PHILIPPINES

Urban Transitional Shelters Inspired by Traditional Building

HUMANITARIAN RESPONSE CASE STUDY 22

CRS
CATHOLIC RELIEF SERVICES

PROJECT DESCRIPTION

Country: The Philippines

Project location: Mindanao

Disaster: Tropical Storm Washi (Sendong)

Disaster date: December 16th 2011

Number of houses damaged / destroyed: 39,000

Number of people displaced: 30 per cent of the 600,000 population of Cagayan de Oro City

Project outputs: 30 transitional settlement sites with services - 1,823 transitional shelters

Shelter size: 18m² for family of five

Material cost per shelter (in USD): $410 for relocation sites, $ 550 for on-site construction

Project budget (USD): $1.9 million from USAID/ Office of Foreign Disaster Assistance (OFDA) Latter Day Saints Humanitarian Services and a number of private donors.

In the wake of Tropical storm Washi (locally referred to as "Sendong"), CRS worked with Caritas and its local partners to support 1,823 families with transitional shelters. In the urban context, many complex issues arose, including land and property rights, zoning issues, high-risk settlements and shelter options to those without land rights. This program demonstrated the ways in which transitional shelters can meet the needs of displaced and non-displaced families, while also paving the way for permanent solutions.

Background

The Philippines is a middle-income country, with a well-educated population and engaged local and national authorities. Regularly facing natural disasters and cyclical storms, the Philippines has diverse experience coordinating with the cluster system, which helped to facilitate an efficient response.

Before the cyclone

Until 2011, no major floods had taken place in the area since the 1950s despite the prevalence of river banks and delta areas, especially in Cagayan de Oro. Macasandig, one of the most affected areas, has a mix of commercial and residential buildings and a diverse population, with impoverished families living in shanty areas and middle-class families in apartment buildings.

Despite a well-developed local administration, the complexities of addressing housing, land and property issues in the urban transitional response presented real challenges, especially for the most vulnerable.

After the cyclone

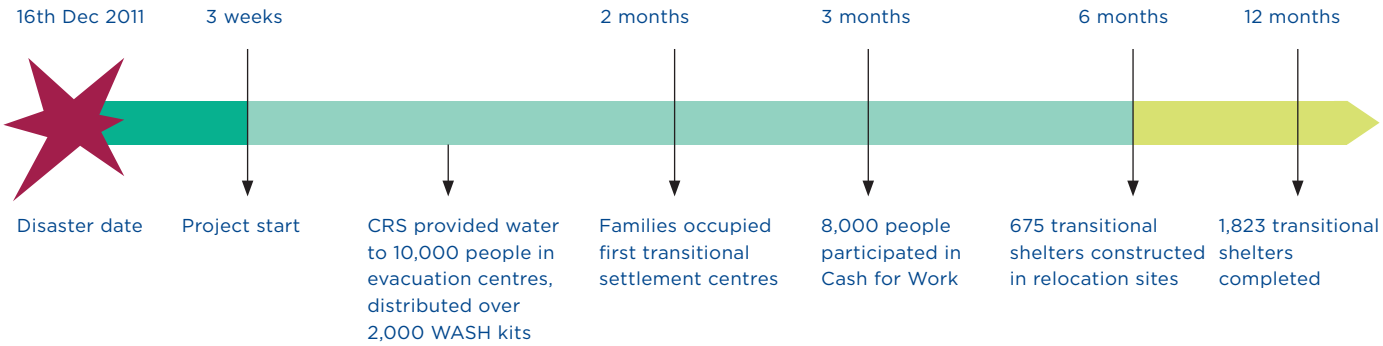
The flash floods caused by Tropical Storm Washi destroyed a large portion of the city center of Cagayan de Oro. Macasandig and Isla de Oro were the worst affected urban barangays (or neighborhood).

Poor families residing in makeshift shelters by the river banks suffered the most. Many middle-class families who rented or owned apartments were also affected.

As the emergency response unfolded, the government launched a permanent housing program. CRS proposed a two-tier transitional shelter program to plug the gap between emergency shelter and permanent housing.

92% **92% of occupancy rate on handover**

Project Timeline



Emergency shelters such as schools and gymnasiums quickly became overcrowded in the aftermath of the storm.
Photo: Seki Hirano / CRS

Selection of participants

Relocation

Only two organizations responded with transitional shelter projects in the Philippines. As a result, considerable pressure came from government officials, church leaders, camp managers and other NGOs to prioritize certain evacuation centers or specific beneficiaries.

The government prioritized closing evacuation centers and tent cities before assisting internally displaced families. This is because evacuation centers were costly, and water and sanitation services were over-stretched. Meanwhile, organizations working on education issues advocated for emptying schools to address protection concerns associated with having displaced people living on school grounds.

Families who wanted to return to their places of origin were given lowest priority on the permanent housing waiting list.

CRS faced the challenges of determining whether informal settlers had really lost their homes in the storm. There were some cases of 'opportunists' trying to use the system to receive a shelter although their home remained intact.

CRS aimed to retain community social structures as much as possible when relocating beneficiaries in the most affected areas. This was not always possible due to variations in site locations, timing of response, and the number of shelters available on each site.

On site Construction

Families whose homes had been destroyed, and who lived in low to medium risk zones, were offered flood-resistant transitional shelters located in their original neighborhood. CRS worked with community groups to organize water and sanitation facilities and construct elevated septic tanks.

To identify families for on-site rebuilding, CRS conducted a community mapping process, which involved visiting former housing locations, verifying the damage to houses, verifying the lack of shelter, interviewing neighbors and verifying lists of names with ward and community leaders. This ward-specific approach helped to retain the community structure.

Negotiating Housing, Land and Property issues

Although Housing, Land and Property issues for transitional settlements were less complex in comparison to permanent housing, land had to be acquired quickly, and this is by no means a straightforward process in an urban setting where land availability is sparse. Forward thinking, persistent negotiations and a robust strategy are required so that these issues do not become obstacles in delivering a successful housing program.

Implementation

To address the range of needs CRS offered two transitional shelter options: construction on either the original site or in one of 15 relocation sites.

Transitional shelter design

Transitional shelters erected on relocation sites needed to be moveable and have minimal impact on the land.

CRS worked with local architects and engineers to design an adaptation of the traditional Amakan (bamboo or palm leaf weave) house.

Amakan houses have been built for centuries and are well adapted to the tropical climate of the Philippines. They can also easily be repaired or rebuilt. The design used locally available amakan (palm) for the walls, and coco lumber, which is durable and inexpensive, for the structural frames.

The design was based on the following criteria:

- **Culturally appropriate**: Allows families more privacy, uses local materials, protection from rain and heat.
- **Moveable:** A shelter can be carried from one place to another by 20 persons or can be easily dismantled and re-erected in another location.
- **Speed of construction:** The shelter can be constructed in approximately two to three days.
- **Economical:** Total shelter cost, including all labor and materials, is approximately 17,000 PHP. ($410).
- **Flexible:** Versions of the model can be used by relocated families and those returning to original sites.
- **Upgradeable:** Shelter can be easily upgraded into permanent homes.

Architect and engineer outside their t-shelter in a relocation site.
Photo: CRS

DRR components

CRS and partners worked with communities to provide drainage, sewage channels and other essential infrastructure. This was to ensure the protection of both the people living on the land as well as the land itself.

CRS also supported the construction of on-site transitional shelters using a reinforced concrete foundation, enabling the shelter to be securely anchored, preventing it from being upturned by flood or strong winds.

The design featured a raised floor to provide ventilation as well as protection from floods and vermin.

Materials list

Materials	Quantity
Portland cement(40kg)	5 bags
Mixed gravel	1 bags
10mmx6.0m re-bar	12m
8mmx6.0m re-bar	3m
Coco Lumber 4"x4"x12'	64 ft.
Coco Lumber 2"x3"x12'	128 ft.
Coco Lumber 2"x4"x8'	128 ft.
Coco Lumber 2"x2"x8'	75 ft.
Coco Lumber 2"x4"x8'	32 ft.
2" umbrella nails	1kg
Bamboo slats	3 bundle
Nails	9kg
Plywood ¾"x4"x8"	6 sheets
Plywood 3/16"x4'x8'	6 sheets
Amakan 4'x8'	13 sheets
Sealant	1 pint

Logistics

Drying timber and limited road access were the biggest logistical issues, affecting delivery time and costs. One truck could carry enough timber for 28 transitional shelters, meaning that over 75 truckloads of timber were required for the whole project.

Strengths

- ✓ The transitional shelter design cost US$ 410, including labor. This was cheaper than emergency tents (US$ 800-1,000, including airfreight).
- ✓ The transitional shelter design and was inspired by the local vernacular architecture. Shelters could be maintained, and materials could be re-used.
- ✓ CRS integrated WASH and shelter from the beginning.
- ✓ CRS put a great deal of effort into persuading land owners to release their land.
- ✓ CRS successfully negotiated two months of free installation of water and electricity at 7 relocation sites.

Challenges

- Questions arose regarding the transitional shelter design's level of disaster resilience.
- CRS and partners would have benefitted from hiring a liaison officer to better understand the political system and accelerate the project.
- The project was unable to support some of the most vulnerable affected populations, notably people in 'high-risk zones' (due to official objections) and people with ambiguous land tenure.
- An alternative shelter design for people with disabilities should have been developed.
- An ill-defined 'no-build zone' policy created challenges. Several landowners remained in 'limbo' because their homes were within no-build zones, and new land was not allocated.
- Different stakeholders, such as the church and local government, had different approaches to participant selection and prioritization.
- Some affected families refused to move into a transitional settlement because they thought it would have an impact on their right to promised permanent housing.
- Informal settlers were often without official land or house tenure papers. This meant it was difficult to confirm whether they had lost their home during Washi or if they had lived elsewhere.
- It was challenging to identify those most in need given that, as time passed, many people had begun rebuilding, making it difficult to verify the original level of damage.

Where can I find out more?

Humanitarian Response Case Study 13: Housing, Land and Property Rights in Urban Transitional Settlements

Global Shelter Cluster, Shelter Projects 2011-12: A26

Transitional shelters could be placed on available plots of land.
Photo: Seki Hirano / CRS

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