

Bohol Earthquake, Philippines

Inter-Agency Initial Rapid Needs Assessment

Preliminary Report



Map of assessed municipalities as of 17 October 2013

17 October 2013

I. Introduction

On 15 October 2013, the Province of Bohol was hit by a 7.2 magnitude earthquake. The earthquake was also felt with lower intensities in Cebu and in several far-reaching areas including Albay, Cagayan de Oro and Zamboanga City.

On the same day, the Civil Defense Administrator and Executive Officer, National Disaster Risk Reduction and Management Council (NDRRMC) invited the Philippine Humanitarian Country Team (HCT) and cluster co-lead agencies to join the government in conducting a rapid needs assessment in the earthquake-affected areas. Further guidance from the Secretary of the Department of Social Welfare and Development (DSWD) was to prioritize the rapid needs assessment in Bohol province in areas of camp coordination and camp management, emergency shelter and non-food items (NFIs) in particular.

On 15 October, OCHA conveyed this invitation to the Resident Coordinator/Humanitarian Coordinator, who in turn invited all interested agencies, through cluster co-lead agencies, to join the assessment team.

Representatives from HCT agencies¹ deployed to Bohol on 16 October with the following objectives:

- To conduct a rapid needs assessment in areas with information gaps.
- To support the government with specific information on cluster's needs and gaps.

The Initial Rapid Assessment (IRA)², led by DSWD, was carried out in the most affected and hard to access municipalities on the west and central coast of Bohol. In one of those municipalities, DSWD were joined by the HCT multi-agency team. See table 1 for municipalities assessed on 16 and 17 October

Table 1. Assessment teams and areas covered

Municipalities Assessed	Covered By
Calape	Team from OCHA, IFRC, UNDP, IOM, WFP
Carmen	A joint team from DSWD, OCHA, IFRC, UNDP, IOM, WFP
Loon	Two teams: DSWD; OCHA, IFRC, UNDP, IOM, WFP
Maribojoc	Team from OCHA, IFRC, UNDP, IOM, WFP
Buenavista	DSWD Team
Clarin	
Getafe	
Inabanga	
Tubigon	

II. Assessment Methodology

The methodology employed by the team was a mix of key interviews and direct observation using the first 72 hour IRA tool as guide in the conduct of assessment. The team also interviewed the respective municipal mayors, social welfare development officers, municipal health officers and affected people. A team debrief was organized at the end of each day of assessment to consolidate the information. The scope of this report will cover only the areas that were assessed on 16 and 17 October. Other areas assessed beyond the aforesaid dates will be reported separately.

The current population affected and in need of emergency assistance is estimated to be about 200,000 in the municipalities assessed based on information gathered from senior representatives of local authorities and verified with DSWD during the IRA. This equates to about 40,000 households. It is expected that current estimates will increase over the coming days once additional assessments are carried out in other municipalities.

¹ OCHA, IOM, UNDP, WFP participated from the HCT.

² Initial Rapid Needs Assessment aims to enable faster and better multi-sector rapid assessment in the first few days of a sudden-onset crisis in order to guide the initial planning of urgent humanitarian interventions, identify needs for follow up assessments, and inform initial funding decisions.

III. Overview

Nine out of 40 municipalities in Bohol were assessed. Key information on the affected people in the nine assessed municipalities is in table 2.

Table 2. Number of people affected and displaced, houses damaged, and families in need of emergency shelter in the assessed municipalities

Municipalities	No. of families	Total Population (affected)	Collapsed / damaged houses beyond repair	Households in need of emergency shelter	Displaced people (unplanned camp formations)
Buenavista	4,400	27,000	15%	700	Displaced in Large Nepa evacuation centre
Calape	6,500	30,000	90%	5,850	
Carmen	9,700	44,474	50%	3,379 damaged, 968 collapsed	
Clarin	5,000	20,000	No figures yet	No figures yet	
Getafe	5,662	37,163	38%	1,834	
Inabanga	9,746	49,045	25%	1,831 (316 damaged, 1,518 collapsed)	
Loon	11,421	42,800	70%	7,996	400 Families (2,000 individuals)
Maribojoc	4,000	20,000	90%	3,600	
Tubigon	8,000	40,000	30%	2,368 (681 collapsed, 1558 damaged)	
TOTAL	64,429	310,482			

General observations

- Earthquake Damage Intensity Impact: Very High Intensity Earthquake (Intensity level VII on a scale of I to X, with level X as “completely devastating”)
- Complete structural failure of the majority of affected buildings.
- Masonry buildings collapsed and severely damaged beyond safe repair.
- Traditional houses made of local materials such as lumber, sustained much less damage compared to structures made of concrete, which were either completely or partially collapsed.
- Bridges and infrastructure, roads and ports collapsed and damaged. Therefore, access is difficult and complex.
- Damage not localized around the epicenter of the quake but affected a wide area - west and northwest of the island (along towns and villages).
- The damage is spread over urban and rural areas. Towns have reported widespread destruction and damage to buildings, which were confirmed by the assessment team to the extent possible.
- There is widespread damage to infrastructure, public buildings and utilities.
- No electricity in all areas assessed. Information provided to all local leaders by provincial government is that the restoration of water will be prioritized, and therefore the restoration of power (water sources are dependent on electricity).
- No water, both for drinking and domestic use due to power outage.
- People from affected and hard to access areas have to buy drinking water in Tagbilaran city using both motorcycles and small boats.
- Access to markets is difficult because of severe damage to roads (cracks and landslides) and collapsed bridges.

- Structures for markets are severely affected, disrupting normal supply and selling of goods in communities.
- Sea ports were also damaged because of liquefaction in coastal areas. Only small sea vessels are able to dock.
- As highlighted by senior local government officials and affected people themselves, far flung barangays have not been provided with immediate assistance. Some families, on the second day after the earthquake received less than half a kilo of rice, noodles and sardines from local government units.
- Community hospitals and health care clinics in affected municipalities continue to offer minimal services out in the open, using tents. Patients with serious health conditions are transferred to Tagbilaran for treatment. For example, all functions in Loon hospital, such as laboratory tests, X-rays, pharmaceutical, vaccination storage and archives are disrupted. The building is totally damaged.

Basic Building Type

- Building Use: residential, commercial, education, health
- Structural Type: concrete structure (reinforced and non-reinforced), masonry/wooden roof, masonry/concrete roof, masonry/corrugated iron roof, traditional wooden structures/corrugated iron roof
- The housing type varies from more traditional timber frames structures to reinforced concrete and masonry construction.

Post-Earthquake Settlement Typologies

- **Home-based displacement:** Affected people living outside their collapsed houses in open spaces, roadsides and gardens
- Community response to emergency shelter:
 - Makeshift plastic sheeting for emergency shelter, and tents
 - Use of local wooden structures and out houses (low level coverage for affected people)
- **Evacuation centres:** Affected people displaced from their house to other locations in public spaces, school yards, churches; development of a small scale unplanned camp situation
- **Community-based displacement sites:** Multi-family; affected families located close to their original homes, grouped in collective displacement sites
- Current community response to emergency shelter: using open spaces, public parks, makeshift plastic sheeting (displaced from housing located in low lying areas at risk from liquid fraction).
- **Currently the estimated emergency shelter needs are more than 35,600 households in the**



17 October 2013: Collapsed house in Maribojoc, Bohol (Credit: Joseph Addawe, OCHA)



18 October 2013: The destruction of a local hospital in Loon, Bohol. (Credit :Luiza Carvalho)

areas assessed. This figure may rise as more detailed information becomes available.

- Aftershocks continue which further weakens structures and leads to great insecurity and risk to life amongst the affected communities with many people preferring to sleep outside than be exposed to potential collapse.

Sectoral Needs and Gaps

Access to life-saving resources is limited. Priority needs are: emergency shelter, supply and access to water and sanitation facilities, NFIs (such as hygiene kits, kitchen utensils, sleeping mats), health, logistics (such as mobile storage units and generators) and food. There is also a need to strengthen coordination with other actors and government groups that are providing assistance - coordination is key to a fast and effective response.

The reconstruction in urban areas will take time. As such, some families will need longer term shelter support until they have a permanent solution towards recovery and reconstruction. Recovery planning is critical at the early stages of the response, as collapsed public buildings such as health centres, hospitals, schools, markets, security units as well as housing need to be evaluated, dismantled and demolished if needed, and rubble removed before reconstruction and repair can safely take place.

IV. Shelter

A Government Rapid Assessment was carried out in seven municipalities in the most affected locations by DSWD and verified in two municipalities³ by the HCT multi-agency assessment team.

The damage to existing housing and public building is severe with the majority of housing that has collapsed considered not safe to repair.

Housing and public buildings damage category:

1. **Severely damaged** (inhabitable/beyond safe repair): Structural integrity compromised and cannot be repaired
2. **Completely collapsed**: Not safe for habitation
3. **Partially damaged**: Structural integrity not compromised and can be repaired or retrofitted (structural assessment required to confirm repair and safety options)

Affected families displaced from their original land plot are currently living outside their collapsed homes in open spaces, roadsides and gardens, public spaces. These families are building makeshift shelters, made from salvaged materials and plastic sheeting. A main concern with this method is the approaching rainy season, and will further expose an already vulnerable population.

Where families have been displaced they have moved to other less affected towns or villages and in some cases created unplanned evacuation camps. The affected families are building makeshift shelters out of salvaged materials and plastic sheeting and grouping in open spaces, public parks without formal camp plans in place.

Priority Needs for Emergency Shelter

The urgent need for emergency shelter solutions are tarpaulins, building materials, tools and tents for over 35,000 families affected. Support is required for both displaced living in community-based evacuation centres and home-based displaced living nearby their collapsed houses.

Effective coordination of both government and humanitarian shelter responses is critical to reaching the affected people with appropriate shelter solutions in the next two weeks and to fill gaps and for the distribution of emergency shelter solutions, so that those most in need can be reached.

There is an urgent need for structural assessment and subsequently define the possibility of restoration of housing and public buildings. With regards to collapsed or heavily damaged structures, heavy tools, equipment and machinery to clear and dispose of rubble including the demolition of unsafe condemned structures, the management of special materials such as waste and hospital equipment are needed. Building safety survey assessments are required by government at municipal levels, with the support of

³ The HCT multi-agency team assessed Loon and Maribojoc municipalities.

shelter humanitarian actors to determine the safety of housing that has been damaged and move towards supporting the people to recover.

All temporary shelter solutions should maintain a central focus on the health, safety, protection from climate, dignity and livelihoods of the people affected.

Options for Shelter Assistance Programming

Emergency

1. Home-based displacement: distributed to affected populations
 - a) Durable Tents: Climatic and expected period of time for use
 - b) Tarpaulines
 - c) Building tools and fixings: rope, wire, nails, tools
 - d) Clean-up/demolition tools: help to salvage materials (alternative to above materials - cash for materials)
 - e) Cash for work schemes: building shelters, clean up/demolition
 - f) Emergency shelter technical support on construction and application techniques for tarpaulines
2. Planned camp sites (if required) established on identified land (integrated approach with basic services, Camp Coordination and Camp Management (CCCM))
3. Support to unplanned camps (community-based evacuation centres) for supply of basic services with a view to a medium-term solution for transitional shelter in relocation sites, if return option is not found
4. Transitional shelter programming integrated with early recovery for displaced and relocated affected families
 - a) Lumber frame T-Shelter with seismic design modifications

Shelter links with Early Recovery

1. Support the development of an Action Plan for the removal of rubble from all affected, collapsed and damaged housing and public building sites.
2. Development of a recovery and reconstruction programme in line with government (including at the municipality level) and the needs of the affected communities.
3. Identify the greatest weakness in local building practices that contributed to the considerable damage. Type and composition of building materials; the presence or lack of simple but efficient building practices; foundations, postures and structures that provide sturdiness to buildings and houses; etc.
4. Develop a 'build back safer and resilient' framework that details seismic-appropriate construction and is in line with government guidelines.
5. Support and build capacity of participatory approaches to deliver community level models that improve the knowledge and methodologies on reconstruction and build back better.
6. Cash grant schemes for reconstruction (conditional).
7. Community-led public infrastructure repair and reconstruction mechanisms and solutions with a view to deliver better and more secure infrastructure and buildings.

Population Vulnerability

- Populations with collapsed homes are at high risk to safety of life
- Existing poor quality concrete buildings
- Displaced and non-displaced people
- Low-income populations who have lost their assets or incurred negative impact on their livelihood ; not constructed in a hazard resilient manner
- Low and middle income groups: masonry housing completely collapsed that were not hazard resilient constructed.
- Affected people have high level of lost assets

Affected households in need of emergency shelter assistance for seven municipalities are 34,567 households (172,835 people).

Additional Shelter Assessments Required

1. Detailed shelter assessment: IFRC-Shelter Cluster-REACH Assessment in line with cluster activation and coordination mechanisms (mapping, confirmation of affected people); joint assessment with CCCM/ Early Recovery (ER).
2. Structural assessment of damaged housing: carried out by qualified engineers to identify safe and non-safe structures, including recommendations for condemn for non-habitable structures.
3. Community-based utilization of materials from re-processed rubbles.

V. Early Recovery (debris clearance and geo-hazard assessment)

The data gathered by the assessment teams have shown multi-faceted dimensions of the ER concerns of the affected communities especially in the hardest hit municipalities of Maribojoc, Loon and Calape.

Priority Needs for Early Recovery

First is the need to support the restoration of basic community infrastructure especially those related to social services (e.g. health stations, hospitals, schools, etc.) and governance (e.g. municipal halls, barangay halls, multi-purpose buildings, etc.). At the moment, most of the basic health services are being administered out in the open near hospital buildings that have been damaged. Local government officials are also exercising their functions in open spaces and tents.

In parallel, there is a need to manage the debris (clear the rubble) from damaged public buildings and infrastructures and governance infrastructures that are either totally or structurally damaged and are not safe for people to use given that the island is sitting on a fault line. In three municipalities of Tubigon, Getafe and Inabanga alone, initial data show a total of 1,313 houses which totally collapsed and most of the remaining houses (local government officials estimate the figure at 90 per cent) have been structurally compromised and could not be recommended for habitation. Added to this, considerations can also be given to the existing capacities of the local government unit dump sites to absorb the type and volume of debris caused by the earthquake. Interventions should include rubble removal and clearing through cash-for-work (CFW) schemes (preferably) associated with the use of both heavy equipment (when needed) and CFW. Demolition of structurally compromised houses and buildings should be done after an assessment of structural engineers and in cases of privately owned houses and building, consultations with the owners.

Third is the need to conduct a thorough and comprehensive geo-hazard assessment / mapping of the entire island. This will already include risk and vulnerability assessments that can inform the revisiting of the Comprehensive Land Use Plans (CLUP) of the local government units and ensure to factor results of the above assessments.

Fourth is the need to establish and strengthen local capacities on disaster management especially at the local government units down to the barangay level. This undertaking should revolve around the new Disaster Risk Reduction and Management law and taking into consideration the particular hazards, risks and vulnerability of each community.

VI. Camp Coordination and Camp Management

Out of the 20 affected municipalities, a total of 59 evacuation centres accommodating 19,025 families / 92,179 persons, the assessment covered 4 municipalities – Carmen, Maribojoc, Loon and Calape - as reported in the latest Disaster Response Operations Monitoring and Information Center (DROMIC) report.

Carmen has a total 4,630 displaced families / 23,150 persons staying in 1 evacuation centre, the Carmen Plaza. In Maribojoc, although only 820 families / 4,100 persons were reported staying in evacuation centres, the Mayor declared during the assessment interview that he now considers the whole town of 4,097 families / 20,491 persons as a big evacuation centre because 70 per cent of the houses were destroyed and considered unlivable by the residents. In Loon, out of the total 8,560 families affected, around 500 families are in evacuation centres, the majority of whom came from the coastal barangay of Napo, where almost all of the houses were damaged and unlivable. In Calape, 1,150 families / 5,750 persons have evacuated to the town's main plaza.



17 October 2013: Community-based evacuation site in front of a totally destroyed church in Loon municipality. (Credit: IOM)

It is important to note that in all evacuation centres mentioned, IDPs are staying in open spaces for fear of falling debris during aftershocks if they stay inside building structures such as classrooms, covered courts, gymnasiums or cultural centres and barangay halls, such that for this particular emergency, it would be more appropriate to label the displacement sites as open “evacuation spaces” rather than evacuation centre, referring to mostly town plazas or open school grounds. Even for those outside the evacuation centres, the term “home-based” in the common Filipino term will no longer be applicable because nobody is staying indoors. These families are staying in makeshift (under plastic sheeting covers, barangay waiting sheds) right outside their houses.

In short, IDPs from all walks of life, are forced to stay out in the open making them vulnerable to the elements. They urgently need emergency temporary shelters such as shelter-grade tents. According to the mayors interviewed, the earthquake has become a great equalizer. It rendered people across the socio-economic spectrum, the rich and the poor, equally vulnerable. But in case of targeted humanitarian response, those with less or no capacity to rely on social support systems or relatives in other areas, should be prioritized.

Priority Needs for Camp Coordination and Camp Management

With the emerging two types of “evacuation spaces”, public open space and private open space, two types of CCCM strategy would be required as well: camp specific and barangay-based CCCM. Trained camp managers, either locals or agency staff would be needed. CCCM trainings including camp/transitional site planning must be conducted immediately to ensure minimum SPHERE standards are followed.

Alongside, inter-cluster and multi-stakeholder simulation workshops/meetings must be conducted as well to ensure that local authorities are provided with appropriate technical support in planning and management of the evacuation spaces.

In support of these camp and barangay CCCM, municipal coordination mechanisms should be established similar to the Typhoon Pablo/Bopha response.

VII. Humanitarian Coordination

Activation of emergency clusters for three months is recommended to support local level coordination with operational actors and to complement the response and thereby urgently address the needs of the affected people.

Table 3. Suggested cluster-specific support and coordination requirements

Technical Areas and Cluster Co-Leads	Requirement	Reasons for activation and support to operational response
1. Emergency Shelter (Disaster situations IFRC (Convener)*)	Yes	<ul style="list-style-type: none"> Support to DSWD and government Coordinate humanitarian operational response for emergency shelter (tarps, tents, tools) Coordinate with inter-cluster agencies and with humanitarian actors Coordinate and support Government shelter operations Coordinate with CCCM on requirements for shelter provision in planned and unplanned camps for emergency and transitional assistance Requirements to engage in medium term recovery and reconstruction planning with ER cluster members Coordinate with actors for optional response for setting of standards, methodology and response options Funding and allocation functions
2. Water, Sanitation and Hygiene (UNICEF)	Yes	<p>Water:</p> <ul style="list-style-type: none"> Critical humanitarian needs for water supply (no bladders in towns, unplanned camps, planned camps) Support to existing water kiosks Support to repair and improve water quality of existing deep well sources - Current capacity too low for population needs Support the treatment of water at household levels in camps, unplanned camps, non-displaced and displaced populations. Support to repair water infrastructure (pipes and supplies) Current distance to travel to water points in most locations is not compliant with SPHERE standards (Currently 3 km) <p>Sanitation:</p> <ul style="list-style-type: none"> Existing sanitation facilities are collapsed or not accessible due to damage Currently no access to emergency sanitation (portable latrines, or community latrines options) Reports of no other options but to defecate openly in bush and open spaces. (potential risk for incoming rain seasons and cyclones) <p>Hygiene:</p> <ul style="list-style-type: none"> Reports of increase in incidences of diarrheal disease and hygiene practices are reduced from lack of water supply (potable and use for other purposes) <p>Cross cutting WASH needs:</p> <ul style="list-style-type: none"> WASH in schools and child friendly spaces
3. Camp Coordination and Camp Management (Disaster situations IOM)	Yes	<ul style="list-style-type: none"> Requirement for coordination of planned and unplanned camps and spontaneous settlements of the affected populations Camp planning and management Coordinate with WASH/Shelter leads and supply in camps and unplanned camps
4. Health (WHO)	Yes	<ul style="list-style-type: none"> Requirement for Emergency Hospitals Condemned collapsed hospitals Reconstruction needs
5. Education (UNICEF, SAVE THE CHILDREN)	Yes	<ul style="list-style-type: none"> Schools have to be inspected to ensure building safety Education Cluster have to closely work with child protection Provide temporary learning spaces
6. Nutrition (UNICEF)	No	Government will cover
Cross-cutting areas:		WASH/Camp Management/Early Recovery and Reconstruction/Logistics support
7. Coordination (OCHA)	Yes	<ul style="list-style-type: none"> Coordination with authorities at all levels (municipal, provincial, regional and national) needs strengthening. Inter-cluster coordination
8. Early Recovery (UNDP)	Yes	<ul style="list-style-type: none"> Support to affected people for identification of recovery and long term reconstruction plans Support to Government on development of a long terms reconstruction plan Support on demolition and rubble removal at local levels and identification of

		sites for rubble deposition
9. Protection (UNHCR, UNFPA, UNICEF)	No	<ul style="list-style-type: none"> No issues reported Needs to do separate assessment to confirm
Common service areas:		<i>Roads, community spaces</i>
10. Logistics (WFP)	Yes	<ul style="list-style-type: none"> Support to the government operational response through provision of logistics assistance to DSWD is needed Logistics coordination of operational response through OCD with the government ministries, Armed Forces of the Philippines, Philippine Navy and Air-force need support Access is difficult and complex due to infrastructural damage to roads of bridges
11. Emergency Telecommunications (WFP, OCHA, UNICEF)	May be	<ul style="list-style-type: none"> Communications required on aftershocks of future disaster tracking and communications Remote location of affected population municipalities Risk of hazards (landslides)