mechanisms or rebuild livelihood strategies. With this said, there is no doubt that livelihoods were critically impacted by the typhoon and will need to be a part of any intervention.

Figure 5: Average Household Income, Poverty Incidence

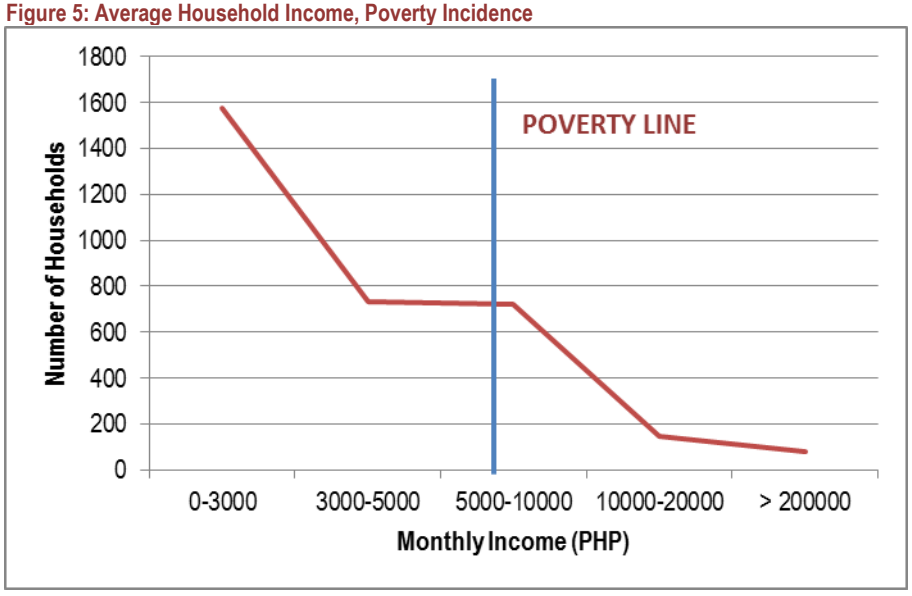
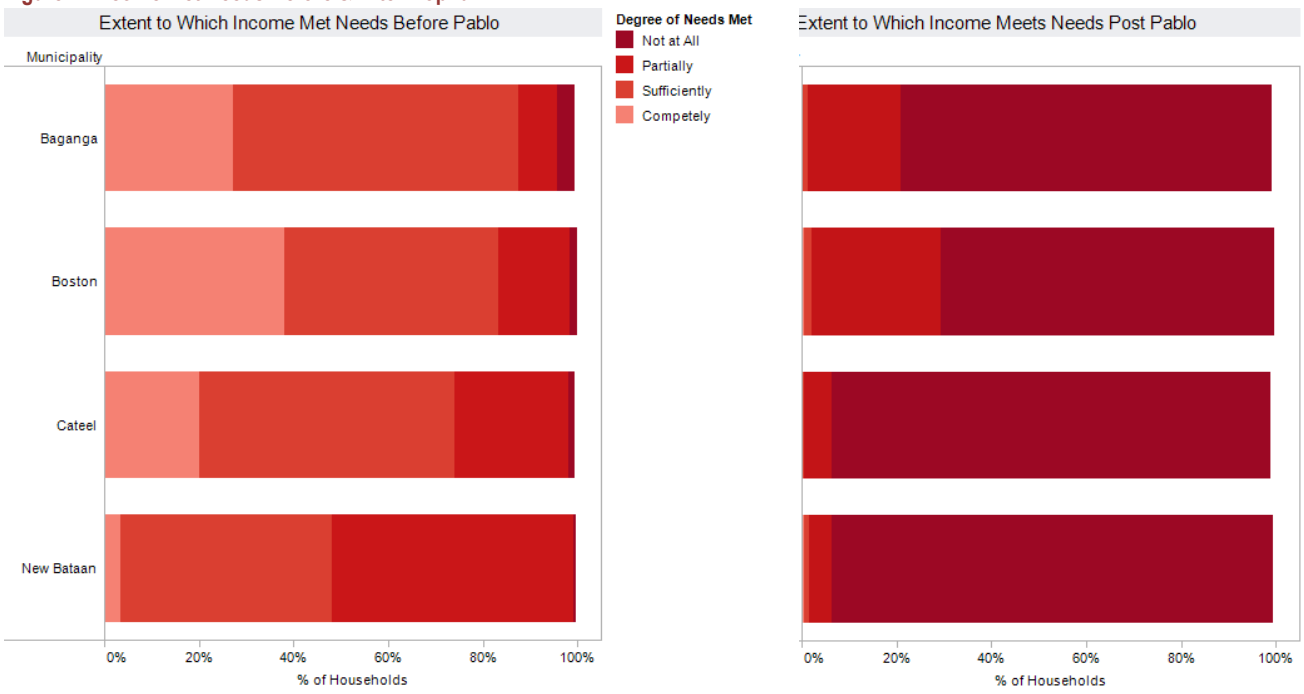


Figure 4: Income Met Needs Before & After Bopha

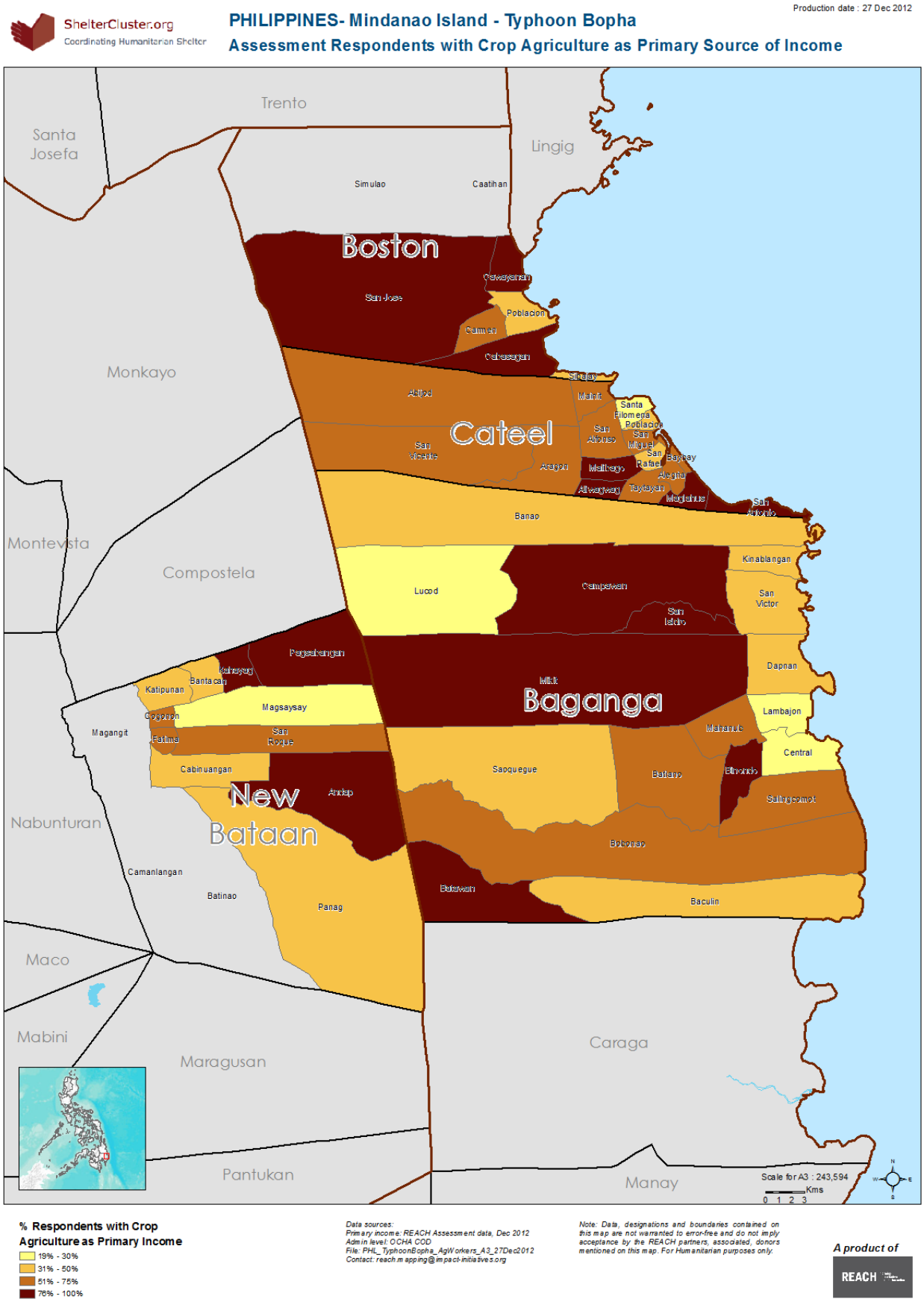


These responses were nearly the direct converse of the situation before the typhoon as illustrated in ***Figure 5***. Only **2%** of households reported that their income did not meet their needs at all, **25%** partially, **51%** sufficiently and **22%** completely before Typhoon Bopha. ***Map 4*** also illustrates this by barangay by showing the impact that the typhoon had on household income. Households in barangays shaded in bright yellow reported having the greatest impact on income; blue/green the least.

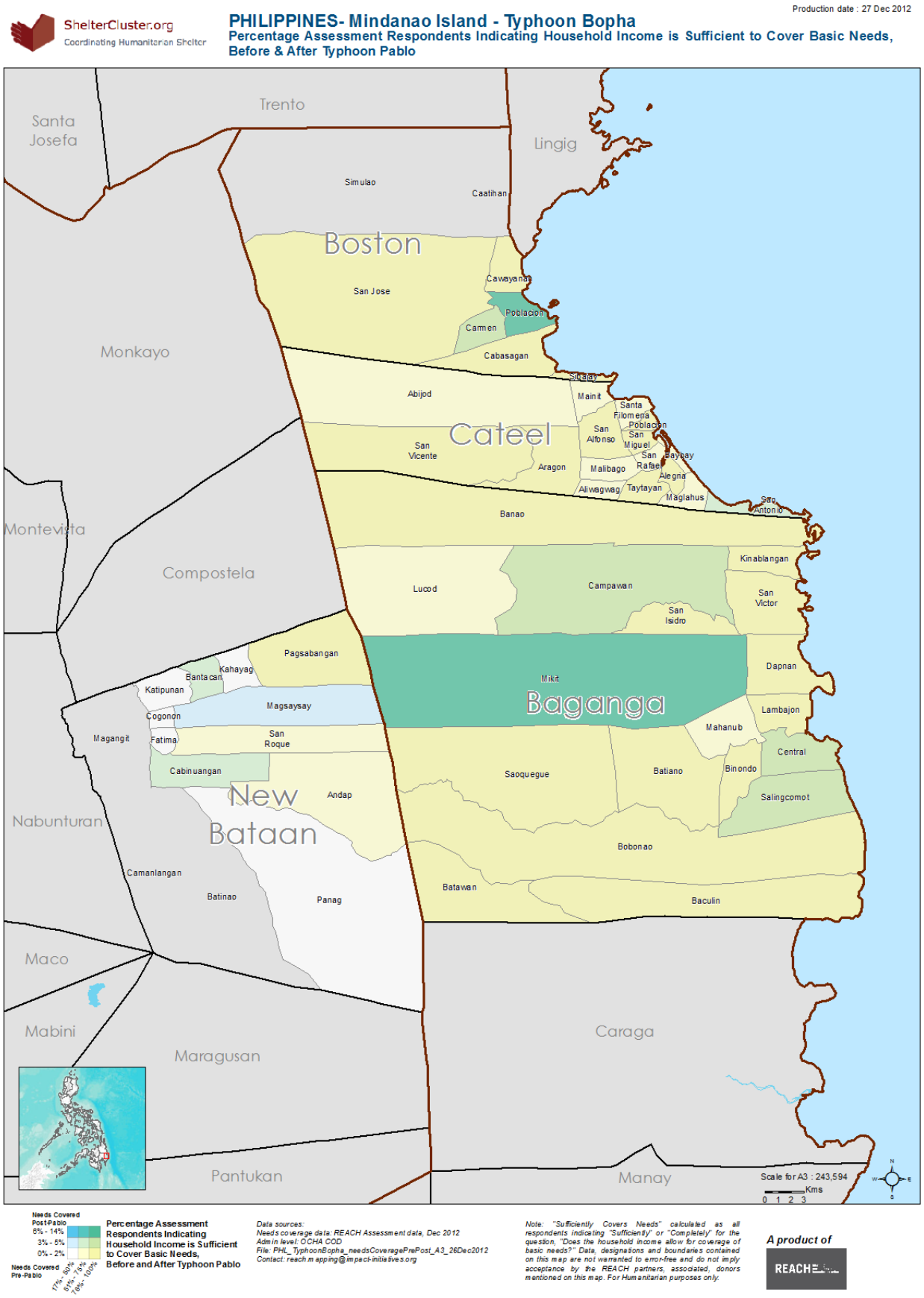
Banana Trees in New Bataan

Coconut Trees in Boston

Map 3: Reported Instances of Crop Agriculture as Primary Source of Income



Map 4: Household Income Sufficient to Cover Basic Needs Before& After Bopha



4.3. SHELTER PROFILE

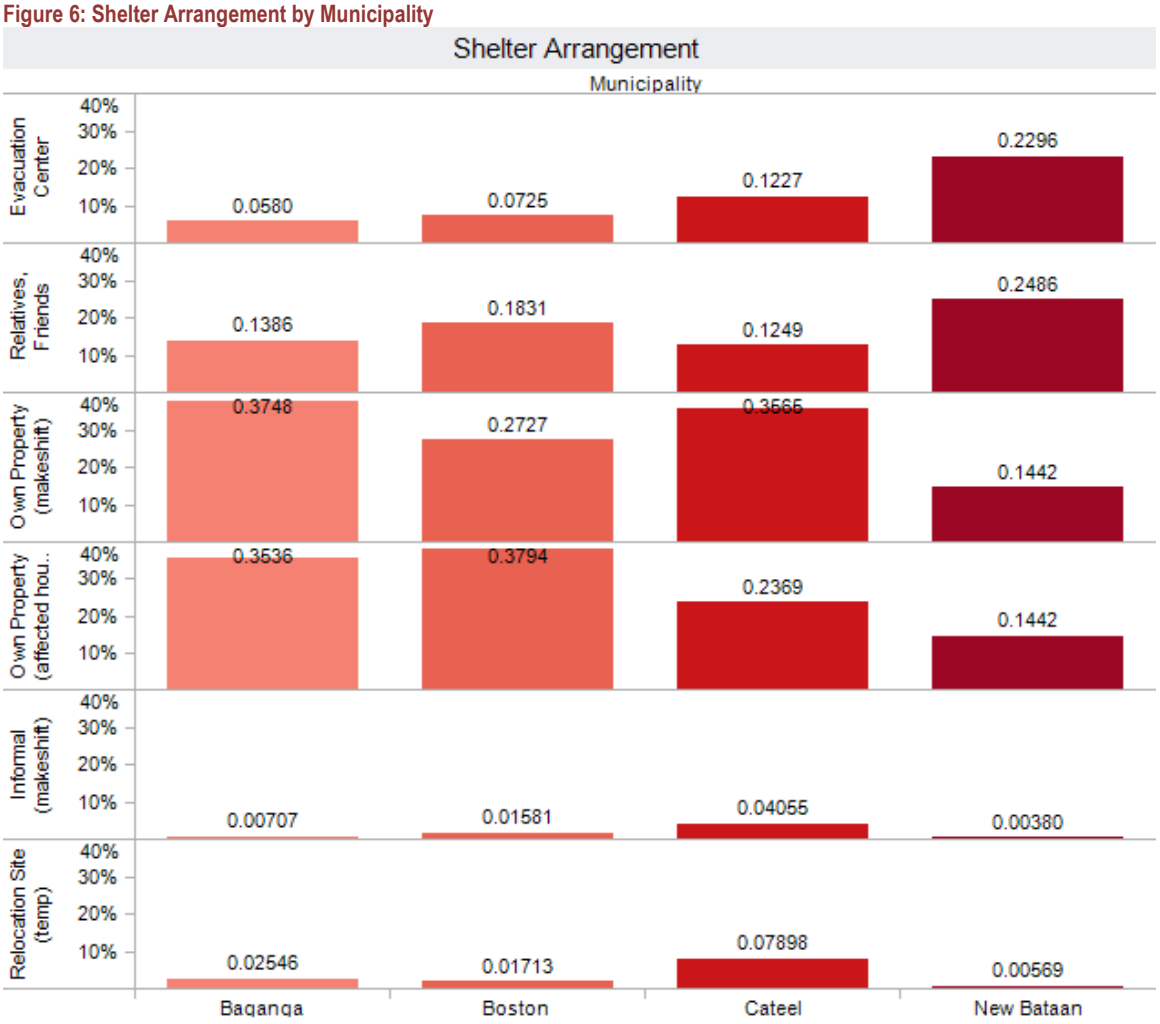
Key Statistics

- % of families living on the same land as before the typhoon (at time of assessment): **57%**
- %of makeshift shelters**: 31%**
- % of shelters with minor typhoon related damage (cat. 3): **5%**
- % of shelters with major typhoon related damage or collapsed (cat. 4&5): **93%**
- % of non-affected shelters (cat. 1): **0%**

Shelter Arrangement

At the time of the assessment, households were transitioning from evacuation centers to other shelter arrangements**. All but 12% of the affected population had returned to their previous shelter location (57%),**were living in temporary shelter on a relocation site (**3%**), were living with family or friends (**17%**) or were living in informal settlements (**2%**). ***Figure 7*** displays the shelter arrangements by municipality. ***Maps 5*** and ***6*** illustrate the percentage of respondents per barangay living in makeshift shelters on their own property and off of their own property. First priority households would be those living in makeshift shelters off their own property; secondarily those living in makeshift shelters on their own property. Further prioritizations can be found in the conclusions section.

Figure 6: Shelter Arrangement by Municipality

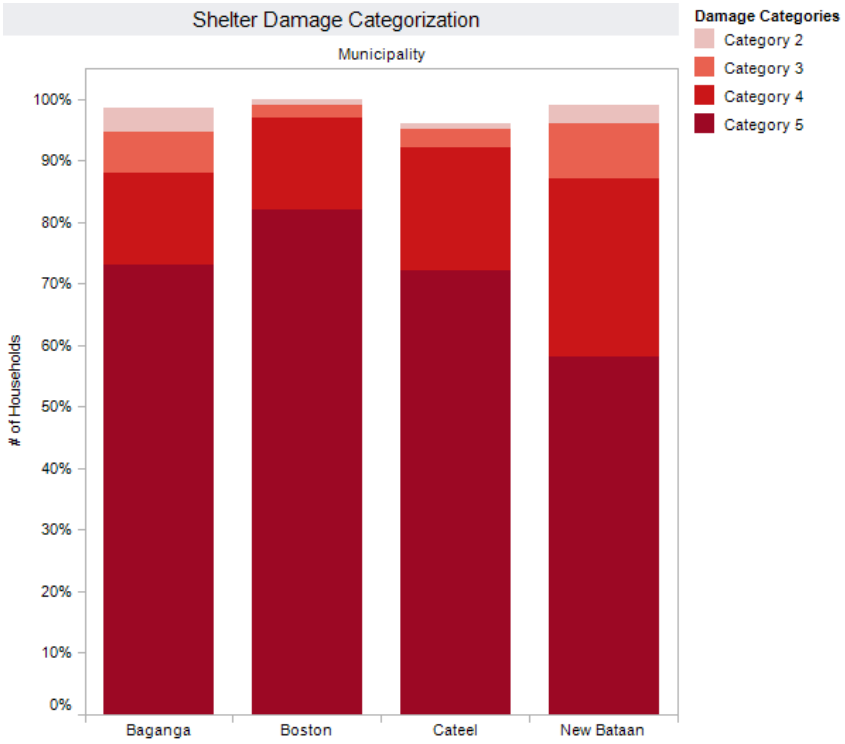


There is a clear provincial difference in post-typhoon shelter profile with households in Compostela Valley residing in evacuation centers and with relatives or friends in much higher numbers than those in Davao Oriental. Much od this can be explained by the fact that many of the Evacuation Centers in Davao Oriental sustained severe damage, forcing many people to leave immediately after the typhoon passed. This is in line with DSWD estimates of households residing in evacuation centers and could be due to the fact that many more households in New Bataan were affected by flooding in addition to the wind damage that both provinces experienced, necessitating living somewhere else. This is likely not due to any greater severity in shelter damage, as will be discussed in a subsequent paragraph. **57% of all respondents reported living on their own land either in makeshift shelters (29%) or in their damaged house (28%)**. This is a clear indication that shelter responses need to include elements that seek to help families rebuild houses on their own land and that camps or relocation sites should only be used in the case of unsuitable or illegal land tenure.

Shelter Damage

The assessment included three categories for disaggregating partially damaged houses. Firstly, category 2 whereby there is wind and/or flood damage but no structural damage to the house. Secondly, category 3 whereby there is minor damage to the shell of the house but the main supports remains intact. Thirdly, category 4 whereby the house is currently unlivable and there is significant damage with some support damage but the house itself can be rehabilitated. In addition, category 1 included unaffected housing structures but affected households, while category 5 was clearly demarcated as denoting a completely destroyed house.

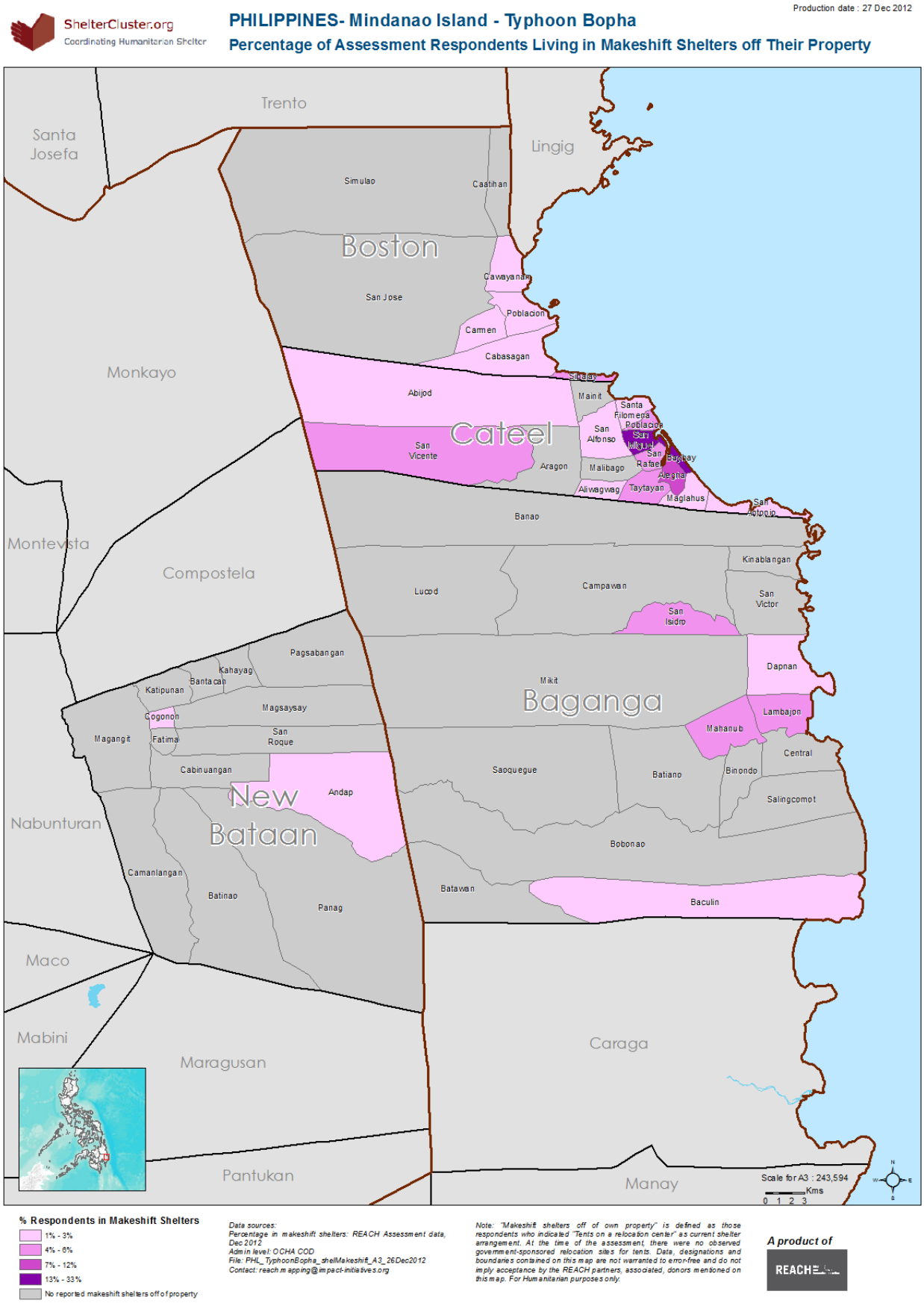
Figure 7: Shelter Damage Categorization



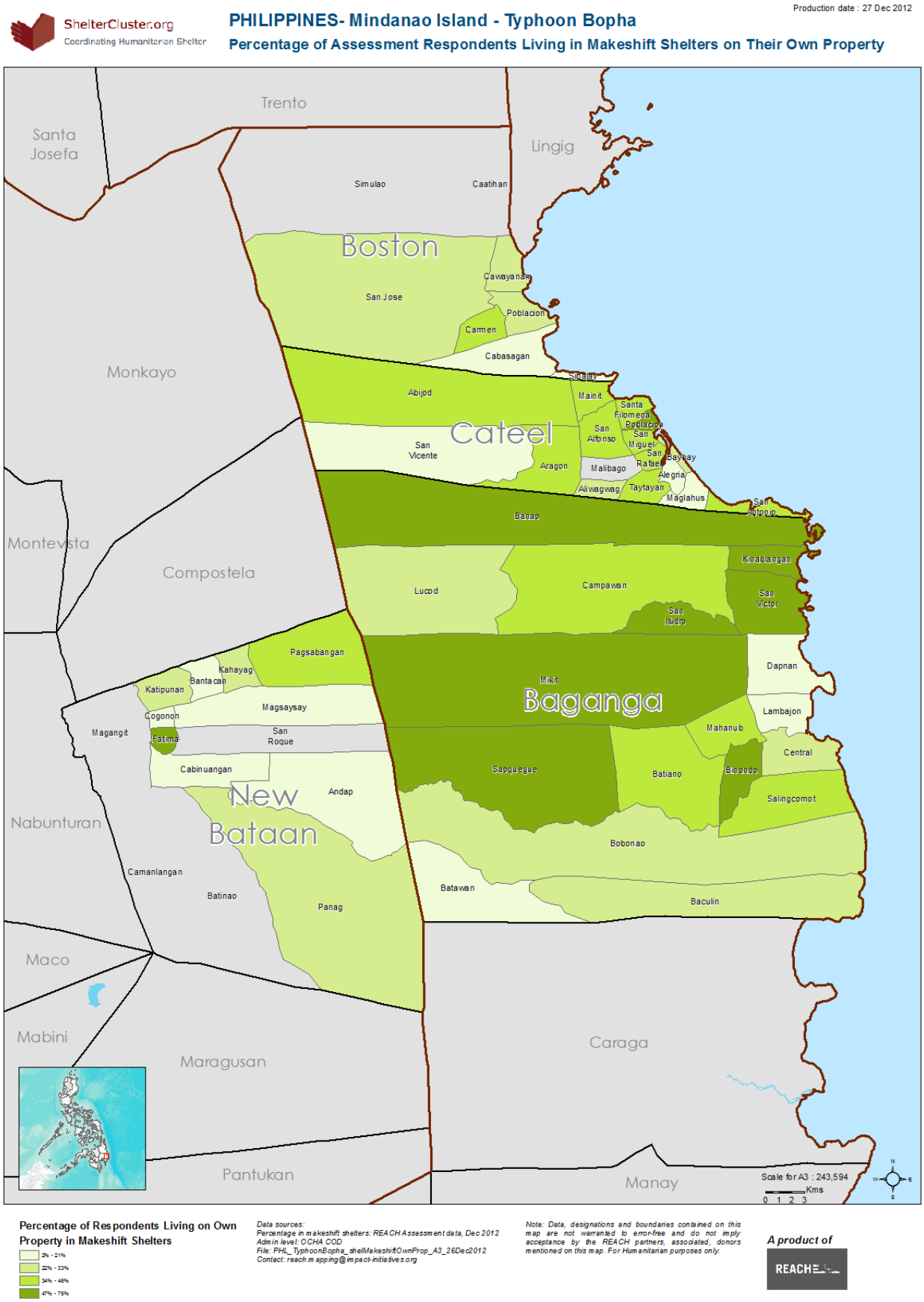
A clear majority of the affected population surveyed have uninhabitable houses, with **93% classified as category 4 or 5**. This is in line with DSWD figures that classify nearly 100% of houses completely destroyed in the assessment target areas. ***Figure 8*** shows the categorization of damage by municipality, while ***Map 7*** illustrates the damage by barangay. Clearly, the greatest damage was experienced in the coastal barangays of Davao Oriental, especially in Baganga and Cateel.

From a technical perspective it would have been interesting to review in more detail the intensity of damage with respect to the types of materials used – specifically the type of timber used – given that, at least through visual observation and general discussion with community members, there was evidence that wherever the material quality was poor or inappropriate the damage was more pronounced.

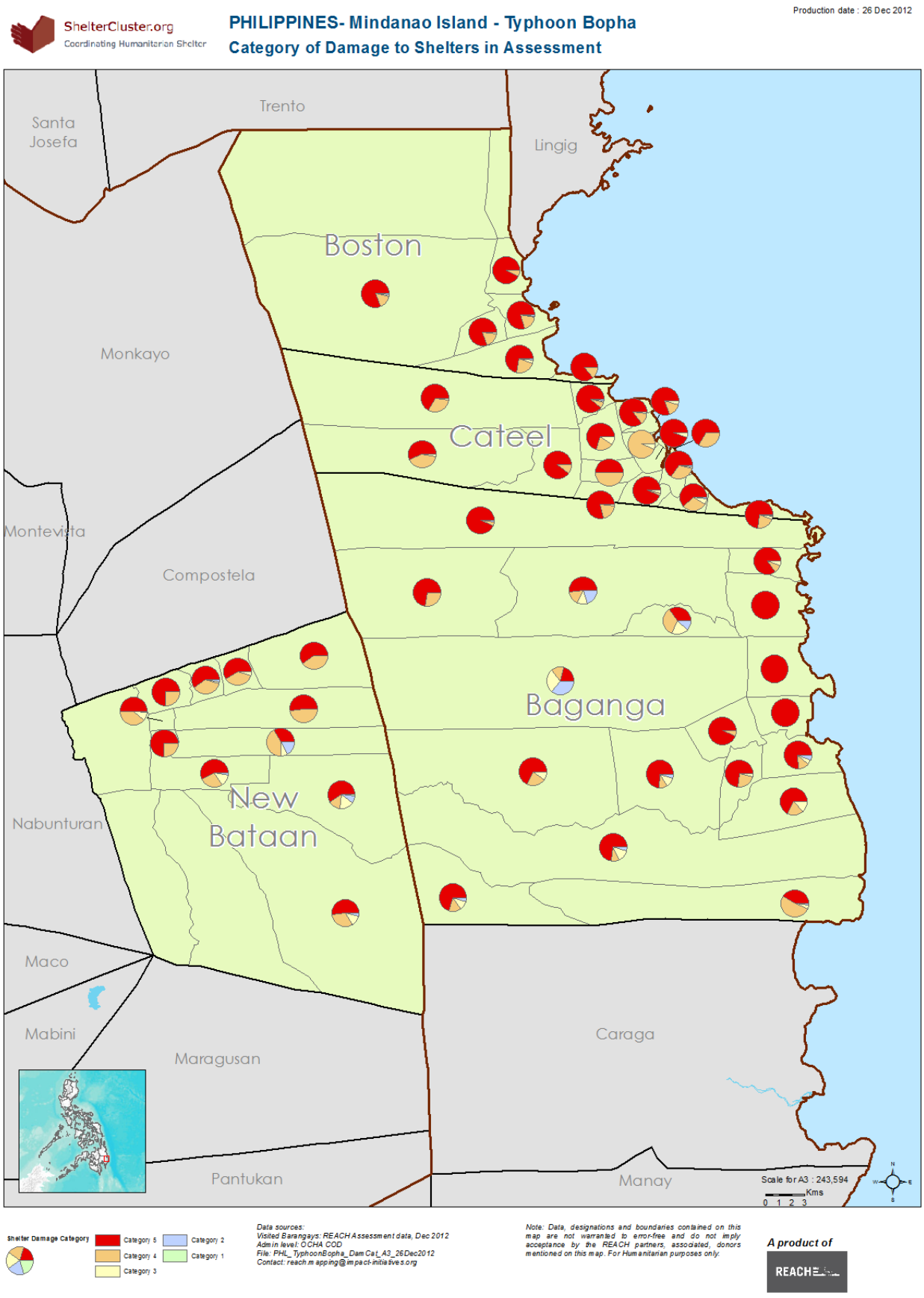
Map 5: Households Living in Makeshift Shelters Off of Own Property



Map 6: Households Living in Makeshift Shelters on Own Property

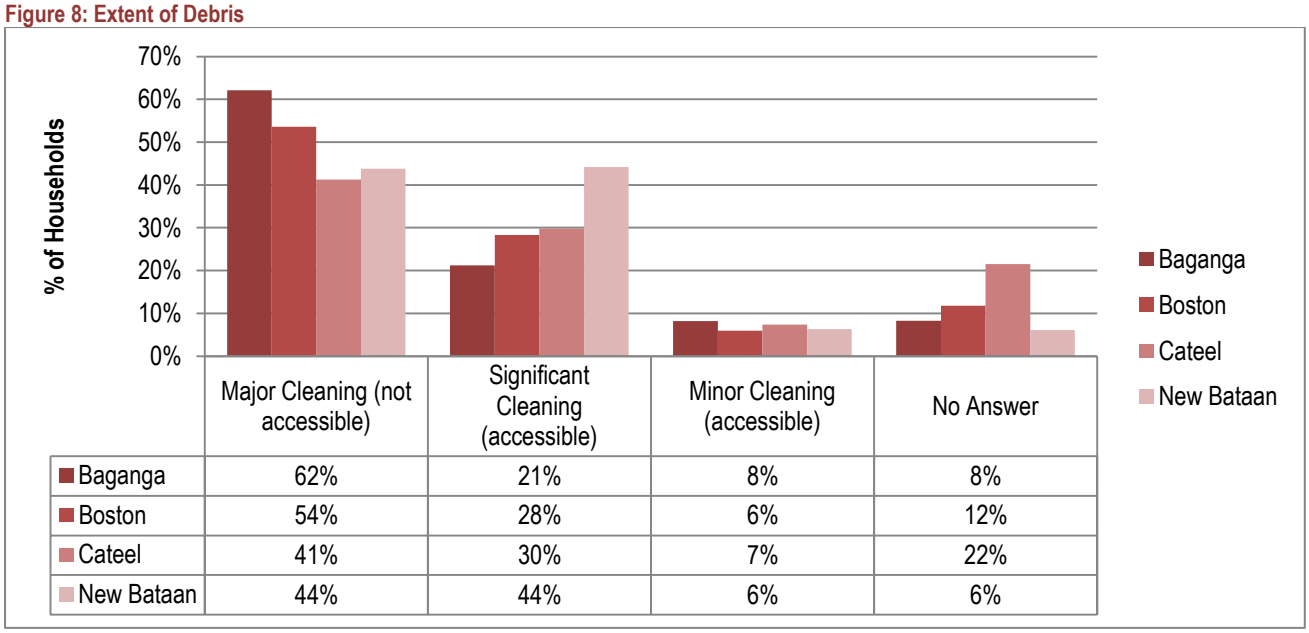


Map 7: Categorization of Damage to Shelters



In addition to shelter damage, debris is of critical concern as it poses a safety hazard and delays re-construction and repair of shelters. **Across all municipalities, 50% of households required major cleaning to begin any shelter reconstruction**. This means that the shelter and the land it sat on are not currently accessible. An additional **30%** of households require significant cleaning, but reported that their land is currently accessible for initial reconstruction preparation. ***Figure 9*** outlines the breakdown by categorization of debris accumulation. The most commonly reported types of debris were primarily trees and secondarily shelter materials.

Figure 8: Extent of Debris



	Major Cleaning (not accessible)	Significant Cleaning (accessible)	Minor Cleaning (accessible)	No Answer
Baganga	62%	21%	8%	8%
Boston	54%	28%	6%	12%
Cateel	41%	30%	7%	22%
New Bataan	44%	44%	6%	6%

Shelter Damage by Typology

As discussed above, **the majority of surveyed households (93%) have a house that is classified as Category 4 or 5 on the technical assessment scale and are, thus, inhabitable**. The assessment team had hoped to be able to conduct an analysis that would indicate which shelter materials were more likely to be classified as Category 4 or 5 as opposed to Category 2 or 3. Given the near compete destruction of homes in most location, however, this was not possible as it could not be parsed-out whether greater proportions of certain building materials in Category 4 or 5 households indicated a greater likelihood of destruction or merely a more popular building materials. Nevertheless, ***Table 1*** outlines the percentage use of each material for specific elements of the house, providing the percentage per damage category as well. While there is no clear pattern, the data does point to some conclusions in a couple cases. In the cases of timber frames and walls and Corrugated Galvanized Iron (CGI) roofs, there is a slightly greater distribution among all damage categories. For almost all other materials, nearly all houses are concentrated as Category 5. This would indicate that timber frames and walls and CGI roofs may have mitigated against some damage, however minimally.

Beyond this analysis, the most commonly reported housing materials were the following:

1. Floor: Timber
2. Foundation: Concrete[5]
3. Frame: Timber[6]
4. Roof: CGI
5. Walls: Timber

Table 1: Percentage of Shelter Construction Materials Used Per Element of House

Floor Type						
Material	**Category 1**	**Category 2**	**Category 3**	**Category 4**	**Category 5**	**Total**
Timber	0%	1%	2%	9%	42%	54%
Concrete	0%	1%	2%	9%	15%	27%
Earth	0%	0%	0%	1%	4%	5%
Other	0%	0%	0%	2%	12%	14%
Foundation Type						
Material	**Category 1**	**Category 2**	**Category 3**	**Category 4**	**Category 5**	**Total**
Concrete	0%	1%	2%	6%	9%	18%
Masonry	0%	0%	0%	0%	1%	1%
Coco Lumber	0%	0%	0%	0%	2%	2%
No Foundation	0%	0%	0%	0%	8%	8%
Frame Type						
Material	**Category 1**	**Category 2**	**Category 3**	**Category 4**	**Category 5**	**Total**
Timber	0%	2%	4%	15%	59%	80%
Concrete	0%	1%	1%	3%	5%	10%
Bamboo	0%	0%	0%	1%	3%	4%
Coco Lumber	0%	0%	0%	1%	3%	4%
Other	0%	0%	0%	0%	2%	2%
Roof Type						
Material	**Category 1**	**Category 2**	**Category 3**	**Category 4**	**Category 5**	**Total**
CGI	0%	2%	4%	13%	30%	49%
Neppa Palm	0%	0%	1%	7%	41%	49%
Bamboo	0%	0%	0%	0%	1%	1%
Other	0%	0%	0%	0%	1%	1%
Walls Type						
Material	**Category 1**	**Category 2**	**Category 3**	**Category 4**	**Category 5**	**Total**
Timber	0%	1%	3%	12%	48%	64%
Bamboo	0%	0%	1%	3%	12%	16%
Concrete	0%	1%	2%	5%	8%	16%
Coco Lumber	0%	0%	0%	1%	2%	3%
Other	0%	0%	0%	0%	1%	1%

[5] This particular question had a very high error incidence, thus making any conclusions impossible. This is where a shelter damage expert would need to conduct a detailed assessment, as there is a possible misrepresentation in the data away from a "no foundation" response. Observation supports the conclusion that the majority of houses do not have a foundation.

[6] Direct observation would support that most wood used for the frame, walls and floor is coco lumber. Despite this being one of the options on the questionnaire, the enumerators likely were unable to identify accurately coco lumber as opposed to timber wood. An expert would need to confirm this observation.

4.4. SHELTER & NON-SHELTER NEEDS

Key Statistics

- Top needs: **shelter material, shelter NFIs, livelihood assistance**
- Households can provide: **labor, salvaged materials**

Due to the fact that this assessment was conducted very shortly after Typhoon Bopha struck, data on needs is fraught with bias in favor of immediate, rather than longer-term needs. Nearly all respondents reported that they needed all of the listed shelter and non-shelter materials. The most commonly cited critical needs (also supported by key informant interviews) involved shelter materials, shelter NFIs and livelihood assistance.

With regards to shelter needs, requests for financial support were considerable as a result of household income having been highly affected. This is coupled with the need for materials for their houses – something that was regularly observed and requested during the assessment. However, most communities are not willing to wait for assistance and have already begun creating temporary/makeshift shelters on their property or rebuilding their permanent shelters. Moreover, labor support is indicated as the asset that respondents would be most able to contribute to their own needs (nearly 50% of respondents). Technical assistance for low-tech housing was a notable absence in terms of support required, highlighting the capacity of communities to build back the same houses, if so desired.

Given the impact on livelihoods and the nearly complete destruction of homes in most of the target areas, a shelter material distribution (or voucher) program represents a highly relevant response to the shelter needs of families since it would:

- Reduce the lack of financial resources as a factor limiting the ability of households to manage their shelter needs; and
- Reduce the financial burden of the family at a time when income sources have been critically disrupted, further allowing families to redirect their expenses toward other (higher priority) needs.

Given the immense impact on livelihoods, shelter support should be coupled with livelihood assistance. The majority of the affected households relied on agriculture as their primary income source and this has been significantly affected by the typhoon. In many key informant interviews, individuals cited shelter as being important, but livelihoods as being more important. By providing livelihood assistance, households would be more willing to provide labor and other in kind shelter assistance. Coupled with a material distribution or voucher program, households' priority needs would be met to a greater degree.

4.5. WaSH& Electricity Situation in Shelters

Key Statistics

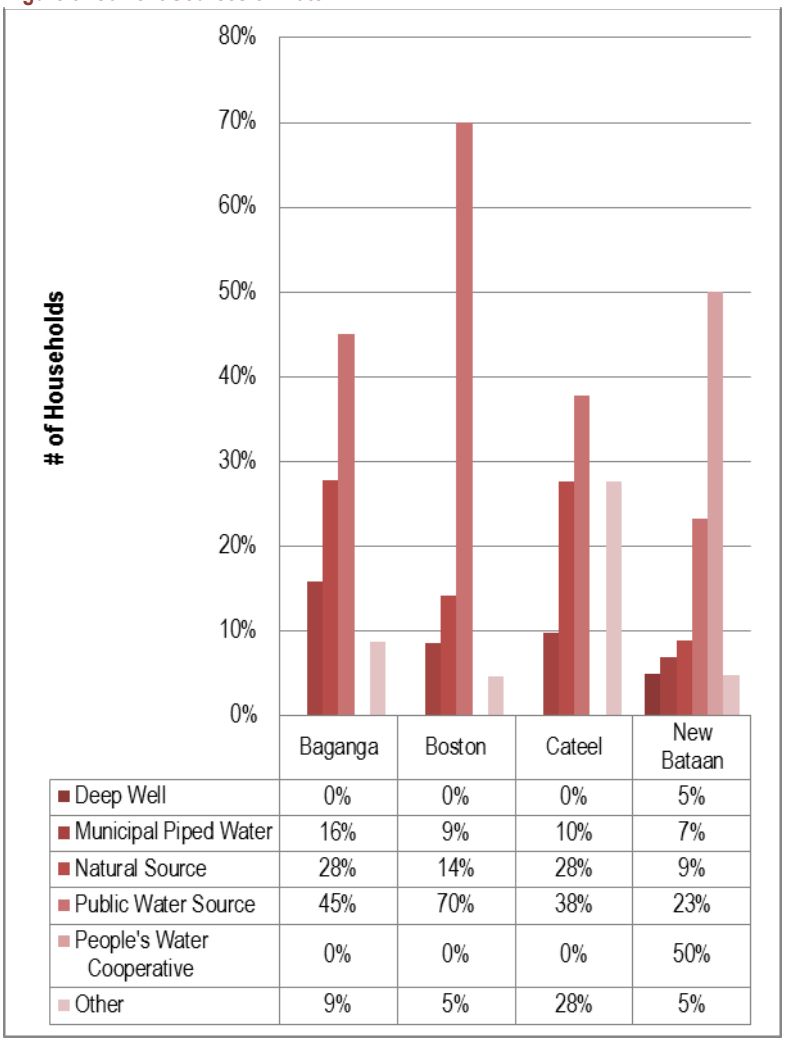
- % of households with access to electricity: **4%**
- % of households with access to water source: **56%**

Electricity

At the time of the assessment, all public electricity in assessed areas had been destroyed. Crews were in the process of repairing downed power lines, but during key informant interviews with municipal officials, it was expected that this process could take weeks. Across all municipalities, only **4%** of households had access to electricity – likely from private sources such as generators.**68%** of respondents reported that they had had access to electricity in their home before Typhoon Bopha and that it had been provided by a public source.

Water

Figure 9: Current Sources of Water



	Baganga	Boston	Cateel	New Bataan
Deep Well	0%	0%	0%	5%
Municipal Piped Water	16%	9%	10%	7%
Natural Source	28%	14%	28%	9%
Public Water Source	45%	70%	38%	23%
People's Water Cooperative	0%	0%	0%	50%
Other	9%	5%	28%	5%

At the time of the assessment, **56% of households reported that they had access to a water source**. While key informant interviews indicated that many people were sharing private and public water sources[7]with each other in the aftermath of the typhoon, the low number of households with access to a water source must be addressed in conjunction with a shelter intervention. With this said, it is likely that these figures reflect perceived access to water and that there is slightly more access than reflected here. ***Figure 10*** shows the current sources of water per municipality.

Clearly, in the days following the typhoon, natural and public sources of water such as streams and lakes and public water pumps have become regular water sources for households that may have had access to municipal piped water in their home. An interesting regional difference can be seen in New Bataan, where the majority of households are relying on a people's water cooperative as their water source. More research would need to be done to understand how this works and whether it is a strategy that could be employed in Davao Oriental, especially in the aftermath of future disasters.

[7] Public wells, handpumps

5. Conclusions & Recommendations

1. **The shelter impact of this typhoon was extreme, with 98% of surveyed houses destroyed or damaged. 93% of all surveyed households were classified as uninhabitable: 72% as Category 5**(completely destroyed house) **and 21% as Category 4** (significantly damaged and uninhabitable but could be repaired). This means that 93% of all surveyed households are considered uninhabitable. Of those surveyed the vast majority of the houses destroyed and damaged were **timber framed with about 50% having CGI roof and 50% neppa palm roofing**.

2. **A priority focus of assistance programs should be on livelihood recovery and support to reduce the vulnerability of households on single sources of income**. The affected area was already highly vulnerable (**79% under 1USD per person per day**) and reliant on single sources of income that were depleted by the typhoon. Protecting or diversifying the income sources of households will ensure an increased ability of households to improve their shelters of their own accord.

3. **In parallel to a livelihood intervention, humanitarian action should prioritize shelter kit distribution for those families most in need (falling into the prioritization below) as well as a CfW program for debris removal and other necessary activities**. In order to alleviate the pressure on the meager incomes at a time when their food associated costs are highest given the loss of their agriculture crops, the prioritized households will benefit from shelter material kits. In addition, there is currently a very high level of debris blocking access to some houses and the land on which houses will need to be rebuilt. Around 50% of households reported needing major cleaning and debris removal before they could even begin rebuilding. Similarly, many of the fields are strewn with downed trees. This would be an opportunity to provide Cash for Work (CfW) programming that would provide much needed cash for affected households and clear debris for rebuilding. Within each group, the most vulnerable should be targeted first, especially female single-headed households and the disabled, as they are the least likely to be able to reconstruct their homes on their own. The following list is given in order of priority:

    3.1. **Households located in makeshift shelters off of their previously inhabited land should be prioritized for relocation or resettlement**. Many of these households are living in informal settlements in the urban areas of each municipality and either have no land to return to or are unable to return to their land. These households are only a minority of the caseload (2%), but are currently some of the most vulnerable.

    3.2. A second priority for shelter support should include **households located on their previously inhabited land in makeshift shelters (29%)**.

    3.3. Third, **households living in Evacuation Centers (12%)** – the vast majority of whom are located in New Bataan – should be slated for shelter support.

    3.4. As fourth priority, shelter repair and reconstruction should target **households living in their affected house (28%) on their previously inhabited land**.

    3.5. Lastly, **households living with host families (17%)** should be the next priority for resettlement and shelter construction.

4. **Two follow-up assessments should be conducted before medium term shelter programming is planned and implemented: (1) land ownership type for affected households and (2) medium term shelter and non-shelter needs in affected communities**. Anecdotal evidence suggests that most households in the highlands are tenant farmers, meaning they do not own the land on which they lived before Bopha, while those households in the lowlands are predominately landowners. A full assessment on land reform and agrarian reform policies in Mindanao and how the affected households fit into those policies seems particularly relevant and should be preferably conducted before or in conjunction with any large-scale government relocation program.

   Data collection for this assessment began only 5 days after the typhoon hit the affected region. While this allowed the assessment team to get an understanding of the extent of the damage and the profile of the population affected, it did not allow for an accurate picture of the medium-term needs of the population, as most respondents perceived that they needed all support in the immediate aftermath of the storm. The follow-up assessment on shelter and non-shelter needs should focus on capturing disaggregated assistance data both for what is needed and what has already been provided.

5. **Disaster risk reduction and disaster management programs should be a key component of both response and recovery programming**. Given the existence of two large storm events in the past year and the prediction of more frequent similar events, further focus will be required on DRR/DM issues by the government (namely NDRRMC) and communities. These types of programs work best when started at the lowest grassroots level – perhaps at the purok or barangay level. Topics should include more durable shelter construction techniques, disaster information communication, early warning systems, evacuation strategies and disaster response plans.

Assessment Team in Cateel

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