

A.6 Haiti – 2012 – Hurricane Sandy

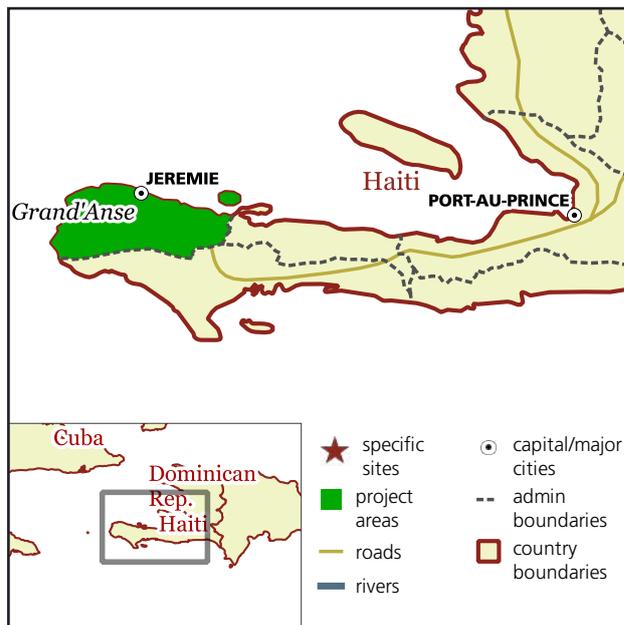
Case study

Keywords: Housing repair and retrofitting; Cash / vouchers; Training; Structural assessment.

- Emergency:** Hurricane Sandy, Haiti.
Date: 23-26 October 2012.
Damage: 6,666 houses destroyed, 24,348 damaged, and 9,352 flooded.
People affected: 195,300 affected, 20,000 evacuated, 2,298 homeless.
Project location: Grand'Anse Department.
Beneficiaries: 1,700 households (8,500 people).
Outputs: 100 new houses, 414 houses repaired. Over 1,000 households received cash for NFIs and DRR training. Around 84% were completed within the project timeframe.
Occupancy rate: 89% of completed new houses and 100% of completed repaired houses.
Shelter size: Varied: model houses = 20-30m², beneficiary houses = 16-40m².
Cost: US\$ 2,050 cash grant for new construction, or US\$ 750 for repair. Beneficiaries also made their own contributions.

Project description:

Following an initial emergency response, the project distributed conditional cash grants and technical supervision to support beneficiaries in the construction or repair of houses. Builders were trained in Improved Vernacular Construction (IVC) techniques, using local materials.



Emergency timeline:

[a] October 2012: Hurricane Sandy hits.

Project timeline (number of months):

- [1-2]** November 2012: First phase planning.
- [2-4]** First implementation phase (emergency distribution).
- [4-18]** Second phase planning and implementation.
- [9]** Vernacular construction training begins.
- [10]** First model house completed.
- [11]** First cash instalment.
- [14]** Second cash instalment.
- [15]** First repaired house completed.
- [16]** First new house completed.
- [19]** May 2014: Project ends, some repairs not complete.



Strengths

- ✓ Existing local knowledge on safer construction was improved, with the new techniques replicated by non-beneficiaries.
- ✓ Multiple model houses were adapted to the different environmental and cultural contexts in the area, reflecting the materials locally available.
- ✓ Beneficiaries were empowered to take ownership of the project by managing the construction process themselves.
- ✓ The project integrated DRR, Shelter and WASH programming.

Weaknesses

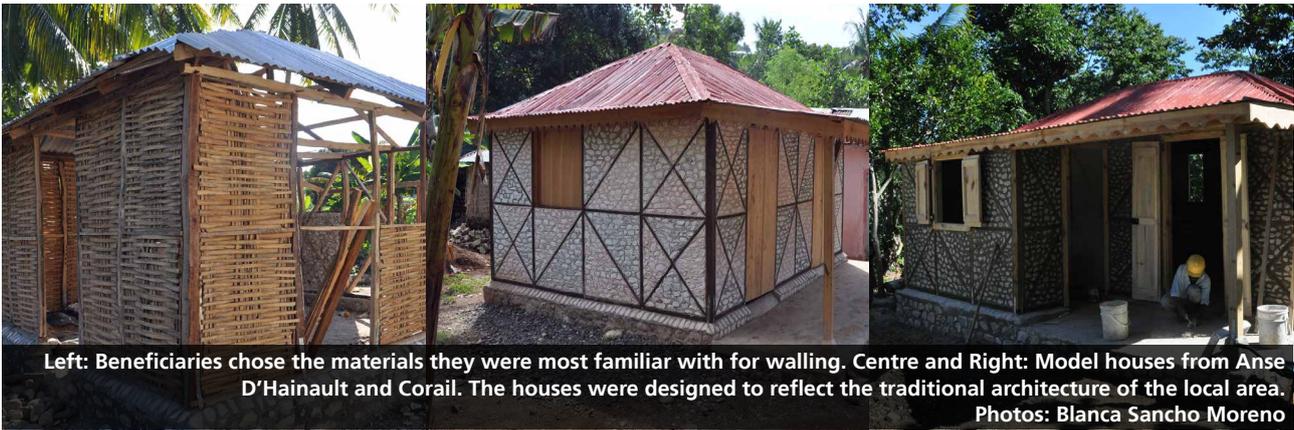
- ✗ Limited availability of qualified technical project staff made for a lengthy recruitment process.
- ✗ The integration between Shelter and WASH teams could have been improved, with joint-planning and

joint training to enable both teams to better supervise the beneficiaries' work.

- ✗ The close work with the community required investment of staff numbers beyond the means of the project budget.
- ✗ A complete market assessment was not carried out at the beginning of the project and subsequent shortages of materials caused some delays.
- ✗ Although transport costs were factored in to the grants, some beneficiaries preferred to buy lower quality, locally available materials which did not need to be transported.

Observations

- Some of the beneficiaries in the repair category managed to build a new house, salvaging materials from the old one.



Left: Beneficiaries chose the materials they were most familiar with for walling. Centre and Right: Model houses from Anse D'Hainault and Corail. The houses were designed to reflect the traditional architecture of the local area. Photos: Blanca Sancho Moreno

Situation before the disaster

People were living in rural areas and the majority of houses in the affected areas were poorly constructed with low-quality materials, reflecting both the level of poverty and lack of technical knowledge.

The location of many of these houses in areas prone to strong winds and flooding magnified the risks posed by the sub-standard housing construction.

Situation after the disaster

In the aftermath of the disaster some households were hosted by family or friends, some were evacuated to emergency shelters and some stayed in their damaged houses. Many families had lost their livelihoods.

Shelter strategy

Following the 2010 earthquake in Haiti, there was plenty of good practice to draw from in project planning. However, as Grand'Anse Department had not really been affected by the earthquake, most agencies were not operative in the area and few intervened after Sandy hit. The disaster attracted a limited response from donors.

No coordination strategy was officially activated and the Shelter and CCM Cluster in Haiti did not dedicate a working group to the Sandy response.

Guidelines for response did exist in the form of a best-practice manual published by the Unité de Construction de Logements et de Bâtiments Publics in 2010, but these rarely

referred to local building technologies or vernacular materials.

Project implementation

Emergency phase

Any family whose house had been completely destroyed or severely damaged was given an unconditional cash grant of US\$ 100, paid through a money transfer company. This intervention was completed within four months of the disaster and involved 761 families.

The households mainly used the money to buy food and non-food items or to replace household livelihood assets as well as paying school fees for their children or buying materials to rebuild their houses.

Recovery phase

After the initial beneficiary registration, verification visits were conducted to the families to assess the damage to the house.

Three categories of assistance were provided:

- Category 1: House destroyed. Conditional cash grant of US\$2,050 to rebuild the house and latrine (100 households).
- Category 2: House damaged, vulnerable household. Conditional cash grant of US\$750 to rebuild the house and latrine (414 households).
- Category 3: House damaged, household does not meet vulnerability criteria. Unconditional cash grant of US\$ 100 (1,186 households).

The third category was added to the project plan based on the findings of the assessment.

Some of the beneficiaries claimed that the grant was too small, but most completed their houses with the grants.

A training programme for masons and carpenters was established, whilst beneficiaries received key sensitisation messages.

Construction

Beneficiaries were given the responsibility for managing the construction process, with technical support from the organisation through the lifetime of the project. This method was difficult for some beneficiaries to accept initially, since a great deal of humanitarian assistance in Haiti has been implemented directly by aid organisations.

Motivating beneficiaries was one of the biggest challenges, as it required a great deal of staff input and energy, and breaking a long-term culture of dependency was not always possible.

After ten months, the training of carpenters and masons was complete, and beneficiaries were encouraged, but not obliged, to hire a builder from the approved list. The design of the house was up to the family, but they had to observe the implementation of improved construction techniques.

Cash was paid in two instalments. The first instalment (approximately 40%) was paid upon signing the agreement. The second instalment was paid upon verification of the first phase of works by the project's technical team. For Category 1 this meant completing the foundation

and structure, while Category 2 repair phases were defined on a case-by-case basis.

Cash was transferred through a money transfer company. The beneficiary list with mobile phone contact numbers was given to the company who sent an SMS with a code to the beneficiary which was then used to collect the money from an authorised distributor. In areas where there was no network, or a beneficiary did not have access to a phone, community mobilisers gave the code directly to the beneficiary.

Beneficiary selection

Two assessments were made. The emergency assessment identified 761 households with damaged or destroyed houses who needed immediate support.

A second, more detailed assessment resulted in 1,700 households being allocated to the three different categories of assistance. Households were selected against vulnerability criteria with an emphasis on female-headed households, physically handicapped persons, and elderly persons living alone.

In order to participate in the project, beneficiaries had to provide the organisation with proof of property and land ownership, and sign an agreement with the organisation detailing the conditions of how the grant was to be used.

A small number of beneficiaries were unable to produce ID cards, but this was mostly resolved on a case-by-case basis with the local authorities and other family members. In cases where no solution could be found and the agreement could not be signed, the Category 3 US\$ 100 was awarded instead.

Some beneficiaries were unable to find a plot of land in a safe area and others did not wish to move. The organisation conducted a significant amount of advocacy to explain the dangers of staying in high-risk areas, but ultimately the beneficiary had the final decision.

Coordination

The project benefitted from a Memorandum of Understanding between the implementing



Construction of latrines (on the left) was integrated into the project. Photo: Blanca Sancho Moreno

organisation, and a technical partner organisation which provided both technical expertise and training.

Technical solutions

Improved construction techniques were based on existing local traditional techniques with new disaster-resistant features.

Traditional local houses were built on wooden posts dug directly into the ground, which quickly rotted, weakening the structure. The new design introduced a proper foundation of cement and stones and added cross-bracing to the walls.

Diverse ways to strengthen the joints between the different structural elements were also introduced, or adapted from current local best practices.

To resist high winds, houses were built with four roof slopes, using corrugated iron sheets or straw.

Disaster Risk Reduction (DRR)

DRR was integrated into the project through the plot selection process, and through training and sensitisation on safe construction.

The technical partner provided the first Improved Vernacular

Construction (IVC) training, based on a detailed assessment of local construction techniques and included topics such as the selection of safe sites, basic architectural and construction principles, and the properties of local materials.

Ten carpenters and masons were trained as facilitators, who in turn trained 130 builders (five of them women). The training involved the building of twelve different model houses, all of which were adapted to the specific contexts of the area they were built in.

In order to reach the wider population and other NGOs, a one-day practical workshop in IVC techniques was facilitated by the technical partner.

The DRR sensitisation received by Category 1 and 2 families was more detailed than for Category 3 households, as the first two groups received a greater number of direct visits from community mobilisers.

Some Category 2 repairs were of poor quality, mostly due to a lack of motivation on the part of the beneficiaries.

Wider project impacts

Some families that did not receive direct assistance have begun to replicate the construction techniques used in the project. Some of the carpenters and masons trained by the project, advocate for their customers to implement the IVC techniques.

"I did not understand why I had to buy the materials and hire the masons or why the organization was not building the house for me. But when I finished the house by myself, I knew that I was able to do things that I never thought I could."
Beneficiary