A.24 Philippines – 2013 – Typhoon Haiyan

Case study

Keywords: Household items; Construction materials; Transitional shelter / T-shelter; Training.

Emergency: Typhoon Haiyan (Yolanda), Philippines.

Date: 8th November 2013.

Damage: 1.12 million houses damaged.

People affected: Approximately 14 million affected, 4.1 million displaced.

Project location: Tacloban, Santa Fe and Tanauan Municipalities in Leyte.

Beneficiaries: 16,079 households.

Outputs: 16,079 Shelter kits were distributed (90% complete as of October 2014).

Ocupancy rate: To be evaluated.

Shelter size: Large kit/Roofing kit: 12 x 16ft (3.65m x 4.88m); Small kit: 12 x 12ft (3.65m x 3.65m). Partial kit (70%) was also provided.

Cost per shelter: Large: 18,500 Philippine Pesos (PHP) (US$ 413); small: 16,700 PHP (US$ 373) ; roof kit: 10,300 PHP (US$ 230). Transport and labour costs: 700 PHP (US$ 16) per shelter.

Project description:

The project addressed the need for temporary shelter in the municipalities of Tanauan, Santa Fe and Tacloban through the provision of four types of shelter kit based on the degree of damage to a house. The project prioritised households living in inadequate shelter conditions and with low self-recovery capacity. The organisation supported self-recovery through "Build Back Safer" trainings conducted before shelter kit distributions.

Emergency timeline:

[a] 8 November 2013: Typhoon Haiyan hits. **[b]** Heavy rains affect those in makeshift shelters. **[c]** July: Typhoon Glenda. Some evacuations in Tacloban.

Project timeline [number of months]:

[1-3] Planning phase.
[4] Implementation in Santa Fe.
[5] Household assessments completed. Distributions completed in Santa Fe.
[6] Distributions in Tanuan completed.
[7] Distributions in Tacloban finished.
[8] Project completed and final evaluation.

Strengths

- ✓ The decision to produce coco lumber ensured supply early on. The switch to local lumber suppliers meant distribution goals were surpassed.
- ✓ Partnership agreement with a second organisation meant more components could be provided in the shelter kit.
- ✓ High capacity national staff allowed for rapid response in assessments and distribution.
- ✓ WASH and Shelter was prioritized from the start.
- ✓ The local economy was stimulated through the cash-for-assets initiative to process fallen coconut trees into lumber.

Weaknesses

- × Coordination with local government could have been stronger. The organisation had to revise beneficiary lists when the local government began duplicating the provision of materials.
- × Shared organisational logistical pipelines led to conflicts and breakdowns. The Tacloban port was functioning at 20% capacity in the months following the typhoon and greater coordination would have helped to mitigate problems of delays.
- × The local market for coco lumber recovered quicker than anticipated, but heavy investment in milling and processing meant a slow transition to purchasing from suppliers. Production could have sped up if the switch had been quicker.

Shelter kit vouchers were handed out during the training sessions. Kits were then delivered three days later. Photos: Rebekah Price.

Situation before the disaster

In Region VIII, the region hardest-hit by Haiyan, the poverty rate had been worsening and was 20 percentage points higher in 2012 than the national average of 25%. The lack of secure access to land was closely linked to poverty, with roughly 32% of the region's population living in informal settlements.

A Shelter Cluster and REACH Rapid Assessment reported that over half of the population of the area had been living in dwellings that offered little protection from climate hazards, with 24% living in 'nipa' huts (huts with roofs made from leaves from the nipa tree, sewn together over bamboo sticks) and around 60% in timber or timber and concrete houses.

Situation after the disaster

According to the Shelter Cluster and REACH Rapid Assessment, 13% of all homes were classified as totally destroyed while 29% experienced major damage and 37% partial damage (79% in total).

Despite rapid progress made by the affected population with the support of the government and the humanitarian community, an estimated 1.27 million people in Leyte were still without durable shelter by July 2014. Of the homes that have been repaired, many will not be able to withstand heavy rains or major storms in the coming months.

Shelter strategy

A Damage Loss and Need Assessment (DaLA) led by the National Economic and Development Authority (NEDA) and supported by the Shelter Cluster, was completed in December 2013. The conclusions recommended supporting a self-recovery approach for rapid recovery.

The organisation was actively involved in the Shelter Cluster in Region VIII and regularly met with municipal mayors and 'barangay' (village/community) captains.

The shelter design was informed by the Cluster "Build Back Safer" guidelines.

Project implementation

After an initial distribution of emergency shelter materials the organisation decided to adopt a project methodology of shelter kit distribution coupled with Build Back Safer (BBS) training.

After identifying areas for intervention, the organisation met with barangay captains and committees to discuss the shelter distribution process and present the project's activities. Barangays are the smallest administrative unit in the Philippines, equivalent to a village.

Following sensitisation, blanket household assessments of each community were made using tablet computers and a software application designed by the organisation. The assessments determined which type of kits a household would receive.

The lists of beneficiaries were distributed to the barangay captains three days before the BBS trainings began, with teams of mobilisers on motorcycles dispersing information about training dates. A complaints desk was set up during selection, distribution and trainings. Complaints about exclusion based on vulnerability criteria led to re-assessments being made by the organisation, and inclusion of new beneficiaries if they met the criteria.

The trainings were conducted at a central location within each barangay, with shelter kit vouchers distributed during the trainings. An order form for each beneficiary was created and sent to the warehouse to ensure that trucks were loaded with the correct kits on the day of each distribution.

Shelter kits were distributed three days after a training occurred, to give families time to organise the pick-up of their kits. On collection the beneficiary checked the materials against the order form created and signed an invoice to confirm reception.

Evaluations were conducted two to three months after the distributions, with the results currently being processed in September 2014. Household survey tools were used to determine how effective the response had been in targeting vulnerable households, differences between inland and coastal barangays, and the degree to which BBS trainings had been effective.

Beneficiary selection

The organisation followed the Shelter Cluster guidelines on vulnerable beneficiary selection and delivered 15,000 shelters to the most vulnerable households (determined by gender, age, income, household size, etc.) and households with the most damage to their homes.

A shelter built from the kit. The high-specification plastic sheeting could not be sourced locally and had to be imported. Photo: Rebekah Price.

Coordination

The organisation worked as part of the Shelter Cluster, helping to identify gaps in the humanitarian response, and coordinate resources accordingly. The organisation developed a specific partnership with one other INGO in order to cover a larger area and to take advantage of the other organisation's supply of Corrugated Galvanised Iron (CGI) sheeting.

Some duplication occurred when the Department of Social Welfare and Development managed to source CGI that had been very hard to obtain and did not wish to delay its distributions any longer. Beneficiary lists had to be revised accordingly.

The local government provided crucial support to the project. Mayors offered covered spaces for sawmills to operate and for processed lumber to be stored.

Technical solutions

The shelter kits were designed to be flexible in order to meet beneficiary needs. Four different kits were designed in response to different levels of damage:

- Full Kit (3.65m x 4.88m) – for families of more than three people.
- Small Kit (3.65m x 3.65m) - For families of three people or less.
- 70% Shelter Kit (for damaged houses).
- Roof Kit only.

The kits were reasonably light and most households were able to transport the kits from the central distribution point back to their plots without assistance.

For those who were not able to carry the shelter kit, the community always found a solution to help them get the kits home.

The shelter kit contents were designed by the organisation's technical advisor, with the Cluster concentrating on coordinating BBS messages rather than standardising shelter designs.

A small number of beneficiaries have used the kit to build structures for business use (52 out of 2,900 beneficiaries in Tanauan). Around 7% of beneficiaries in Tanauan sold the kit, using the cash to buy medicine, food, or other items.

Disaster Risk Reduction (DRR)

There were eight key Build Back Safer messages (see poster).

The training consisted of one-day shelter workshops, co-hosted with the Philippines Department of Social Welfare. In the morning, local and foreign engineers provided participants with lessons on house shapes and ratios as well as how to build different parts of the structure, such as the foundation and roofing.

In the afternoon, the engineers demonstrated these concepts with real wood and nails, and teams of trainees were afforded the opportunity to practice what they had learned by producing scale-model houses.

Barangay captains and engineers were given a checklist to determine if Build Back Safer techniques were being incorporated into the construction of the shelters. No separate follow-ups were made by organisation technical staff and a full evaluation of construction quality has yet to be made.

Materials

CGI for roofing was not readily available in the months following the typhoon. According to the Emergency Market Mapping & Analysis (EMMA: see *Shelter Projects 2010,* A.13) of CGI undertaken in January 2014, constraints on CGI supply were caused by damaged ports and the disruption of transport systems, something which meant that even pre-positioning might not have increased supply.

The shelter kit was composed of coco lumber, various nail types, plastic sheet, CGI roofing, a tool kit, and a fixing kit (high tensile wire and a roof sealant).

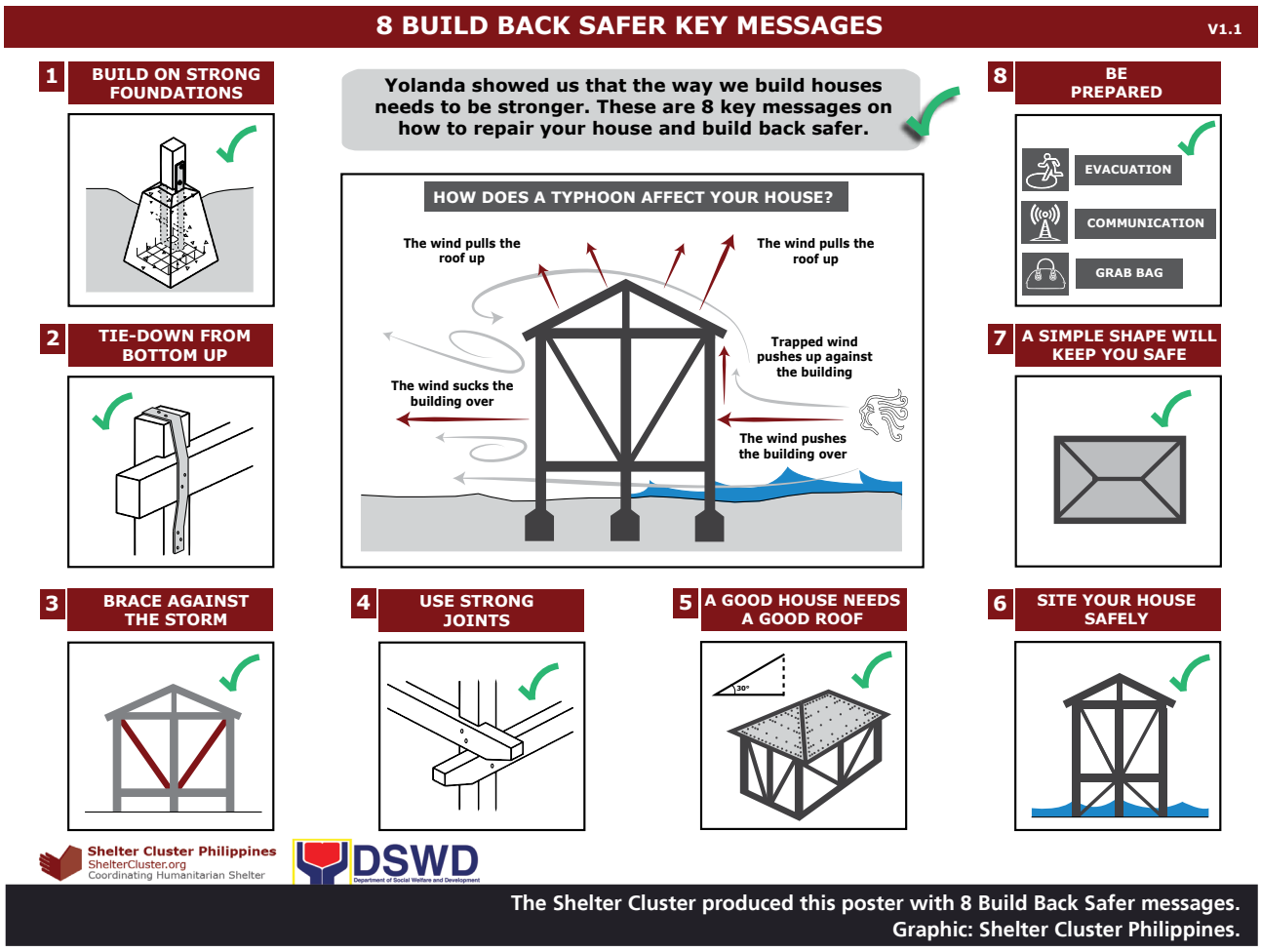
The typhoon resulted in 33 million coconut trees being damaged or destroyed. This provided a huge, salvageable resource for construction materials.

Coco lumber is a familiar construction material, though houses built with coconut lumber are normally seen as temporary. Households will eventually use other materials when building more permanent houses, most likely adapting the coco lumber structure

Initially the organisation processed the lumber itself, as local processors had been unable to recover their activities. As the market recovered, lumber was purchased directly from local sawmills.

During the early phase of organisation-led processing, over 1,000 beneficiaries were enrolled in a "cash-for-assets" initiative (coordinated with the Philippines Coconut Authority), in order to source the fallen coco trees from local farmers and to pay for the processing labour.

The organisation employed a team of chainsaw operators who were instructed by an organisation



The Shelter Cluster produced this poster with 8 Build Back Safer messages. Graphic: Shelter Cluster Philippines.

expert in how to process the lumber efficiently and safely. Trees were not transported, as it was too dangerous and difficult to transport whole logs (live trees were not cut down). Instead, lumber was processed where the tree had fallen, and additional labourers carried the finished planks to the trucks for transportation.

Lumber was checked by local arborists and civil engineers employed by the project, to make sure it met the appropriate standards and wasn't affected by rot or parasites. Due to time pressures, deflection testing was not part of the quality control.

The organisation included advice developed by the Cluster's Coco Lumber Working Group and from the book "Coconut Palm Stem Processing Technical Handbook" by GTZ (now GIZ).

The rip-stop plastic sheeting provided by the organisation (tightly interwoven nylon threads to prevent punctures and rips with a five-year lifetime) could not be sourced locally or regionally and was imported from the USA.

All other components were procured from national markets.

Kit contents

Item	Unit
CGI	12 Sheets
Ridge Roll	3 pieces
Elastoseal	4 tubes
Bucket	1 unit
Rope	30 meters
Tie Wire	1kg
Sack	1 unit
Hammer	1 unit
Crow bar	1 unit
Pliers	1 unit
Crosscut saw	1 unit
3m tape measure	1 unit
Shovel	1 unit