Posted in Country / Region / City: Haiti, Western Department, Leogane
Job Title: Coordinator of Construction Projects in Haiti
Partners: Haitian Red Cross, Community Committees and members
Reporting period: May 2010 - 25 May 2013

Date: 25th May 2013

PROJECT NAME	**SHELTER PROJECTS:** 1 - THE CONSTRUCTION OF 2000 PROGRESSIVE SHELTERS 2 - THE UPGRADING OF 1000 T-SHELTERS	***PROJECT SECTOR***	**SHELTER**	***PROJECT REGION***	**SHELTER:** LEOGANE AND GRESSIER
COMMUNITIES	**T-SHELTERS:** ROSSEAU, SOUS DE BABA, KOLO-KOLO **P-SHELTERS :** ALL 10 COMMUNITIES OF THE INTERVENTION ZONE	***BENEFICIARIES***	**SHELTER:** 3003 FAMILIES (2000 P-SHELTER, 1003 T-SHELTER UPGRADES)	***PARTNERS***	HAITIAN RED CROSS, COMMUNITY COMMITTEES AND MEMBERS
START DATE	**SHELTER:** MAY 2010 (P-SHELTER MAY 2010, T-SHELTER UPGRADE MARCH 2012)	***END DATE (INCLUDING JOINT EVALUATION)***	**SHELTER:** MAY 2013 (P-SHELTER FEBRUARY 2013, T-SHELTER UPGRADES MAY 2013)	***DURATION***	**SHELTER**: 37 MONTHS (P-SHELTER 34 MONTHS, T-SHELTER UPGRADES 15 MONTHS)
BUDGET €	EUR 4,386,273	***COST CENTRE***	210.133	***DONORS***	GERMAN RED CROSS, AUSTRIAN RED CROSS, NACHBAR IN NOT, BELGIAN RED CROSS (BRC P-SHELTER ONLY), IFRC (T-SHELTER UPGRADES ONLY)
RESPONSIBLE IN HQ	MAJA HILD	***LINE MANAGER IN COUNTRY***	FEDERICO CARBONI	***RESPONSIBLE IN COUNTRY***	ROBERT DODDS & ALICIA GIMENO
MID TERM REPORT	NO	***FINAL REPORT***	YES	***AUTHOR (S)***	ROBERT DODDS & ALICIA GIMENO

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Final Report for the P-Shelter and T-Shelter Upgrade Projects

1: Introduction

1.1: Context of the project

On January 12, 2010 at 4:52 pm an earthquake of 7.0 on the Richter scale struck the country, devastating parts of the capital Port au Prince and its surrounding areas. The epicentre of the earthquake was close to the city of Leogane, where up to 80 - 90 % of the buildings were destroyed.

Please refer to the Program Coordinator's report for a more in depth description of the context.

1.2: Shelter needs after the earthquake

The relief phase for Haiti was extended to 12 months due to the onset of the rainy season in April 2010, which turned into the hurricane season between June and October. Through the onset of rains, the population living in camps became particularly vulnerable and there was an immediate need to strengthen shelter and sanitation facilities in camps and spontaneous settlements.

At this stage, the RC/RC Movement – including the German and Austrian Red Cross - was working along the 4 pillars of emergency intervention to ensure coordinated humanitarian action responding to a multitude of needs:

- Response to the immediate needs caused by the earthquake and providing necessary support to the affected population (relief)
- Preparation and response for the upcoming rainy season/hurricane season
- Implementation of the recovery phase to re-establish safe living conditions and livelihoods
- Strengthening the capacity of HRCS to facilitate implementation the operation and to ensure sustainability and compatibility of the provided services.

Assessments carried out by the German and Austrian Red Cross (GRC/AutRC), the International Federation (IFRC), Partner National Societies and the international community represented through UNOCHA, prioritised shelter and sanitation as immediate needs for the displaced communities. Whereas the communities had been provided with emergency shelter in the form of tents, tarpaulins and tool kits, the rainy season would require more durable shelters such as transitional or core shelters.

In response, the German and Austrian Red Cross Joint Recovery Program in Haiti implemented various program components in the Western Department in the coastal region between the districts of Carrefour and Grand Goave in support of the HNRCS. Shelter activities were complemented by those of the WaSH, Livelihoods and DRR departments.

To ensure harmonisation and adequate coordination with all partners in the area of rehabilitation as well as compliance with common minimum standards, the GRC/AutRC Joint Recovery Program has been working within the cluster system. This system proved to be a useful and relevant platform in terms of information sharing and coordination, but it also resulted in technical modifications of the shelter component and consequent delays in the construction process. The originally envisaged 3.000 temporary shelters were adapted to 2.000 progressive shelters, as the technical modification

of the progressive shelter model ensures better quality and higher resistance to natural hazards, as well as a more effective workflow resulting in a shorter construction time.

In addition to these 2000 progressive shelters, GRC/AutRC also committed to the upgrading of the 1003 T-shelters which were originally constructed in 2010 with funding from ECHO.

2: Overview of the Progressive Shelter Project (P-Shelter, formerly called Transitional or Core Shelter)

2.1: Overall objective:

''To contribute to better living conditions for the most vulnerable earthquake affected population in 10 selected villages in the Leogane and Gressier areas''.

2.2: Specific Objective:

''Safe temporary housing is provided to the most vulnerable earthquake affected population in the Leogane and Gressier area''.

The provision of transitional/progressive shelter (T-shelters and P-shelters) bridges the gap between the emergency shelters provided in the first relief phase and the final reconstruction of permanent houses, providing a mid-term solution lasting from several months to at least three years. Core shelter usually refers to a type of shelter, which has a minimum structure and can be amended or expanded at a later stage to a more permanent structure.

Timeframe for this objective: 37 months from May 2010 (P-shelter May 2010-May 2013, including joint evaluation with T-shelter upgrades).

Expected Results	Activities
1.1: 2000 P-shelters are constructed	1.1.1: Establish relationship with existing village committees and/or encourage the formation of new committees to assist in the implementation of the project.
	1.1.2: Conduct needs assessments in villages in the focus region
	1.1.3: Register beneficiaries according to selection criteria and verify lists through HRCS volunteers and local authorities
	1.1.4: Formalise agreement between beneficiaries and GRC/AutRC/HRCS for construction and maintenance of the shelter
	1.1.5: Procure shelter material, transport and store it in the focus region
	1.1.6: Clear land, if possible through food/cash for work
	1.1.7: Distribute construction material to registered beneficiaries
	1.1.8: Issue contracts to local construction teams for each stage of the construction.

	1.1.9: Supervise the construction of the shelters to ensure intended design quality is achieved.
	1.1.10: Complete the shelter and hand-over to the beneficiary.
1.2: Earthquake affected families are supported to construct their shelters.	1.2.1: Train community members (project assistants) as technical support teams
	1.2.2: Train skilled community members as constructors (masons and carpenters)
	1.2.3: Construct model shelters

2.3: Coordination and partnerships

The Joint Recovery Program has been implemented as much as was possible together with the Haitian National Red Cross Society (HNRCS) and volunteers from Club 25 (the volunteer base for the HNRCS in Leogane). Close cooperation between the German and Austrian Red Cross was the logical consequence following an assessment carried out by the Austrian RC Headquarters in early March 2010, which recommended a partnership based on German Red Cross's in-country experience and a shared history of fruitful cooperation between the two Societies in previous operations.

For the most part of the implementation period, regular coordination meetings between PNS and HNRCS under the lead of IFRC took place in Leogane. In addition, GRC/AutRC Delegates regularly participated in the Technical Working Group meetings for shelter, which were facilitated by IFRC.

GRC/AutRC Delegates also participated in cluster coordination meetings of the humanitarian community in Haiti, which took place on a regular basis in Leogane until mid-2012 by which time most movement partners had completed implementation of their shelter projects. After this point, meetings were held at Port-au Prince level and focussed on the *Integrated Neighbourhood Approach,* an approach which addressed the needs of the population remaining in the camps as well as those living in the host communities.

Initially, IFRC was coordinating the Shelter Cluster in Haiti, and components of the RC Movement coordinated with the respective clusters or sub-clusters. Through this, the designs of the GRC/AutRC Transitional and Progressive shelters correspond directly to the recommendations of the Shelter Cluster and respective agreements of territorial allocation for project implementation. From the end of 2010 to July 2011 the Shelter Cluster was led by UN-HABITAT. Following a transitional period in which the UN Office for the Coordination of Humanitarian Affairs (OCHA) led the Cluster, from September 2011 on the International Organization of Migration (IOM) became Cluster lead. In December 2011 it was announced that the newly established, governmental Unité de Coordination de la Reconstruction (UCR) would be hosting/co-leading the Shelter Cluster. This was seen as a positive step since it was the first time that a governmental agency had become directly involved in leading the Shelter cluster coordination and activities. However, it should be noted that UCR does not have a presence at Leogane level.

2.4: Human resources

In total, 75 national staff and 5 international staff (at different times) worked on the P-shelter project. Please note that most of the engineers and construction assistants of the P-shelter project continued their engagement on the T-shelter upgrade project.

➔ *PLEASE REFER TO ANNEX ''2.4 STAFF OVERVIEW'' FOR FURTHER DETAILS.*

In addition to this were 31 carpenter teams (186 people) and 30 mason teams (120 people) which consisted of trained community members. They were all paid on a contractual basis, with a fixed sum for each stage of construction: foundations; shelter; concrete floor and plinth plastering.

Additionally we worked with a base of approximately 80 community members who we trained to support the technical field personnel on demand in monitoring the distribution of the material and the progress of construction work. Their assignment was harmonized with the guidelines of the Haitian Red Cross concerning payment (per diem) and working hours.

2.5: Chronology of the project

The project faced from the very beginning the challenge to find suitable qualified delegates. Initial activities were implemented by members of the GRC Office in Port au Prince with active support of the Shelter Delegate working for the previous GRC ECHO-funded T-shelter program in Leogane. The first Delegate for the Joint Recovery Program to arrive in early May 2010 was the WatSan Delegate who was able and willing to assist to support the shelter component by organizing assessments and beneficiary selection in the different areas allocated in cooperation with the Shelter Cluster, in addition to initiating his own project-specific activities. At the end of June, the Engineer in charge of the reconstruction of communal and social infrastructure arrived and further contributed towards the progress of the shelter activities. With the arrival of the Program Coordinator at the end of July 2010, activities could be further enhanced and supported by the setting up of the office and accommodation infrastructure. In early June 2010, shortly after declaring the end of the emergency phase, the Haitian Government grounded all vehicles of the Red Cross Movement that did not finalise the nationalization / registration process, and thus did not have permanent plates. This process, led by the IFRC and facilitated by the Haitian RC, became significantly tedious and long, and had a significant effect at the operational level (this was a shared challenge by all humanitarian organizations in the country). As a result, more than 126 cars and trucks of the Red Cross Movement could not be utilised. This had negative implications on mobility in the field, especially during assessments. Further delays were caused by the unavailability of HNRCS Volunteers in Leogane for support in the beneficiary selection process, since the National Society did not maintain a local branch office in the area. This necessitated the selection and training of volunteers from within the different local communities. Only with the arrival of the first out of two Shelter Delegates at the beginning of September 2010 the planned activities gained further momentum and could be further consolidated.

The beneficiary selection process commenced in early June and was in its final stage by the end of November. The designs for the potential shelters were drafted, developed and finalised in October, based on a design jointly elaborated by the Shelter Delegate and the Shelter Cluster Technical Working Group. The respective budget was submitted and approved. Community Committees were formed in Gressier and Leogane for initial mobilisation of human resources for construction, and in

support of the most vulnerable members who required assistance for clearing their construction sites and throughout the construction process.

During the construction of a sample shelter in November, the shelter team identified several bottlenecks with the design and the workflow. Based on the findings a revision of the design was initiated for the 2000 P-Shelters in Leogane and Gressier. The main improvements based on the experience from the construction of the sample shelter were:

- Change of the roof shape from mono pitch to double pitched (saddle) roof.
- Change of the connection between the timber and the foundation.
- Change of the timber type for the structure from rough sawn untreated, to a dressed high pressure treated alternative.
- Change from low concrete block wall to a masonry plinth approximately 30 cm in height (above ground level).

During 2011 the process of beneficiary identification (only 100 left) was on-going and was eventually finalised at the end of 2011. This process included the selection of beneficiaries based on the criteria of vulnerability, the approval by the respective Community Committee of the beneficiary lists, the verification of land ownership/rental agreements and the registration of the data into the GRC/AutRC database. Continued cross-checking of the status of beneficiaries had to be carried out, since a number of them were evicted by their landlords and left without land. There was also a lot of fluctuation with various already-identified beneficiaries leaving their communities for economic reasons, therefore giving the opportunity to other families whose vulnerability in turn had to be verified, before it was known whether or not they were eligible to receive shelter assistance. Also, at the beginning of the year, duplications in the beneficiary lists of GRC/AutRC and the Swiss RC were discovered. This was due to the fact that the later had not gone through the Cluster coordination process. This problem was resolved in consultation with Swiss RC, but delayed the registration process.

To prepare for the shelter construction process the Shelter team organized several seminars and capacity building workshops for beneficiaries, community volunteers and the teams of local craftsmen (masons and carpenters). This included topics such as site selection and the proper clearing of the site, as well as training on mixing of concrete and other technical issues. Through the construction of 10 sample shelters the mason and carpenter teams were trained and the design refined. In addition to the 2000 beneficiaries, a total of 80 community volunteers, 31 carpenter and 30 mason teams selected from the communities were involved in the construction process in the field, i.e. almost 400 people when the project was under full implementation.

The shelter structure material (plywood, timber, zinc sheets, galvanised steel anchors) had to be procured through an international tender process lead by IFRC. This delayed the originally anticipated implementation timeline as the material was not delivered until late June 2011. Therefore, during the first two quarters the Shelter team focused on constructing the concrete platforms for which the material (cement, sand, gravel, rocks, galvanised steel anchors) could be procured locally. This was done with a major contribution by the beneficiaries who were responsible for clearing the site and providing the rubble and sand necessary for the mason teams to construct the foundations. By the end of December 2011, a total of 1920 foundations had been built.

To prepare for the arrival of the shelter material and the pre-fabrication of the shelter kits – doors, windows, roofing structure – a shelter carpenter workshop was established at the GRC/AutRC warehouse, called Sigmat. Many hurdles had to be overcome along the way of setting up this 'Sigmat operation'. The preparation of the warehouse compound with walls, paving of the ground, setting up of a rub hall and workshop building took longer than expected. There were considerable delays in getting the required workshop materials such as electric saws and a forklift imported which eventually arrived after the first shipment had already been received. In addition the hiring of carpenters, carpenter assistants and loaders proved difficult. Despite the size of this operation and the amount of material that was managed there (worth millions of USD$), from the beginning a proper management, supervision and control system had been lacking. This improved when at the end of October a second Logistics Delegate arrived to oversee the operation of the workshop and warehouse, however the gaps in the beginning of the operation resulted in considerable losses of material due to theft/corruption, in delays in getting the shelter kits to the field and also in security problems.

Considering these delays, the construction of shelters commenced only in July 2011, several months after the anticipated start of construction. During the first months, the pace of construction was slow due to the above-mentioned logistical constraints in distributing the material to the field. In addition, during August and September 2011 a number of security incidents required the workshop and warehouse to suspend work which delayed the process for an additional 5 weeks. Adding to this, the 5th shipment was delayed in customs due to a revised policy of the Ministry of Finance and could not be received on time.

The Shelter project was further hampered due to the fact that the Construction Delegate who took over in July 2011 left the mission suddenly without giving prior notice in September 2011, leaving the project without a Delegate for 2 months. After his replacement arrived at the beginning of November 2011 the shelter construction rate increased considerably. Thus, by the end of December 2011, a total of 1130 shelters had been built.

Based on savings in the material costs following the international procurement managed by IFRC, and following initiatives by the beneficiaries themselves, it was decided to increase the scope of the construction works in order to render the P-shelter more durable and resistant. This included painting the inside and outside walls and the plastering the masonry plinth with a sand and cement render. Originally, it was also planned to install rainwater harvesting systems for each P-Shelter but this idea was given up for a period of time due to the restructuring of the WatSan department. As a result it was decided to focus on water supply activities that are more sustainable, cost efficient and reach a wider geographical spread of the beneficiary population. Despite this, the idea of rainwater harvesting was again revisited by the WaSH team in August 2012, after which rainwater harvesting systems were installed on approximately 520 shelters in Karan and Bellevue.

During the first quarter of 2012, the last of the five shipments of shelter material and the shipment with the material which was procured to balance material losses caused by theft, rupture and/or overconsumption was received at Sigmat warehouse. Thus the shelter workshop was able to again increase its production rate after a period of stagnation due to the slow-moving process of the international tender which was followed for the procurement of this material. During this time, the construction of the foundations continued and the final beneficiaries were provided with tools,

cement and galvanised steel anchors. By the end of March 2012, 1960 foundations (98%) had been completed.

By the end of February the new Construction Delegate took over the Shelter and the Community Infrastructure projects, the Acting (former) Construction Delegate having taken over the Program Coordination from mid-January. As before with the Acting Construction Delegate facing a work overload, the implementation of the Shelter project continued to progress slower than in November and December 2011 due to the necessary familiarization time and the heavy work load. The latter resulted from being now also in charge of the Community Infrastructure (CI) projects which entailed the completion of unfinished works for 2 educational facilities (including one in Port-au Prince), and the preparation of a tender package for a new school in Leogane.

After having received the additional construction material at the end of March 2012 construction resumed at a rapid pace. In April, 229 shelter constructions had been finished bringing the total to 1856 (plywood walls, doors, windows, roof structure, hurricane straps and metal roofing). Moreover 1997 foundations had been achieved and an additional 193 concrete floors built. In total, 1463 shelters had been completely finished by the end of April (including cement floors).

For several reasons it was not possible to fully complete the P-Shelter project in April 2012, as originally planned. Firstly, the construction was delayed during the month of February and March while waiting for the delivery of additional material to replace the before-mentioned material losses. Further to this, the recurring problems with the Unimog and the arrival of the rainy season made access to the mountainous regions of Bellevue-Corail quite difficult. At the time, this zone accounted for 50% of the shelters yet to be constructed (77 of the remaining 144), and almost 40% of the floors (195 of the remaining 539). There were also some tensions within the community of Bellevue, with some beneficiaries who had wanted to receive the balance of construction materials even though they did not have the intention to complete the construction of their shelters verbally abusing the shelter staff and blocking further distributions of cement to the other beneficiaries.

In May 2012 the project slowed down again due to increased verification activities, the parallel preparation of the T-Shelter upgrade project and one of the engineers being infected with cholera. Thanks to receiving less rain, plus effective coordination with the WaSH project team (priority was given to shelter for the use of the unimog), all outstanding distributions of construction material to the mountainous communities of Bellevue/Corail were completed, thus finalising all distributions of construction materials (not including paint) for all communities. In total, 65 shelter constructions and 202 concrete floors had been built, bringing the project total to 1921 shelter structures and 1665 complete shelters (including concrete floors) by the end of May. Moreover, one P-Shelter was painted to check the quality and to define the quantity of paint needed per shelter.

In June as we were nearing the completion of the project, we encountered many cases where beneficiaries had dismantled their shelters before completing the construction, either to sell the materials or to relocate to another site. In some cases, beneficiaries withheld materials from the contractors, not allowing them to complete the construction. During the month of June, the purchase of the paint was still being processed by logistics. We also experienced an incident where some construction materials were stolen from Sigmat.

July was a month of continued verification in the field, and we confirmed that the final 43 beneficiaries did not have the intention to complete the construction of their shelters (walls and

roof) and 142 beneficiaries did not have the intention of allowing the masons to complete the construction of the concrete floors. The reasons for this varied; some had dismantled their shelters and moved on to other places while others had sold the cement or were not able to provide/purchase the required sand and gravel. There were also some beneficiaries who preferred to construct the floor by themselves in order to economise the amount of cement needed so that they could use the balance for other purposes. During the month of July, we constructed another 26 floors and plastered 26 plinths. At the end of the month there were just another 9 floors to complete, shared between the communities of Rosseau, Bellevue/Corail and Haut-Acule.

During the month of August, the team finalised all construction activities, including the construction of the final 9 concrete floors/plastering of 9 plinths, plus the verification of beneficiaries who did not intend to complete their shelters. We found that 43 beneficiaries did not have the intention of completing the construction of their shelters (walls and roof), 151 beneficiaries did not have the intention of allowing the contractors to finish the construction of the concrete floors and 248 did not have the intention of allowing the contractors to plaster their masonry plinths. During this month, we drafted a hand-over certificate and submitted it to the HRC coordinators for approval which was eventually received in early September. During this month, the CBA for the paint was approved at Berlin level.

On the evening of Friday 24th August, Tropical Storm Isaac struck Leogane and other parts of Haiti, ripping tarpaulins and roofs off some shelters but generally not causing a great deal of damage. We carried out an inspection of the 10 communities on the afternoon of Saturday 25th, followed by a more comprehensive survey as a part of the Emergency Response Team (ERT) on Sunday 26th. During these surveys, we left a certain length of tarpaulin which could be used to cover the holes in walls and roofs, with either the presidents of the Community Committees or the leaders of the Community Intervention Teams.

After receiving a list of damaged shelters from the Department of Civil Protection in Gressier on Monday 27th, we carried out a detailed damage assessment with local carpenters and community leaders on Tuesday 28th. Of the 10 houses we inspected, 3 had already been repaired by the owners, 1 was not really damaged, 4 had lost a significant portion of their roofs and 2 needed additional bracing. On Wednesday 29th, we delivered all necessary materials and issued contracts to carpenters to repair the 6 damaged houses. We completed the repair works by the first week of September.

During the month of September, we commenced the distribution of paint with 4 volunteers of the Haitian Red Cross Gressier branch, reaching approximately 330 beneficiaries in Tchawa and Godé. With the paint, we included a small leaflet for each beneficiary, offering them advice on safe practices for painting their shelters and warning against using the empty buckets to transport potable water. During the distribution, we also continued to collect information such as beneficiary photos and GPS points, necessary for the completion of the database.

➔ *PLEASE REFER TO ANNEXED DOCUMENT "2.8.3.3 DELIVERY NOTES".*

Between 24-27 October, Leogane was subjected to another tropical storm, this time called 'Sandy' but fortunately none of the shelters were damaged. During the month of October, we received the balance of paint kits and continued with the distributions.

In November, we conducted the first 2 hand-over ceremonies in Gressier, in the communities of Godé on 28th November and Jean Congo on 29th November. We invited the Mayor of Gressier, the Coordinator of the Haitian Red Cross Gressier Branch, the CASEC, the President of the site, the members of DRR's Community Intervention Team and the beneficiaries themselves. Unfortunately the Mayor and Coordinator of the Haitian Red Cross could not attend, but in their place were 2 volunteers of the Haitian Red Cross who took the opportunity to present their activities to the community members who were present. Most of the beneficiaries attended the ceremonies and signed the hand-over certificate. The ceremonies were beautiful occasions where those present sang the National Anthem of Haiti, then observed a one minute silence to remember those who were taken by earthquake of 2010. Importantly, it provided us with an opportunity to reinforce the point that GRC/AutRC intends to close the office in Leogane at the end of May 2013, and that the responsibility for the maintenance of the shelter now rests with each beneficiary.

➔ *PLEASE REFER TO ANNEXED DOCUMENT "2.8.4 P-SHELTER HANDOVER CERTIFICATE".*

During this month we also engaged a welder and artist to fabricate and paint 10 visibility signboards, one to be installed in each community. By the end of the month, all 10 signboards had been fabricated, and one painted with the design. We had also identified a local mason who would install the signboard, and requested written permission from the CASEC specifying the location for the installation. We also continued with the paint distributions and by the end of the month had reached 1650 beneficiaries.

In December 2012 we conducted another 7 hand-over ceremonies in Leogane, in the communities of Tchawa and Morne Barbo on 6th, Haut Acul and Sous de Baba on 13th, Kolo-Kolo and Rosseau on the 14th and Bellevue on the 21st. In attendance were: magistrate Wilson St Juste representing the Commune of Leogane, the Coordinator of the Haitian Red Cross Leogane Branch, Dr. Clement, the CASEC Mr. Johnny Augustin, the President of each respective site and members of DRR's Community Intervention Teams. We also continued the distribution of paint, reaching a cumulative total of 1848 beneficiaries. At this stage, we had witnessed many shelters already painted by the beneficiaries in line with the Haitian tradition of painting one's house in the days leading up to Christmas.

We conducted the final handover ceremony in Karan on 21st January, now having distributed a total of 1953 (this is 1957 completed shelters, minus 7 at Sous de Baba who had since sold their shelters according to the Shelter Committee, plus 3 other beneficiaries who had moved their shelters and reconstructed them in other places) certificates between the 10 communities. During this month we also continued the distribution of paint, reaching a cumulative total of 1856 beneficiaries. We witnessed more shelters which had been painted by the beneficiaries over the Christmas holidays.

➔ *PLEASE REFER TO ANNEXED DOCUMENT "2.5.1 P-SHELTER CONSTRUCTION SEQUENCE".*

From February to April 2013, we received the visit of many beneficiaries who came to the office to explain that they had not yet received the paint as they had moved their shelters to other sites including the centre of Leogane, Carrefour Dufour and other communities within the intervention zone. After investigating these cases, we found several stories to be true, and others not to be, and

proceeded to deliver the paint to those who qualified, eventually reaching a cumulative total of 1875 distributions by the end of the project.

➔ *PLEASE REFER TO ANNEXED REPORT ''2.5.2 P-SHELTER PROGRESS SUMMARY'' AND ''2.5.3 P-SHELTER LOGBOOK'' FOR SPECIFIC RESULTS FOR EACH BENEFICIARY.*

2.6: Beneficiary Selection

2.6.1: Needs assessment

To begin the process, a list of beneficiaries was submitted to GRC/AutRC by the camp committee of each of the 10 communities. Once we received these lists, we formed a team of NHRCS volunteers and conducted a survey of the people in the list, completing an evaluation form for each beneficiary.

➔ *PLEASE REFER TO ANNEXED DOCUMENT ''2.6.1 BENEFICIARY IDENTIFICATION''.*

The information in the evaluation form includes family statistics, sources of income, verification of land ownership, ownership of a house/residence and the level of damage to the house. The focal point for the beneficiaries, as well as for the GRC/AutRC Shelter Department was the Community Committee headed by the Community Leader (CASEC) representing the Local Government Administration. In some communities the Community Committees already existed, and where this was not the case, we asked the community to form a committee who could represent them and act as our focal point during implementation. The members of these committees sometimes changed throughout the course of the project, but overall they proved to be very useful in assisting with the resolution of day-to-day problems within the community and the general advancement of the project.

As we carried out the needs assessments, we also surveyed the communities of the intervention zone in order to gauge the available skill level and human resource particularly in terms of masons and carpenters.

2.6.2: Selection criteria

The beneficiary selection prioritised families living in the respective areas on their own property, either in makeshift shelter or in nearby IDP camps, who previously possessed a house which was completely destroyed by the earthquake. People whose houses were deemed non-reparable were given priority over those whose houses could be repaired. The beneficiaries had to be in possession of a piece of land, or to have an agreement with a landlord to stay on that land for a minimum of 3 years. This piece of land was required to have minimum dimensions of 6.3m x 4.0m (please refer to *6. Lessons Learned and Recommendations* for the implications of this). They also had to be willing to contribute to the construction process by cleaning the site, assisting the local construction team of masons and carpenters and by providing sand, gravel and rocks for the construction of the foundations. Typically, we considered senior, less mobile/handicapped people and pregnant women to be more vulnerable than younger able-bodied people, so prioritised them in the list.

2.6.3: Verification and registration of beneficiaries

Each beneficiary was required to present their National Identification Card, or if they were not in possession of this, other identification cards such as membership of their local church, birth certificate or driver's licence. This identification would then be cross-checked with the CASEC and Community Committee.

Regarding the land on which to construct the new shelter, the beneficiary's claim of ownership of a suitable piece of land had to be supported by relevant documentation (property title) or, in cases where the documents were lost in the earthquake, a written statement of ownership from the Community Administration. We also required the beneficiary to obtain from the CASEC (Conseil d'administration section communale) a certificate which entitles the beneficiary to construct a temporary shelter on their land. Finally, with this information (the list of beneficiaries, the land title documents and the permission to construct), we visited the Mayor's office in order to request the final approval to proceed. The Mayor's office would verify that the land stated in the property title did indeed belong to the respective beneficiary and wasn't, for example, state land.

➔ *PLEASE REFER TO ANNEXED DOCUMENT "2.6.3.3 PROPERTY TITLE".*

Once the above verification process had been completed, the beneficiaries who qualified for assistance were entered into the P-shelter database. In order facilitate future material distributions, we took a photo of those beneficiaries who consented, and inserted it into the database.

➔ *PLEASE REFER TO ANNEXED DATABASE "2.6.3.4 P-SHELTER DATABASE 20MAY2013 ". (PASSWORD: DRK2011)*

2.7: Design of the shelter

The shelter design is derived from proposals and suggestions developed by the Shelter Cluster in 2010 under the leadership of the International Federation of Red Cross and Red Crescent Societies (IFRC) and complies with the Sphere standards pertaining to adequate living conditions: it provides approx. 20.5 m² (19.25m² is required by Sphere) living space with one door and one window with two shutters. The building is made from wooden posts and beams, plywood walls and corrugated iron roofing sheets, and can be altered or extended/modified according to needs of the beneficiary and space available. The layout, design and the construction of the shelter ensures a minimum life span of 3 years and based on structural calculations of an external consultant, it can withstand hurricanes up to category 1.

➔ *PLEASE REFER TO ANNEXED DOCUMENTS "2.8.3 MANUAL BENEFICIARIES P SHELTER" AND "2.8.3 MANUAL MASONS P SHELTER" FOR TECHNICAL DESIGNS.*

2.8: Implementation mechanisms

2.8.1: Agreement with the beneficiary

The shelter project was designed with a collaborative approach in mind, requiring the active participation of individual beneficiaries as well as of the Community Committees. The beneficiaries were obliged to provide at least one family member to participate in the construction and to clear the site with tools, (shovels, picks, wheel barrels, iron bars and gloves) provided by GRC/AutRC prior to the commencement of construction. In addition, they were responsible to provide sand, gravel and rocks for the construction of the foundations from nearby riverbeds or gravel pits.

➔ *BEFORE COMMENCING THE CONSTRUCTION PROCESS, WE SIGNED AN AGREEMENT WITH EACH BENEFICIARY; PLEASE REFER TO ANNEXED DOCUMENT ''2.8.1.1 BENEFICIARY ACCORD '' FOR A COPY OF THE BENEFICIARY CONTRACT.*

2.8.2: Procurement

Due to the large quantity of materials required to construct 2000 shelters and the short supply of materials inside Haiti, an international tender was launched through IFRC in Panama in order to receive the most competitive price. Most of the tools were purchased from the Dominican Republic, again due to the shortage of materials available on the Haitian market.

To counterbalance the large bulk of materials which were purchased abroad, we opted for Haitian paint 'Vlou' by 'Matpar' instead of equivalent foreign brands, in order to support the Haitian economy.

All materials supplied were stored in the GRC/AutRC depot in Léogâne from where it was delivered to the field, according to the established operation and supervised by a field coordinator and project assistants. The beneficiary was made to sign a goods received note, or "Accusé de reception" once they received the materials.

➔ *PLEASE REFER TO ANNEXED DOCUMENT ''2.8.3.3 DELIVERY NOTES'' FOR SAMPLE DELIVERY NOTES FOR EACH STEP.*

2.8.3: Construction (Tools, site preparation, foundations, drainage channel, walls and roof, floors and plinth plastering)

The P-Shelter project was implemented with active support of the Community Committees and the beneficiaries themselves. The Community Committee was responsible for appointing at least one family member to participate in the construction, to organise the clearing of rubble from the construction site and to provide the sand and gravel to all shelter sites. The progress was monitored by the GRC/AutRC Community Coordinator in cooperation with GRC/AutRC engineers and construction assistants.

GRC/AutRC, in cooperation with the Community Committee, selected teams of local craftsmen and offered them basic training in carpentry and masonry in order that they possessed the knowledge and skills necessary to construct the shelters with the participation of the beneficiaries.

The construction teams, led by GRC/AutRC delegates, engineers and construction assistants constructed a model shelter in each community, plus numerous demonstration shelters for the most vulnerable beneficiaries who were in need of more urgent assistance and who were unable to participate in the construction. During this process we referred constantly to the construction manuals (one for masons, the other for beneficiaries and carpenters) in order to reinforce key construction principles.

As well as training the mason and carpenter teams, we offered advice to beneficiaries during the site selection and construction process and provided them with a copy of the Construction Manual in February 2011. *Refer to 2.10 ''Project Achievements and Non-Achievements'' for further details.*

➔ *PLEASE REFER TO ANNEXED DOCUMENTS ''2.8.3.1 MANUAL BENEFICIARIES P-SHELTER'' AND ''2.8.3.2 MANUAL MASONS P-SHELTER'' FOR THE CONSTRUCTION MANUALS*

In addition, we provided the following tools to facilitate the construction process:

- 1 Wheelbarrow and 2 digging bars (given to beneficiaries in groups of approximately 10 families, depending on geographical spread and distance between beneficiaries).
- 1 shovel, 1 pick and 1 pair of gloves to each family to enable them to clear their land and dig the drainage canal. 1 painting kit including 4 gallons of paint, 4 gallons of primer, 1 paint tray, 1 brush and 1 roller to enable the beneficiary to paint their shelter.
- Tools for each mason team. The kit included hammers, trowels gloves, tape measure, square etc.

Certain construction materials such as the doors, windows and trusses were fabricated in Sigmat by the carpenter team. These and the rest of the construction materials were then sent to the registered beneficiaries as a part of one of the seven deliveries detailed below:

1. Tools (lot 1)
2. Cement and steel anchors (lot 3)
3. Plywood for walls (lot 4)
4. Wall and roof framing timber (lot 5)
5. Windows, triangular plywood, more roof framing timber, corrugated metal roofing sheets and ridge caps, nails (lot 6)
6. Cement for concrete floor and plinth plastering (lot 7)
7. Paint, primer, paintbrush, paint roller and tray.

➔ *PLEASE REFER TO ANNEXED DOCUMENT ''2.8.3.3 DELIVERY NOTES'' FOR SAMPLE DELIVERY NOTES FOR EACH STEP AND ADVICE ON THE SAFE USAGE OF PAINT.*

The carpenter and mason teams, under the supervision of the GRC/AutRC technical teams carried out the construction of the shelter in accordance with the plans and specifications. The teams were paid for each stage of work (foundations, walls and roof, floor and plinth plastering) after completion and verification/acceptance by GRC/AutRC technical teams.

➔ *PLEASE REFER TO ANNEXED DOCUMENT ''2.8.3.4 CONTRACT P-SHELTER FOUNDATION'', ''2.8.3.5 CONTRACT P-SHELTER CARPENTER'' AND ''2.8.3.6 CONTRACT P-SHELTER FLOOR & PLINTH'' FOR SAMPLE CONTRACTS FOR EACH STAGE OF THE WORKS.*

Working side by side with the technical teams during the implementation process, the Community Coordinator acted as the interface between GRC/AutRC and the community. A large part of her role was to facilitate good communication between beneficiaries, the Community Committee, GRC/AutRC engineers and construction assistants and delegates. In order to successfully carry out this role, fluency in English, French and Creole languages was essential. Importantly, she ensured that any disputes or grievances which arose within the communities were promptly addressed and resolved.

2.8.4: Hand-over to the beneficiary

The shelters were handed over to the beneficiaries between November 2012 and January 2013. During these ceremonies, the GRC/AutRC team emphasised the need for each beneficiary to take responsibility for the future maintenance of the shelter.

➔ *THIS HAND-OVER PROCESS WAS FORMALISED WITH A CERTIFICATE, PLEASE REFER TO ANNEXED DOCUMENT ''2.8.4 HANDOVER CERTIFICATE''.*

2.9: Major challenges faced

Site selection and land ownership. Sometimes it was very difficult to motivate the beneficiaries to select a piece of land where they would be more protected from natural disasters such as flooding, landslides or storms. In many cases this could be due to unaffordability of better land, and as a result, these beneficiaries chose or were left with no choice but to stay in these less than ideal locations and to accept the associated risks. Often people had insufficient land ownership documents and were initially unable to clearly demonstrate their ownership of the land. In these cases, the onus was on the beneficiary to obtain the necessary documentation so that the CASEC could authorise the construction, and the Mayor could cross-check the ownership. This process brought certain delays to the project as a lot of time was needed to clarify such cases.

Communication and mobilization: Although a construction manual in Creole was prepared, provided and explained to the communities during the trainings, it seemed that some beneficiaries either didn't understand what was being asked of them, or didn't have the willingness to adequately prepare the construction sites. Sometimes work came to a standstill because the beneficiary did not honour their part of the contract agreement, in terms of physically participating in the construction process or providing the sand, gravel and rocks. These factors caused some delay to the project and it took some time to understand the underlying reasons. In some cases, the beneficiaries could not afford to pay for the sand and gravel, or their disability prevented them from participating. In these cases, the GRC/AutRC Community Coordinator and technical team members urged fellow community members to support these individuals and in many cases the community responded positively.

Available land for construction: In many cases, beneficiaries opted to construct their shelter beside the existing house of their relative or a damaged house which would later be repaired or reconstructed. Owing to this situation, there was no available space left to build individual latrines next to the houses and other solutions had to be found (e.g. shared toilets).

Assessment/beneficiary selection: Since the committees of each of the 10 target communities were responsible for the creation of the initial list of beneficiaries, there were many complaints from the people who were not selected even though they might be equally or more vulnerable as those on the list. Further verification by GRC/AutRC field teams attempted to address these complaints, to reduce favouritism and nepotism by selecting only the most vulnerable people in the lists according to the established criteria. As a result, we initially arrived at a total of approximately 1700 beneficiary families. After further field assessment, we identified a further 200 vulnerable families in Corail and Bellevue, and finally in late 2011 – early 2012, we identified another 100 beneficiaries, approximately 10 from each of the 10 communities, in order to arrive at the project total of 2000 beneficiaries.

Sustainability: Given the nature of these shelters as temporary structures with a minimum expected lifespan of 3 years, the sustainability of such an intervention must come into question given the large investment of resources in order to achieve a short-term solution. In order to address this, GRC/AutRC technical teams made an effort to impress the idea upon the beneficiaries that like all buildings, the lifetime of the temporary shelters could be prolonged if the beneficiaries are ready to invest time and/or money in maintenance (e.g. renew regularly painting and drainage).

Sense of entitlement: Towards the end of construction, more than 2 years had passed since the earthquake of January 2010 and naturally some beneficiaries had since found other shelter solutions before they were able to benefit from the project. In spite of this, they did not however show any desire to give up their claims for a shelter in favour of fellow community members who were at the time in a more vulnerable position.

Coordination with other shelter partners: In some areas there was an insufficient coordination and communication between different shelter partners so that beneficiaries had been selected twice and a varying range of shelters with differing values, appearances and durability had been built side by side by different organisations in the same community. Naturally the beneficiaries selected for the shelters of a shorter expected lifespan and lower quality were often dissatisfied and wanted to instead receive the higher standard shelter. Frequent complaints from the beneficiaries caused some problems and bad relations during the construction process, but this issue seemed to fade away after construction was completed.

Procurement and distribution of construction material: Well planned procurement and distribution are crucial for a continuous course of action and for keeping to the fixed time line and budget, but it's also often difficult to achieve in a developing country with a devastated market such as Leogane. Long delays caused by long lasting procurement processes are a big challenge, especially for the beneficiaries and the national staff. It's very difficult to explain to the beneficiaries delays that are out of their perception and understanding, and even if they could understand, they might not accept it as they might view an international organization to be 'almighty'. When the beneficiaries' patience is pushed to its limit it can often result in aggressive and hostile behaviour towards the national field staff who will be blamed first.

Security problems: We encountered several protests and blockades started by people who wanted to be employed by GRC/AutRC. This caused delays to the works and tension amongst the team.

Throughout the implementation period, security problems and threats hampered the implementation of the Joint Recovery Program and affected the stress level of all staff. In the beginning of 2011, activities had to be suspended due to the national elections. During the first quarters, the situation in the communities was tense with the Shelter beneficiaries becoming more and more frustrated and agitated about the delays in the shelter construction. This changed with the arrival of the shelter material and for the rest of the year major problems in the communities were kept at bay.

In August, September and October 2011, the security situation for GRC/AutRC and in Leogane in general deteriorated significantly with one community in the vicinity of Sigmat warehouse launching several rock-throwing attacks against GRC/AutRC staff and demanding employment. In addition, one political group organised several, at times violent, protests against the RC, and INGOs demanding

employment and the immediate dismissal of non-Leogane staff which formed a large percentage of the RC/INGO workforce in Leogane, also of GRC/AutRC. As a result, activities had to be suspended and Delegates relocated to PaP. In total 5 weeks of implementation were lost due to the troubles.

Dissatisfied community members: Certain community members who were not selected as beneficiaries expressed their frustration by preventing the offloading of materials from GRC/AutRC trucks during the deliveries. These incidents were resolved by the Community Coordinator and Community Committee, usually in the form of an open community meeting where the offenders were given a chance to express their grievances and GRC/AutRC team to restate the process employed for the selection of beneficiaries.

2.10: Project achievements and non-achievements (based on indicators)

Result 1.1:	1.1: 2000 P-shelters are constructed					
Indicator	Target value	Achievement today in %	Deviations	Justification	Measures to be taken	Status
1	At least 90% of the 2000 families in the 10 selected communities receive their materials and have completed their P-shelters by May 2012. Camps are visibly emptying.	As of 31 May 2012, 1665 or 83% of shelters had been completed and paid. A completed shelter is one with foundations, walls, roof and concrete floor, but does not include the plastering of the floor plinth as this element was added to the project only in late 2011. We reached 1840 (92%) complete shelters by the end of July 2012, and eventually went on to reach 1849 (92.45%) by the end of implementation at the end of August 2012. During this process, the camps were visibly emptying. Please see below for further information.	None	N/A	N/A	Construction completed in August 2012, final handover ceremony completed January 2013

➔ *PLEASE REFER TO ANNEXED REPORT ''2.5.2 P-SHELTER PROGRESS SUMMARY'' AND ''2.5.3 P-SHELTER LOGBOOK'' FOR SPECIFIC RESULTS FOR EACH BENEFICIARY.*

For the remaining 7.55% of shelters/beneficiaries who didn't complete the construction of their shelters:

- 104 (5.2%) moved away from the site with all of the shelter materials before completing the construction of the floor and plastering of the plinth
- 8 (0.4%) changed the position of their shelter and used the cement which was intended for the concrete floor and plinth plastering instead to construct foundations in the new location
- 10 (0.5%) wanted to construct the floor and plaster the plinth by themselves
- 4 (0.2%) wanted to construct the floor by themselves
- 4 (0.2%) wanted to plaster the plinth by themselves
- 12 (0.6%) didn't or couldn't contribute the sand and gravel needed to construct the floor
- 3 (0.15%), sold the cement
- 6 (0.3%) reportedly sold their shelters (according to information from the community)

The plastering of the concrete plinth was an element added to the project during the second year of implementation therefore before that point, we considered in our reporting that a shelter was complete even without the plastering of the plinth. For clarification, at the end of implementation we achieved 1757 (87.85%) plastered plinths. For the remaining 243 (12.15%) of shelters/ beneficiaries who did not complete the plinth plastering:

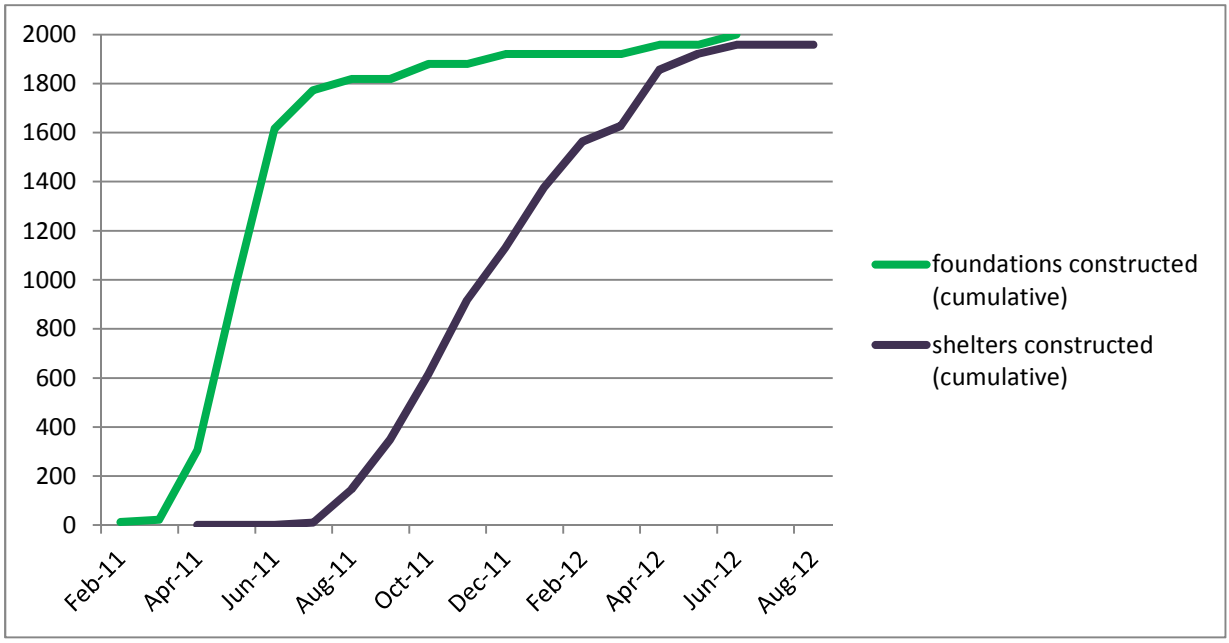
- 118 (5.9%) moved away from the site with all of the shelter materials before completing the construction of the floor and plastering of the plinth
- 9 (0.45%) changed the position of their shelter and used the cement which was intended for the concrete floor and plinth plastering instead to construct foundations in the new location
- 10 (0.5%) wanted to construct the floor and plaster the plinth by themselves
- 4 (0.2%) wanted to construct the floor by themselves
- 72 (3.6%) wanted to plaster the plinth by themselves
- 19 (0.95%) didn't or couldn't contribute the sand and gravel needed to construct the floor
- 4 (0.2%), sold the cement
- 7 (0.35%) reportedly sold their shelters (according to information from the community)

The table below summarises the status of the project at the end of construction activities at the end of August 2012:

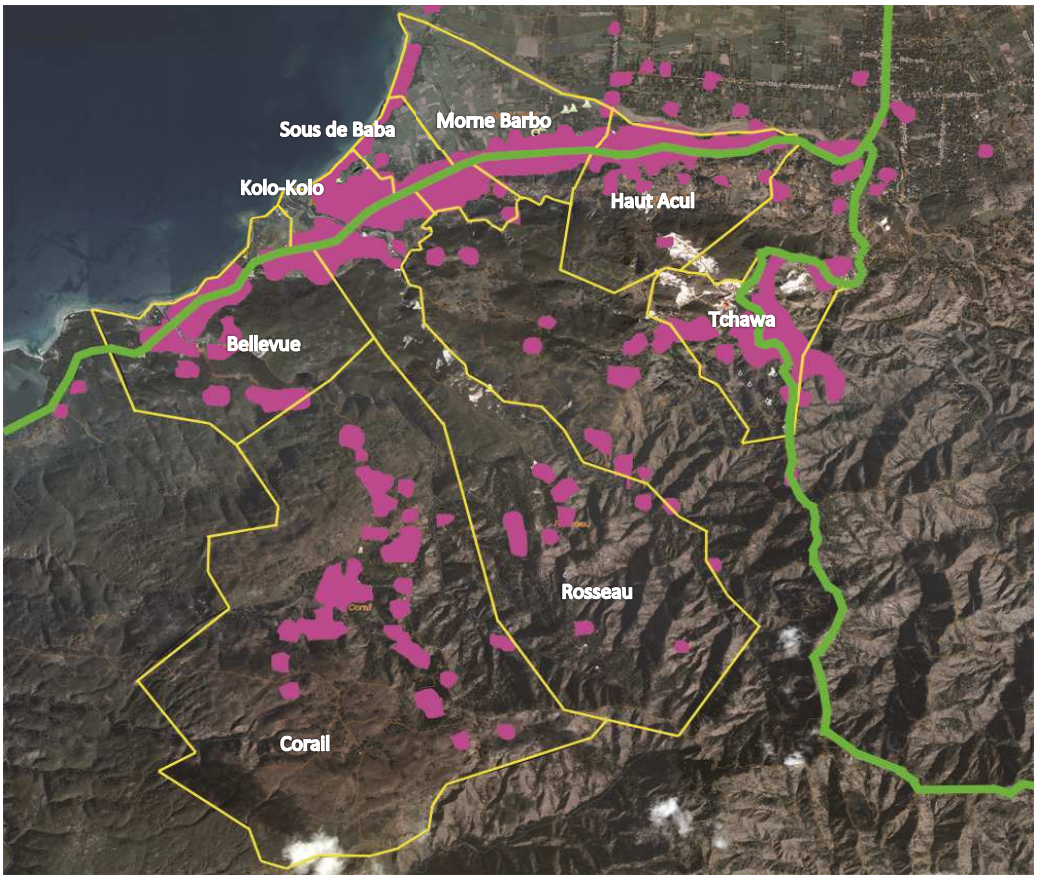
Town	Sector	Community	No. of beneficiaries identified	No. of foundations completed	No. of shelter structures completed (walls and roof but not including concrete floor)	No. of floors completed (complete shelter)
Léogâne	5ème	Bellevue/Corail	421	421	413	388
		Morne Barbo	242	242	240	233

	Palmiste à Vins	Haute-Acule	204	204	192	185
		Tchawa	104	104	104	104
		Kolokolo	187	187	176	166
		Sous de Baba	122	122	115	104
		Rosseau	170	170	167	148
Gressiere	1ère Morne à Bateau	Godé	242	242	242	234
		Karan	183	183	183	166
		Jean Congo	125	125	125	121
		total	**2000**	**2000**	**1957**	**1849**
		balance	0	0	43	151

Monthly Construction Rate



Map of Gressier – extent of shelters is indicated in pink, community boundaries in yellow, main roads in green.



Map of Leogane – extent of shelters is indicated in pink, community boundaries in yellow, main roads in green.

➔ *PLEASE REFER TO ANNEXED DOCUMENT 2.10.1 "P-SHELTER GOOGLE EARTH 25MAY2013" FOR GPS LOCATIONS.*

Regarding the second part of this indicator, it is clear that as the project progressed and people were moving into their new P-shelters, camps in the area were visibly emptying. It is therefore reasonable to assume that this project contributed in some part, to the resettlement of the population and reduction of the camp population.

The table below summarises the number of camps in the towns of Gressier and Leogane, the camp population and the cumulative number of P-shelters constructed by GRC/AutRC during the course of the project.

Date	Gressier			Leogane		
	No. of camps	**Households**	**GRC/AutRC P-shelters built (cumulative)**	**No. of camps**	**Households**	**GRC/AutRC P-shelters built (cumulative)**
July 2010	62	10,014		253	39,260	
Jan 2011	36	1,415		118	6,756	
Mar 2011	34	1,109		93	**5,553**	
May 2011	32	963		76	4,777	
July 2011	32	927	3	66	3,727	7
Sept 2011	22	477	100*	53	2,900	249*
Nov 2011	20	440	324	48	2,343	586
Jan 2012	20	401	491	44	2,072	885
Feb 2012	20	401	516	44	2,072	1048
April 2012	15	331	550	33	1,763	1306
June 2012	15	312	550	28	1,737	1408
Sept 2012	15	280	550	27	1,713	1407
Nov 2012	12	266		27	1,724	
Jan 2013	12	241		25	1,657	
April 2013	10	221		16	1,675	

* Quantity of shelters built by GRC/AutRC shown as an estimate only. 349 shelters were reported in total for September 2012, but information on the breakdown of shelters constructed in Gressier and Leogane is not available.

The figures stated in the table for the number of camps and the camp population were taken directly from Inter-Agency Standing Committee (IASC) Haiti E-Shelter/CCCM Cluster Displacement Tracking Matrix reports.

➔ *PLEASE REFER TO ANNEXED FOLDER "2.10.2 IASC REPORTS" FOR COPIES OF THESE REPORTS.*

Result 1.2:	1.1: 2000 P-shelters are constructed					
Indicator	Target value	Achievement today in %	Deviations	Justification	Measures to be taken	Status
1	The beneficiaries, community	100%	None	N/A	N/A	Completed

	masons and carpenters have received technical training. At least 90% of the 2000 families have participated in the construction					

All beneficiaries were sensitised by the GRC/AutRC community mobilisation and shelter technical teams during the site selection process (for those who had to choose a new site) and the importance of minimizing exposure to potential natural hazards and disasters such as earthquakes, floods, hurricanes and landslides and safety on the building site were emphasised. These points were illustrated in a construction manual produced by GRC/AutRC and given to every beneficiary during the training process ''Dokiman konstriksyon abri pwovizwa, etap pa etap'' (Document for the construction of a provisional shelter, step by step). This guide also outlines the steps needed to safely store construction materials, how to mix concrete and construct the P-shelter. We took the opportunity during the hand-over ceremonies to distribute the remaining copies to beneficiaries and representatives of the Haitian Red Cross.

As was confirmed in the evaluation/beneficiary satisfaction survey of April-May 2013, the beneficiaries contributed to the construction of their shelters in 100% of cases. This result was expected, as it was necessary for the beneficiary to clean the site before the boss masons could start excavating the trenches for the foundations. After the construction of the foundations, the beneficiaries then had to dig a drainage channel around them in order to guide water away from the shelter. Additionally, there were some beneficiaries who constructed their own floor and plastered their own plinth. Finally, at the end of the construction process, all beneficiaries were responsible for painting their own shelters.

➔ *PLEASE REFER TO ANNEXED DOCUMENTS ''6.1 RESULTS OF BENEFICIARIES SATISFACTION SURVEY'' AND ''6.2 SURVEY AND LL SUMMARY'' FOR FURTHER DETAILS OF THE BENEFICIARY SATISFACTION SURVEY AND LESSONS LEARNED WORKSHOP.*

Before commencing construction, we offered technical training specific to the construction of the P-shelters to aspiring carpenters and masons in the communities, in order to identify and reinforce existing and available skills. In total, we trained 306 masons and carpenters and formed 30 teams of masons (2 bosses and 2 assistants per team) and 31 teams of carpenters (3 bosses and 3 assistants per team). For the masons and carpenters to be considered for the training, they had to be living in the community and to have either worked on the initial T-shelter project completed in 2010 or have some experience with similar projects. The GRC/AutRC technical team then followed up this training with continual on-site guidance during the construction process. Naturally, construction contracts were offered only to only those masons and carpenters who completed the training. Please see table below for number of teams trained in each community:

Community	**No. mason teams**	**No. Carpenter teams**
Bellevue	5	5
Tchawa	2	3
Morne Barbo	3	3
Haut Acul	3	3

Sous de Baba	2	2
Kolo Kolo	2	2
Rosseau	2	2
Karan	4	4
Godé	5	5
Jean Congo	2	2
Total no. teams	**30**	**31**
Total no. team members	**120**	**186**

➔ *PLEASE REFER TO ANNEXED DOCUMENTS ''2.8.3.1 MANUAL BENEFICIARIES P-SHELTER'' AND ''2.8.3.2 MANUAL MASONS P-SHELTER''.*

3: Overview of the Transitional Shelter Upgrade Project (T-Shelter, formerly called Transitional or Core Shelter)

3.1: Overall objective:

''To contribute to better living conditions for the most vulnerable earthquake affected population in 10 selected villages in the Léogâne and Gressier area''.

3.2: Specific Objective:

''Safe temporary housing is provided to the most vulnerable earthquake affected population in the Léogâne and Gressier area''.

This project focusses on the upgrading of the 1003 transitional shelters originally constructed with ECHO funding in 2010.

Timeframe for this objective: 36 months from May 2010 (T-shelter upgrades 15 months: March 2012-May 2013)

Expected Results	Activities
2.1: 1000 T-shelters are upgraded	2.1.1: Maintain relationship with existing village committees to assist in the implementation of the project.
	2.1.2: Conduct assessment and verify the presence and condition of existing shelters. Please refer to assessment report and extended project proposal.
	2.1.3: Formalise agreement between beneficiaries and GRC/AutRC/HRCS for reception of materials, working methodology and maintenance of the shelter
	2.1.4: Procure shelter material, transport and store it in the focus region
	2.1.5: Distribute construction material to registered beneficiaries
	2.1.6: Issue contracts to local construction teams who will execute the construction works.
	2.1.7: Supervise the construction works to ensure intended design quality is achieved.
2.2: Earthquake affected families are supported to upgrade their shelters.	2.2.1: Train community members (project assistants) as technical support teams
	2.2.2: Train skilled community members as constructors (masons and carpenters)
	2.2.3: Construct model shelters

3.3: Coordination and partnerships

As with the P-shelter project, the T-shelters upgrade project was realised in collaboration with community members in a 'shelter for work approach'. Each shelter was surveyed with members of the community and the structure evaluated by the GRC/AutRC engineer before the upgrades could be carried out. GRC/AutRC contracted carpenters and masons who live within each community, have worked on the P-Shelter project and have received further training specific to the T-shelters, to execute the construction works. Beneficiaries contributed to the upgrading process by removing the tarpaulin and supporting the construction teams, for example by transporting the materials to the site. They were also responsible for painting their own shelters.

A large proportion of construction materials required for this project were donated by IFRC and in June 2012, a MoU was signed to formalise this collaboration. All plywood for the wall cladding and windows, 2''x4'' timber for the reinforcement of the wall framing, nails, and 18 toolkits for the carpenter teams were supplied by IFRC, while all materials needed for the concrete footings, timber columns, windows and painting were supplied by GRC/AutRC.

➔ *PLEASE REFER TO ANNEXED DOCUMENT ''3.3.1 T-SHELTER UG MOU''*

Further verification in the field in April-May 2012 found that approximately 100 of the 1003 beneficiaries had displaced, and the condition of the majority of the shelters had significantly deteriorated. This necessitated the drafting of an addendum to the MoU, formally recognizing the reduced number of beneficiaries and the more comprehensive upgrade strategy including replacement of concrete footings and timber columns, plus the use of a certain amount of the construction materials instead. The addendum was signed in October 2012.

➔ *PLEASE REFER TO ANNEXED DOCUMENT ''3.3.2 ADDENDUM TO T-SHELTER UG MOU''*

3.4: Human resources

In total, 11 national staff and 3 international staff (at different times) worked on the P-shelter project and T-shelter upgrades. Most of the engineers and construction assistants of the P-shelter project continued their engagement on the T-shelter upgrade project.

➔ *PLEASE REFER TO ANNEXED DOCUMENT ''2.4 STAFF OVERVIEW'' FOR FURTHER DETAILS.*

In addition to this were 14 joint mason/carpenter teams (84 people) in the field. These teams consisted of trained community members most of whom also worked on the P-shelter project. They were all paid on a contractual basis: fixed amount per column repaired or replaced and per installation of plywood walling and window.

Additionally we worked with approximately 40 of the same base of community members who had been involved with the P-shelter project. They were trained to support the technical field personnel on demand in monitoring the distribution of the material and the progress of construction work. Their assignment was harmonized with the guidelines of the Haitian Red Cross concerning payment (per diem) and working hours.

3.5: Chronology of the project

GRC previously constructed 1003 transitional shelters in Rosseau, Kolo-Kolo and Sous-de-Baba, in Léogâne between March and December 2010 with funding from ECHO. As they were constructed in the context of the emergency, the process was rapid and the standard of the construction basic; dirt

floor, light timber and wall framing covered with tarpaulins. In May 2012 approximately 90% of the beneficiaries continued to inhabit their T-shelters and had even upgraded them with concrete floors (85% of beneficiaries), and in a few cases the installation of resilient wall cladding and verandas. The majority of beneficiaries however remained with the original tarpaulin walling. The aim of the project was therefore to increase the durability of the T-shelters, offering the beneficiaries a similar level of protection against storms and burglary to that which is afforded by the P-shelters, by installing plywood wall cladding, a new window and a coat of paint. The original timeframe for implementation was stated as three months starting from June 2012.

Further verification in the field from the end of April 2012 to the end of May 2012 identified the need to carry out a more comprehensive upgrade due to the discovery that the timber columns of approximately 70% of the shelters were badly rotting. This rot was caused primarily by poor construction detailing of the connection between the columns and foundation, where the untreated timber post was placed directly into the earth, only partially protected by a small concrete footing below the ground level. The result was that both water and termites had direct access to the soft timber, rapidly deteriorating it, reducing both its strength and lifespan. Before installing the plywood walling as intended, it was first necessary to replace or repair a large number of the existing timber columns and to increase the size of the concrete footing below and above natural ground level in order to support and protect the timber column. As a result it was recommended to increase the scope of the current T-shelter upgrade project proposal in order to raise the condition of each shelter to a safe and reasonable standard, ensuring the integrity of the new and existing building elements for years to come. This proposal was accepted by GRC/AutRC Headquarters and the period of implementation of the project was then extended until the end of May 2013.

➔ *PLEASE REFER TO ANNEXED DOCUMENT ''3.5.1 RESULTS OF FIELD SURVEY & RECOMMENDATIONS MAY 2012''*

➔ *PLEASE REFER TO ANNEXED FOLDER ''3.5.2 PHOTOS T-SHELTER SURVEY''*

At the end of May/beginning of June 2012, we provided training to the local masons and carpenters through the construction of one exemplar shelter in each community for both upgrade categories 1 (least damaged) and 4 (most damaged). This training covered topics such as mixing of concrete, how to repair and replace timber columns and wall framing, how to install the galvanised steel anchors and the plywood walling. Tool kits and ladders were distributed to the 14 joint carpenter/mason teams (6 Kolo-Kolo, 4 Sous de Baba, 4 Rosseau).

➔ *PLEASE REFER TO ANNEXED FOLDER ''3.5.3 PHOTOS T-SHELTER CARPENTERS AND MASON TRAINING CATERGORIES 1 AND 4''*

The workshop team in Sigmat fabricated the windows for the upgrades. From there, the material was delivered to the field according to the established operation and supervised by the field coordinator and project assistants in the communities.

The detailed technical assessment process, consisting of an individual evaluation of the structure of each T-shelter, started in early June 2012 and concluded in March 2013. Generally we did not experience any major problems during this process; however towards the end it became more difficult to evaluate certain T-Shelters, due to some members of the community pretending to be the original beneficiaries of empty/abandoned T-Shelters in an attempt to receive the construction materials. Such instances led to a slower, drawn-out evaluation process as we had to deal very

carefully with each case and closely liaise with the Community Committee in order to discover the truth.

We started upgrading the T-Shelters in May 2012, focussing first on the least damaged, "Category 1" shelters in the community of Rosseau. The main reason for starting with the easier cases was that we had all the necessary construction materials already in stock (plywood, nails, windows), whereas we were still waiting for the timber columns, cement and galvanised steel anchors necessary to upgrade the shelters in worse condition. Once we completed the Category 1 upgrades and had begun to receive the other construction materials, we began to upgrade the worst affected "Category 4'' shelters. By September 2012, we were working at 2/3 of the team's full potential, having only 2 of the 3 communities covered by an engineer and construction assistant team. We reached our full potential in September 2012, when two additional engineers and one additional field assistant were hired. From this point, there were three teams composed by one engineer and one Field Assistant, with another engineer as backup. This meant that every community was covered by a technical team.

Between 24-27 October, Leogane was subjected to tropical storm Sandy. Only one T-shelter in the community of Sous de Baba was reported to have been damaged as a result. This shelter, which had already been upgraded by that time, was completely destroyed by a falling tree and fortunately no one had been injured. On further evaluation, we found that at the time of the storm the beneficiary was no longer living there, since her husband is a beneficiary of a P-shelter and she was living with him. It was also found that before the storm she had removed the plywood and no longer had the intention to continue living there. Consequently, we took no further action to repair it.

From November until the end of project (May 2013), a new Construction Delegate took over the T-Shelter project, and the acting Construction Delegate took on more of a coordination role and the followed also the Community Infrastructure projects.

From December 2012 to April 2013, we proceeded with the distribution of paint (the kit contained the same items and quantities as for the P-shelter), reaching 843 beneficiaries. The reason why we didn't deliver the paint kit to all beneficiaries was because a number of them dismantled their shelters and moved on to other unknown locations, didn't finish the upgrading of their shelter and/or sold the materials. With the paint, we included the same leaflet containing advice on the safe application of paint and warning against using the buckets to carry potable water, as we had done for the P-shelter distributions.

➔ *PLEASE REFER TO ANNEXED DOCUMENT ''2.8.3.3 DELIVERY NOTES'' FOR ADVICE ON PAINT.*

The original project target was 1000 households (5500 people @ 5.5 people/household) however, during the implementation process we discovered that one model shelter had been constructed in each of the three communities at the beginning of the original project in 2010. Consequently, the target increased to 1003 households (5517 people @ 5.5 people/household). As stated in the addendum of October 2012, this target was then reduced to 893 households (4911 beneficiaries) after further verification in the field found that many beneficiaries had dismantled their shelters and moved away from their original sites. During the course of the project, the situation continued to

evolve and the field surveys/technical assessments conducted between May 2012 and the end of March 2013 found and inspected 931 of the 1003 T-shelters. 47 of these T-shelters were empty/abandoned, sold or dismantled by the beneficiaries so did not qualify for an upgrade. We were not able to locate the other 72 T-shelters and according to the Community Committees these beneficiaries had dismantled their shelters and left their original sites to other unknown destinations. Therefore after subtracting these 119 cases from the project target, the maximum amount of upgrades that could have been carried out is 884 (4862 people @ 5.5 people/household).

At the end of May 2013, of the 884 beneficiaries who had qualified for an upgrade, 29 of the beneficiaries had displaced or dismantled their shelters after they had been upgraded by the mason/carpenter teams and 39 of the beneficiaries who had opted to carry out the upgrade works themselves had either sold the materials or displaced after receiving them. Therefore, 845 shelters were eventually upgraded. Please refer to the section *3.10 Project achievements and non-achievements* for further details.

During the technical assessment and monitoring of the upgrades, we continued to collect relevant information such as photos of the upgraded shelters and GPS points which we then inserted into the database.

➔ *PLEASE REFER TO ANNEXED FOLDER ''3.5.4 T-SHELTERS UPGRADED''.*

We completed the final upgrade at the beginning of April 2013 as originally planned, working with a motivated team who did not face any major problems during the implementation.

3.6: Beneficiary Selection

3.6.1: Needs assessment

The target of the project was to upgrade the 1003 T-Shelters initially constructed in 2010. To begin the process of evaluation the only information available was an excel list of the 1000 households. We consulted the Community Committees in order to form teams of community members to conduct the first field survey in May 2012, in order to identify and verify each shelter from the list. The information in this verification form includes the family identification, shelter identification and condition of the structure, wall and floor.

➔ *PLEASE REFER TO ANNEXED DOCUMENT ''3.6.1.1 BENEFICIARY VERIFICATION, T-SHELTER UPGRADES''*

During the implementation process we carried out a detailed technical assessment of each shelter and completed a technical assessment form which notes the condition of the structure and specifies the materials needed to carry out the repair works. This form also served as the agreement with the beneficiary, asking them whether or not they were willing to participate in the project and if they would like to carry out the upgrade by themselves or if they would instead prefer a mason/carpenter team to do the work. It also prompted them to provide the sand and gravel needed for the construction of the concrete footings. Other information in the evaluation form includes family identification, GPS location of the shelter and contact information.

➔ *PLEASE REFER TO ANNEXED DOCUMENT ''3.6.1.2 CONTRAT AVEC LE BÉNÉFICIARE/ ÉVALUATION DE LA STRUCTURE''*

➔ *PLEASE REFER TO ANNEXED FOLDER "3.6.1.3. PHOTOS T-SHELTER EVALUATION"*

3.6.2: Selection criteria

Before taking the decision on whether or not to upgrade each shelter, the following selection criteria had to be satisfied:

- The shelter was originally constructed in 2010 under the GRC (ECHO funded) program
- The shelter was still present
- The shelter was being inhabited by the original beneficiaries and being used primarily as a residence
- The shelter was not considered by the technical team to be dangerous or to pose a risk to the occupants
- The beneficiary agreed to participate in the project

As certain beneficiaries had modified their shelters since 2010, we were faced with the question of whether or not it was necessary to further support them. After discussion with IFRC, we agreed that these beneficiaries should be rewarded for having taken the initiative to upgrade their shelters by themselves, and that we would still distribute the basic package of shelter-upgrade materials (the same materials needed to upgrade a Category 1 shelter: plywood sheets, some timber, nails and a window) which the other beneficiaries who hadn't upgraded their shelters by themselves would also receive. The only condition was that the construction which they had executed by themselves had to be of a safe standard from a technical point of view, and first verified by GRC/AutRC engineers.

As an example, during the technical assessment we found that Sonia Dautruche (T-SB-176), had already upgraded her shelter with concrete blocks. The GRC/AutRC technical team discovered some cracks in the wall due to the low quality construction and the decision was taken not to deliver the materials until the beneficiary had accepted to demolish the unsafe part of the wall to a lower level. After some discussion, the beneficiary agreed to demolish the wall and we could then proceed with the upgrade.

Another beneficiary, Joaselle Aristène (T-KO-116), had also upgraded her shelter with reinforced concrete columns and beams with concrete block infill. The level of construction was quite low: not well positioned concrete blocks, poor quality of concrete and large cracks at various locations in the walls. We followed the same procedure as in the previous example, providing some technical advice to the beneficiary. In this case, the beneficiary decided not to follow our advice and agreed not to receive the materials. As a result, the shelter did not qualify as our technical team deemed it to be a dangerous structure, and consequently we did not upgrade it.

➔ *PLEASE REFER TO ANNEXED DOCUMENT "3.6.3.5 T-SHELTER BENEFICIARIES LOGBOOK" FOR FURTHER DETAILS.*

We agreed to upgrade the shelter of beneficiaries who moved the shelter from the original location, if they were able to provide the land ownership document or a written document from the Community Administration, proving that it was their land.

There were also a small number of exceptions where we upgraded shelters which did not fully meet the selection criteria. It is important to note that before we carried out the upgrade works for each one of these beneficiaries, it was agreed upon at all levels (Program Coordinator, Construction

Coordinator and Community Committee) that these cases were exceptional and would not be repeated for other cases.

For example, we agreed to reconstruct the T-shelters of:

- Marie Mica Pierre Louis (KO-261) after it burnt down on 10th August 2012.
- Elca Vermeille (T-KO 261), a handicapped woman with two children and no income, who was expelled from her original land due a family dispute.
- Cayette Ciamène St. Finisse (T-SB 066) an elderly woman who had also dismantled her shelter due to a land issue
- François Chiléne (T-KK 093), a single mother with four children. Unfortunately, she disappeared after receiving the materials and the shelter was not upgraded.

➔ *PLEASE REFER TO ANNEXED DOCUMENT ''3.6.3.5. T-SHELTER BENEFICIARIES LOGBOOK" FOR FURTHER DETAILS*

➔ *PLEASE REFER TO ANNEXED FOLDER ''3.6.2 PHOTOS BURNT T-SHELTER (KO 261)".*

3.6.3: Verification and registration of beneficiaries

In order to identify the beneficiary, they were required to provide proof of identification (normally with a National ID card) and the handover certificate given to them in 2010. Where it was not possible for the beneficiary to provide these documents, we cross-checked the information with the Community Committees and CASEC.

All information collected from the field was entered into an excel matrix managed by the construction delegate, as well as the Common Database (MS Access file) which was managed by the same database assistant who worked on the P-shelter project.

➔ *PLEASE REFER TO ANNEXED DOCUMENTS ''3.6.3.1 JOINT DATABASE 25MAY2013 ''. (PASSWORD: DRK2012) AND"3.6.3.2 T-SHELTER MONITORING 16MAY2013"*

➔ *PLEASE REFER TO ANNEXED DOCUMENTS ''3.6.3.3 T-SHELTER PROGRESS SUMMARY", ''3.6.3.4 T-SHELTER & SANITATION BENEFICIARIES REPORT" AND ''3.6.3.5 T-SHELTER BENEFICIARIES LOGBOOK" FOR FURTHER DETAILS. PLEASE NOTE THAT THERE IS ONE LIST PER COMMUNITY.*

3.7: Design of the shelter

The T-shelter was the first shelter response of GRC to the earthquake of 2010. The design is derived, as with the P-Shelter, from the proposals and suggestions developed at the time by the Shelter Cluster under the leadership of the International Federation of Red Cross and Red Crescent Societies (IFRC). The shelter was designed as a temporary construction of light timber framing and tarpaulin walling.

The T-shelter complies with the Sphere Standards in terms of floor area if we consider a family of 5.5 members: it provides 20.25m² living space (5.18m x 3.91m), slightly more than the minimum requirement of 19,25m². Interestingly, the Beneficiary Satisfaction Survey of April-May 2013 which interviewed 11% of the T-shelter population found an average family size of 4.3, in which case the 20.25m² of covered space is more than sufficient. The upgraded T-shelters contain one door and one window with two shutters. The structure consists of concrete footings, galvanised steel anchors,

timber posts and beams, plywood walls and in most cases a concrete floor. In total, 64% of the timber columns of the shelters were upgraded (repaired or replaced) and attached to the raised concrete footings with new galvanised steel anchors. The other 36% of timber columns in these shelters which were found to be in good condition are still anchored directly into the existing smaller concrete footing, with nails hammered into the base of the column. Finally, the mono pitch roof is covered by corrugated iron sheets and attached by hurricane straps to the wall frame.

The shelter can be altered or extended/modified according to needs of the beneficiary and space available. The layout, design and the construction of the shelter ensures a minimum life span of 3 years.

➔ *PLEASE REFER TO ANNEXED DOCUMENTS "3.7.1, 3.7.2, AND 3.7.3" FOR T-SHELTER DRAWINGS.*

3.8: Implementation mechanisms

3.8.1: Agreement with the beneficiary

During the technical assessment process the beneficiary signed the "contrat avec bénéficiare/evaluation de la structure" before we would agree to begin construction. By signing this document, the beneficiary agreed with the results of the technical assessment, consented to the upgrade and agreed to participate during the construction works by providing the required sand, gravel and water.

➔ *PLEASE REFER TO ANNEXED DOCUMENT "3.6.1.2" CONTRAT AVEC BÉNÉFICIARE/EVALUATION DE LA STRUCTURE"*

For the cases where the beneficiaries have chosen to do the upgrade by themselves, we asked them to sign a disclaimer, the "Engagement du bénéficiaire". Through the signing of this document they accept the responsibility to perform their own works and acknowledge that their design is not endorsed by GRC/AutRC. In the case where the owner of the T-shelter wanted to modify part of the structure (to add a veranda, modify the roof or installing half plywood and half concrete block as part of the enclosure) once the upgrade was completed by one of our construction teams, the same document "Engagement du bénéficiaire" was required to be signed, and included also signature of the head of the construction team.

➔ *PLEASE REFER TO ANNEXED DOCUMENTS "3.8.1.1 AND 3.8.1.2 ENGAGEMENT DU BÉNÉFICIAIRE" FOR AN EXAMPLE OF EACH.*

3.8.2: Procurement

As with the P-shelter project, due to the large quantity of materials required to upgrade 1003 shelters and shortage and/or high price of suitable materials inside Haiti, an international tender was launched through IFRC in Panama for the materials which they would contribute (plywood, timber beams, toolkits). This would ensure a competitive tender process was followed and a reasonable price obtained.

As for the other items purchased by GRC/AutRC including timber posts, timber beams, galvanised steel anchors, tools, hurricane straps, window hinges, nails, screws, cement and paint, these were purchased in locally in order to counterbalance the large bulk of materials which were purchased abroad.

All materials supplied were stored in the GRC/AutRC depot in Léogâne from where it was then delivered to the field according to the established operation, supervised by a field coordinator and project assistants. The beneficiary was made to sign the goods received note, or "Accusé de reception" on receipt of the materials.

➔ *PLEASE REFER TO ANNEXED DOCUMENT '' 3.8.2.1 AND 3.8.2.2 '' FOR SAMPLES OF THE RECEPTION NOTES*
➔ *PLEASE REFER TO ANNEXED DOCUMENT ''3.8.2.3 PHOTOS T-SHELTER DISTRIBUTION''*

The table below shows the quantity of materials received from IFRC:

Item	Unit	MOU amount	Amount received	Amount outstanding	Used amount			Broken	Returned to IFRC	Balance (not used)
					Shelter	WaSH	Total			
Plywood 4'x8' x 1/2''	sheets	18000	18000	**0**	15930	1799**	17729	144	127***	0
Timber 4''x2''x8'	pieces	16000	16000	**0**	16000		16000			0
Nails 2''	boxes	188	150	**-38***	150		150			0
Nails 4''	boxes	68	69	**+1**	59		59			9
Toolkits	kits	18	18	**0**	18		18			0

** We didn't receive 38 boxes of 2'' nails stated in the MoU, but we were able to complete the work with similar nails donated by the Canadian Red Cross after they concluded their recovery program in Léogâne. Therefore, it was no longer necessary to request these from IFRC.*

*** 1799 plywood sheets were used by WaSH in accordance with the addendum to the MoU*

****127 unused plywood sheets were returned to IFRC in April 2013 at their request*

The table below shows the quantity of materials used for the repair and replacement of columns, by community

Community	Total number of cement bags	Total number of column 9'	Total number of column 12'	Total number of anchors	Total number of timber 4''x 2''x 8'
Kolo-Kolo	1062	508	483	2102	2262
Sous de Baba	590	358	311	1170	942
Rosseau	665	224	216	1281	1562
Total material distributed	**2317**	**1090**	**1010**	**4553**	**4766**
Average per shelter	2.62	1.23	1.14	5.15	5.39

3.8.3: Construction

The T-shelter upgrade project has been implemented with a similar approach of community participation as the P-Shelter project. The Community Committee assisted with the identification of the beneficiaries and functioned as the focal point for problem solving and conflict resolution. They also appointed community members (field assistants) to support the GRC/AutRC technical field personnel in locating the shelters, carrying out the technical assessments of the shelters and monitoring the distribution of the material and progress of the construction work. Beneficiaries contributed by removing the tarpaulin, transporting the materials from the distribution point, providing water, sand and gravel for the construction of the foundations and if possible, supporting the construction teams during the construction work. They were also responsible for painting their own shelters.

➔ *PLEASE REFER TO ANNEXED DOCUMENT ''3.8.3.1 T-SHELTER PHOTOS'' FOR PHOTOS OF COMMUNITY MEETING.*

After consultation with the Community Committee, GRC/AutRC contracted carpenters and masons who lived within the community and who worked on the P-Shelter project. There were 14 construction teams in the field (6 at Kolo-Kolo, 4 at Sous de Baba and 4 at Rosseau), each team consisting of 2 mason, 2 carpenters and 2 labourers.

At the beginning of the process the GRC/AutRC technical teams provided a training specific to T-Shelters, through the construction of two exemplar shelters in each community, one for the 'Category 1' (least damaged) and one for the 'Category 4' (worst damaged) upgrades. Materials and tools were distributed to each team, to be used to execute the upgrades.

List of materials distributed to each mason team (14 tools kits):

- 2 Trowels, 2 Safety glasses, 1 Digging bar, 1 Long Shovel, 1 roll of wire, 1 small hammer, 2 gloves-heavy duty, 10 offcut pieces of plywood (for formwork), 1 Pick, 2 Timber 2"x4"x16', 2 Timber 2"x4"x8'

List of material distributed to the carpenters:

2 pieces of timber 2"x4"x8' and 15 pieces of nails 3" to make a work table. 2 pieces of timber 2"x4"x8', 1 piece of timber 1"x4"x8' and 50 pieces of nails 3" to fabricate a ladder. 1 hammer, 1 wood saw and 40 x 4" nails.

➔ *PLEASE REFER TO ANNEXED DOCUMENTS '' 3.8.3.2'' ''3.8.3.3'' FOR SAMPLES OF THE DELIVERY NOTES FOR EACH.*

Certain construction elements such as windows and the half piece of plywood used to cover the gable ends (the triangular section of wall just below the roofline) were fabricated in Sigmat by the team of carpenters.

GRC/AutRC offered the beneficiaries the option of either installing the materials themselves or with the assistance of our carpenter teams. The majority of beneficiaries decided upon the second option.

The construction teams were made to sign a contract before starting with the upgrade works. The carpenter teams were responsible to cut and fix the plywood and install the window (doors with

padlocks already exist on the T-Shelters) and the joint mason/carpenter teams repaired or replaced the timber columns and reinforced/reconstructed the existing concrete footings, all in accordance with the plans and results of the technical evaluation. The construction work was supervised by the GRC/AutRC technical teams. The construction teams were all paid on a contractual basis (fixed amount per column repaired or replaced, and per installation of plywood walling plus window) once the work was validated by the technical team.

➔ *PLEASE REFER TO ANNEXED DOCUMENTS '' 3.8.3.4 CONTRAT_CONTRE PLAQUÉ ET FENÈTRE" AND "3.8.3.5 CONTRAT SOCLE ET REMPLACEMENT_RÉPARATION POTEAUX" FOR AN EXAMPLE OF EACH TYPE OF CONTRACT*

➔ *PLEASE REFER TO ANNEXED DOCUMENTS "3.8.3.6 PLYWOOD AND WINDOW INSTALLATION PAYMENT" AND 3.8.3.7 COLUMN REPAIR_REPLACEMENT PAYMENT" FOR AN EXAMPLE OF EACH PAYMENT SHEET.*

As for the P-shelter project, the Community Coordinator acted as the interface between GRC/AutRC and the community, to ensure a good communication between every stakeholder involved during the implementation.

➔ *PLEASE REFER TO ANNEXED FOLDER ''3.8.3.8 PHOTOS T-SHELTER CONSTRUCTION WORK"*

3.8.4: Hand-over to the beneficiary

As the shelters were originally formally handed-over to the beneficiaries in 2010, there was no need to conduct another ceremony or to issue another certificate to mark the completion of the upgrades.

3.9: Major challenges faced

Locating every family from the original beneficiary list: As previously noted, there are still 72 original shelters/beneficiary families who our teams were not able to find. It was at times difficult to receive clear information from the community but during the course of construction and further consultation with them and neighbours of the beneficiaries in question, it became more apparent that they had dismantled their shelters and moved out of the community. During meetings with the three Community Communities at the end of March 2013, we explained our decision not to proceed any further with these missing beneficiaries and all three committees accepted this decision.

Identification of beneficiaries: Nearing the end of implementation, we had to deal with several community members pretending to be the beneficiaries of empty/abandoned T-shelters, presenting our teams with certificates of shelters which had been displaced or sold. We carefully investigated each case in order to avoid mistakenly giving the construction materials to non-beneficiaries.

Difficulties with deliveries: Since we worked in remote, difficult-to-access areas in the mountains, the delivery of materials was not always an easy task. It was a challenge to travel on some roads on rainy days and some beneficiaries had been difficult to contact (mobile network not always functioning in the mountains) and were reluctant to participate in the unloading and transfer of materials to their shelter. This might have been because of the larger distance between the delivery point and their house when compared to that of other beneficiaries who

live closer to the road, and the difficulties associated with carrying the materials along slippery, narrow trails.

Security problems: National staff members were often subjected to stressful situations due to pressure received from the communities, particularly after we refused to upgrade a shelter which did not qualify for the upgrade.

Technical problems: Some beneficiaries had already upgraded their shelters using concrete blocks in a dangerous fashion (unsupported) for the full height of the wall. After refusing to upgrade the shelter where we encountered such a case, this particular beneficiary decided to steal the materials directly from one of the trucks during a distribution. After meeting with the Community Committee and the beneficiary in question, he returned the stolen materials and followed our advice to rectify the construction of his shelter. As a result, we eventually agreed to carry out the upgrade. In other similar cases, after offering the beneficiaries some technical advice they were more than willing to compromise by removing the concrete blocks from the higher level of the wall to make way for the plywood sheeting. Overall, these cases were exceptional, as most beneficiaries had not upgraded their shelters with concrete blocks.

Beneficiary participation: In some cases it was difficult to motivate some beneficiaries to participate and as a result they didn't immediately provide the required sand, gravel and water. This could be explained by some beneficiaries living further than others from water points or riverbeds where one usually finds the sand and gravel. It was also found that some beneficiaries intended to upgrade their shelters at a later stage once they had saved enough money to purchase concrete blocks and other building materials in order to do a more comprehensive upgrade, so not providing the sand, gravel and water may have in fact been a way of stalling the construction works and making it impossible for the contractors to carry out the upgrades. Perhaps they were afraid that if they explained their motivation to us, that we might not have been as willing to give them the materials.

3.10: Project achievements and non-achievements (based on indicators)

Result 2.1:	**1000 T-shelters are upgraded**					
Indicator	Target value	Achievement today in %	Deviations	Justification	Measures to be taken	Status
1	At least 90% of the beneficiaries of the original T-shelter program, who still live in the T-shelter (those who	**92%** This figure derives from 816 of 884 families who were still living in their shelters at the end of	None	N/A	N/A	Finished April 2013

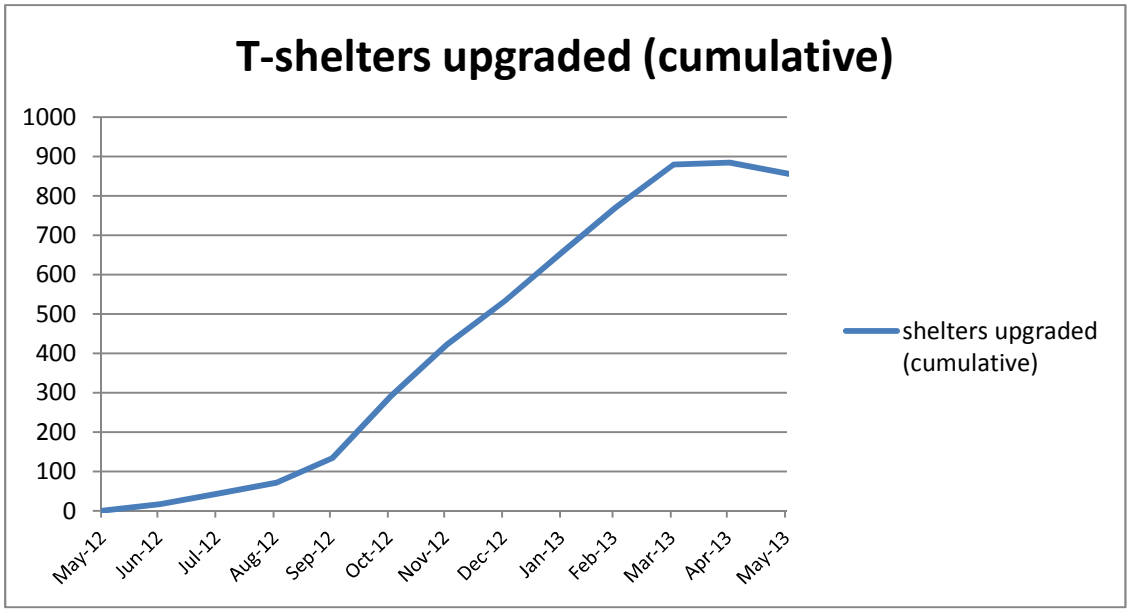
	haven't already moved on to other solutions) in the 3 selected communities live in an upgraded shelter by the end of April 2013	April 2013. 29 of these 884 dismantled their shelters and moved away after completing the upgrade. 39 of the 884 beneficiaries who received the material after opting to carry out the upgrade by themselves signed the engagement and then disappeared with the materials.				

During the project, we delivered the necessary construction materials to the 884 families who were still living in their shelters at the time. Of these 884 families, 815 opted to work with the local construction teams in order to realise the upgrades and 69 preferred to carry out the upgrade works by themselves. During the evaluation process at the end of the project, we found that 39 of these families who elected to carry out the upgrades by themselves sold the materials and dismantled their shelters, therefore not realising the upgrade works. Consequently, we have not included these beneficiaries in the final result of 845 T-shelters upgraded (4647 people @ 5.5 people/household).

Result 2.2:	**Earthquake affected families are supported to upgrade their shelters.**					
Indicator	Target value	Achievement today in %	Deviations	Justification	Measures to be taken	Status
1	The beneficiaries, community masons and carpenters have received technical training.	100% of masons and carpenters	N/A	N/A	N/A	Finished June 2012
		84% (of the 1003 families) have received technical advice during the assessment and construction process.	158 of 1003 families	These 158 families did not upgrade their shelters therefore we did not have an opportunity to offer training (39 disappeared after receiving the materials, 47 did not qualify and 72	None proposed	

				were not found).		
	At least 90% of the 1003 families have participated in the construction.	84% (of the 1003 families)	As mentioned above	As mentioned above	As mentioned above	

The graph below illustrates the monthly upgrade rate:



The dip in the graph in May 2013 reflects the 39 beneficiaries who opted to upgrade their shelters by themselves but were then found to have moved away from the site with all construction material without carrying out the upgrade.

The table below represents the status of the project by May 2013:

Town	Sector	Community	NUMBER OF T-SHELTERS EVALUATED, QUALIFIED, & UPGRADED (A)	NUMBER OF T-SHELTERS EVALUATED ,QUALIFIED, UPGRADED and then DISPLACED (B)	NUMBER OF T-SHELTERS EVALUATED , QUALIFIED then DISPLACED (C)	NUMBER OF T-SHELTERS EVALUATED & NOT QUALIFIED FOR AN UPGRADE (D)	NUMBER OF T-SHELTERS NOT FOUND and LIKELY DISPLACED (E)
Léogâne	5ème Palmiste à Vins	Kolo Kolo (443)	361	17	17	24	24
		Sous de Baba (283)	214	11	6	7	45

		Rosseau (276)	241	1	16	16	3
			816	29	39	47	72
Total number of T-shelters							1003
Total number of materials distributed (A+B+C)					884		
Total number of T-shelters upgraded (A+B)				845			
Number of T-shelters likely displaced/not qualified (B+C+D+E)							187

Maps of the intervention zone

Map of Léogâne – extent of shelters is indicated in blue, community boundaries in yellow, main roads in green.

Map of Léogâne – Map of the T-Shelters upgraded in the three communities. Red points indicate shelters in Kolo-Kolo, yellow, Sous de Baba and blue, Rosseau.

➔ *PLEASE REFER TO ANNEXED DOCUMENT 3.10.1 "T-SHELTER UPGRADES MAP 16MAY 2013 " (GOOGLE EARTH FILE).*

4: Visibility

For the P-shelter project, 1 metal signboard was installed in each of the 10 communities. For Rosseau and Sous de Baba, we attached the original T-shelter signboards under that of the P-shelter in order to consolidate them and to retain position of the original installation. We engaged a local welder to fabricate the signs and a local artist to paint the design. We again worked with this artist to create the project banner which was used during the handover ceremonies. Lastly we designed a T-shirt for the overall joint recovery program to increase visibility of our teams in the field.

➔ *PLEASE REFER TO ANNEXED DOCUMENT ''4.1 VISIBILITY MATERIALS" FOR FURTHER DETAILS.*

At the end of both projects, a project information sheet was given to the two Haitian Red Cross Coordinators and the Mayors of Leogane and Gressier in order to present an overview of the results of each project and to announce the end of implementation.

➔ *PLEASE REFER TO ANNEXED DOCUMENTS ''4.2 PRESENTATION FIN DE PROGRAMME P-SHELTER" AND ''4.3 PRESENTATION FIN DE PROGRAMME T-SHELTER".*

5: Cost Analysis

This section provides a brief comparison and analysis of the approximate cost of each of the 2 approaches:

- The T-shelters built in 2010 as an emergency solution, then upgraded in 2012-2013 to reach a similar standard of the P-shelters which were built in 2011-2012
- The P-shelters

It then examines the cost of the P-shelter against other shelter solutions which were employed by other RC/RC movement partners.

5.1: P-shelter

The approximate cost of a P-shelter, not including salaries of national or international technical staff, international travel or office costs is USD $2640 (USD $129/m2). We arrived at this figure by using average costs of materials and transportation during the course of the project. Overhead costs have not been included in this calculation as we have used a standard cost-benefit analysis form developed by the RC/RC shelter group which did not include these costs.

➔ *PLEASE REFER TO ANNEXED DOCUMENT "5.1 RC-RC SHELTER COST-BENEFIT ANALYSIS" FOR FURTHER DETAILS.*

5.2: T-shelter and T-shelter upgrades

The average cost of a T-shelter, considering the original construction in 2010, plus the cost of the upgrade works in 2012-2013, is USD $2525 (USD $124.70/m2). In order to be able to compare this to the cost of a P-shelter, again we have not considered the salaries of national and international technical staff, international travel or other overhead costs in the calculation. Please refer to the table below for a further breakdown of costs:

Items	USD $	Euros €
T-Shelters built in 2010 (ECHO funded)		
Shelter construction material	861,574.49	662,723.10
Material for walls and tool kits	78,776.25	60,594.69
Labour costs	73,089.82	56,220.69
Fuel	1,566.32	1,204.81
International transport	11,498.22	8,844.43
Local Transportation (rent truck)	24,527.46	18,866.52
Training costs	2,563.31	1,971.70
TOTAL	**$1,053,595.87**	**810,425.94 €**
Total price per T- shelter (1003)	**$1,050.44**	**808.00 €**
T-Shelters upgraded under IFRC and GRC/AutRC funds in 2012-2013		
Materials IFRC (Including transportation)	731,800.00	562,900.56
Materials GRC (Including transportation)	249,846.07	192,181.60
Labour cost (Including training cost and salary of carpenters at the warehouse)	241,682.41	185,902.11
Distribution (rent truck)	80,444.03	61,877.55
TOTAL	**$1,303,772.52**	**1,002,861.82 €**

Total price per T shelter upgraded (884)	**$1,474.86**	**1,134.46 €**

Total price per T-Shelter (including the upgrade)	**$2,525.30**	**1,942.46 €**

This table shows the expenditure for the original ECHO funded T-shelter project, plus the approximate amount spent on the current upgrades according to AKS. This second figure is approximate due to the T-shelter upgrades being booked on the same cost centre as the P-shelter project. As the 2 projects ran concurrently, expenses are mixed and not always easily identifiable as belonging to a particular project. We have however made every effort to extract only the T-shelter expenses.

Further to these qualifications, we took into account the salaries of the carpenters at Sigmat who fabricated the windows for the T-shelter upgrades, but it should be noted that they also worked for the WaSH department during the same period. Furthermore, since in the final documents submitted to ECHO, the costs of labour, contractors and salaries for national and international staff weren't elaborated, we have attempted to separate and estimate the breakdown of these costs based on our experience with the P-shelter project.

Finally, at the time of preparing this report, the AKS was current only up until the end of April 2013, therefore not taking into account expenses for May 2013. We have estimated the expenses related to the T-shelter upgrade project for this period and have factored this into the above tables.

➔ *PLEASE REFER TO ANNEXED DOCUMENT ''5.2 FINAL COST ECHO T-SHELTER 2010'' FOR FURTHER DETAILS OF COSTS RELATED TO THE INITIAL T-SHELTER PROJECT IN 2010.*

➔ *PLEASE REFER TO ANNEXED DOCUMENT ''5.3 AKS SHELTER PROJECT'' FOR FURTHER DETAILS ON THE TOTAL COST OF THE P-SHELTER AND T-SHELTER UPGRADE PROJECTS.*

5.3: P-shelter vs. T-shelter

As can be seen in the above calculations, the cost of a P-shelter is remarkably similar to that of a complete T-shelter. As was found during the Beneficiary Satisfaction Survey, there are pros and cons associated with each approach, that is, the reactive response (T-shelter), and the measured response (P-shelter). For example, there exists a higher amount of beneficiary dissatisfaction amongst the T-shelter beneficiaries as the standard of their shelter still remains lower and less durable than the P-shelters and models constructed by other organisations and RC/RC movement partners.

Technically, the standard of the construction remains lower due to the fact that there are still some structural timber columns of each shelter connected directly to the ground (we didn't replace the columns which were still good condition) and the flat roof structure is of a lesser quality and inferior design which produces a higher temperature inside the shelter during the day. As a result, the beneficiaries of the T-shelters have made more modifications to their shelters than the P-shelter beneficiaries, which may mean that the average cost of a T-shelter might actually be higher than that of a P-shelter. Please refer to section *6: Lessons Learned and Recommendations* for further analysis.

On the positive side, as was found during the Beneficiary Satisfaction Survey, the beneficiaries of the T-shelters were generally happy and grateful to have received shelter assistance before most other people as it allowed them to leave the camp at an earlier stage.

5.4: GRC P-shelter vs. similar shelters of other RC/RC movement partners

For the purposes of this analysis, the GRC/AutRC P-shelter has been compared only to other similar shelters: the *Transitional shelter* of the Spanish Red Cross and the *Type B Core Shelter* of the Canadian Red Cross. The designs of the other shelters noted in the cost-benefit analysis (refer to annex) are quite different from the P-shelter; generally they are more permanent, hence more expensive and not easily comparable to the design of the GRC/AutRC P-shelter.

When compared with the above-mentioned shelter solutions of other RC/RC movement partners, the GRC/AutRC P-shelter appears to have been constructed more economically. Please see below for indicative costs:

- GRC/AutRC P-shelter, USD $2640 (USD $129/m2)
- Spanish RC improved T-shelter, USD $3190 (USD $177/m2)
- Canadian RC Type B Core Shelter, USD $7955 (USD $442/m2)

The most striking difference is the high cost of the Canadian RC shelter which is more than 3 times the cost of the GRC shelters. The main reasons for this difference could be attributed to the modular, bolt-connected structural system of the Canadian RC shelter, compared to the lightweight, nailed structural timber frame of the GRC shelters. The main benefits of using such a strong, bolt-connected system are twofold: firstly, it greatly increases the resistance of the shelter against hurricanes (in this case the Canadian RC shelter is resistant to category 3 hurricanes, while GRC/AutRC P-shelter is resistant only to category 1), and secondly, it allows the beneficiary to more easily disassemble their shelter without damaging the structural elements, in case they decide or are forced to move from their land.

Other factors which contribute to the higher cost of the Canadian RC shelter include thicker plywood wall panelling (3/4'' instead of GRC's ½'') and insulation which has been installed under the roof sheeting. As a result both the material and labour costs of the Canadian RC shelter are approximately double those of the GRC/AutRC shelters.

The T-shelter of the Spanish RC is also less expensive than the Canadian RC's shelter but more expensive than the GRC/AutRC P-shelter for several reasons. For example, SRC's preferred to procure a greater proportion of the construction materials locally (57% vs. 15%), to use a steel-framed wall structure (instead of lightweight timber), to construct the walls using reinforced concrete to the mid-height of the wall, (instead of plywood wall panelling) and to install protection over the windows (none installed by GRC/AutRC).

While it is clear that the GRC/AutRC shelter was constructed more economically than those of Spanish and Canadian RC, it is probable that the life expectancy will be compromised as a result of this cost saving. The GRC/AutRC P-shelter was designed with a minimum 3 year life expectancy in mind, while those of the Spanish and Canadian RC were designed with 15 years and more than 20 years life expectancy respectively.

Please note that as the shelters of the Spanish RC and Canadian RC do not include rainwater harvesting systems, the cost of this has not been factored into the cost of a GRC/AutRC P-shelter for the purpose of this analysis.

6: Lessons learned and recommendations

The Beneficiary Satisfaction Survey came at the end of the implementation process of the shelter recovery projects. It was conducted over a period of 5 weeks, from April to May 2013

At the end of the survey, we held a one day Lessons Learned workshop with GRC/AutRC staff and 2 HRC volunteers who had been involved in the project, in order to discuss and analyse the results of the survey and to formulate the following recommendations based on this process. GRC/AutRC project staff was then asked to complete a satisfaction survey with questions on the design and implementation of the project and how they found their experience with GRC/AutRC.

➔ *PLEASE REFER TO ANNEXED DOCUMENTS "6.1 RESULTS OF BENEFICIARIES SATISFACTION SURVEY" AND "6.2 SURVEY AND LL SUMMARY" FOR FURTHER DETAILS OF THE BENEFICIARY SATISFACTION SURVEY AND LESSONS LEARNED WORKSHOP.*

➔ *PLEASE REFER TO ANNEXED DOCUMENTS "6.3 ENQUETE DE SATISFACTION" FOR AN EXAMPLE OF THE BENEFICIARY SATISFACTION SURVEY FORMS.*

- **Recruitment:** National staff should as far as possible be recruited locally in preference to those who live outside the region, in order to avoid problems with local people who may demand employment, start protests, throw stones or create road blocks. The situation can easily deteriorate and protests escalate if it is exploited by local politicians who want to campaign with this issue. Often such campaigns are combined with unjustified allegations of favouritism and corruption.

- **Beneficiary selection criteria:** Even though the criteria were communicated to the community through the committees and regular meetings with the beneficiaries, not all beneficiaries were aware of them.

  Recommendation: Invest more time in communicating with the beneficiaries. Install a community notice board in a central location where all key messages can be posted.

- **Original T-Shelter design (constructed in 2010):** As this shelter was designed to provide rapid relief and was seen as temporary, the construction was very basic, easy and fast to build at a low price. From that point of view, we can consider that the project had been a success. While most other organisations at the time were struggling to start their shelter programs, we were able to provide a rapid solution to 1000 families living in camps, reducing the level of vulnerability and the exposure to hazards.

  Recommendations: If the emergency shelter was seen more as a temporary shelter or a core shelter (solid primary structure which could be improved by the beneficiary over time) which it inevitably was, and more attention given to the construction detailing, the scope and cost of the upgrade works could have been substantially reduced and the satisfaction of the beneficiaries perhaps increased. We found that although these beneficiaries were happy to have received a shelter before many other beneficiaries, they were less satisfied with the standard of their shelter compared to the other more durable solutions constructed by

movement partners and other organisations. Such practices to consider for future projects could include:

- Use only treated timber. This was not the case in the original T-shelters where untreated timber was used. In a context with high humidity, this created the ideal conditions for termite infestation and accelerated rotting of the timber.

- Better construction detailing. For the T-shelters, the column-to-foundation detail was poorly conceived as the untreated timber post was exposed directly to the earth, and as a consequence the timber was rotten and infested with termites. If more concrete had been used for the footings in order to protect the timber column at the base, a large part of the damage could have been avoided. Better still, the column could have started above the natural ground level, attached to the concrete footing with a galvanized steel anchor so that it could be easily removed and replaced at a later stage if it were to become infested with termites.

- Design the shelter with the local culture in mind. The design of the T-shelter does not respect this recommendation, for example the roof is a mono pitch instead of a double pitched (saddle) roof. As a result, many of the beneficiaries have started to modify the roof, at the same time removing hurricane straps and rendering the shelter more vulnerable to hurricanes. Over and above cultural considerations, the flat roof was also much hotter than the pitched equivalent and this may have led to further beneficiary dissatisfaction.

- **Space requirements/covered area (P Shelter and T-shelter upgrades):** As we conducted this survey well and truly into the recovery phase more than 3 years after the earthquake, more than 2 years after the completion of the original T-shelter project and almost a full year after the completion of the P-shelter project, it is highly likely that the beneficiaries were not considering their space requirements in the days immediately after the earthquake when they answered the survey question. Instead, it is possible that they were considering present day, a time when more space is needed for items other than people, particularly furniture. It was suggested by some that they needed approximately 60m2 (12m2 per person) rather than the 3.5m2 which we had allowed according to Sphere standards.

  Recommendations: It could be possible that the beneficiaries feelings about not having enough space could have been mitigated through respecting the local building typology and constructing a veranda (gallery), an outdoor cooking space and simply dividing the inside of the shelter with an additional two pieces of plywood in order to create two separate rooms. This would have also necessitated a second door.

- **Number of displaced Beneficiaries (T-shelter upgrades only):** 39 beneficiaries who opted to carry out the upgrades by themselves dismantled their shelters and disappeared with the materials even after signing an engagement to carry out the works.

  Recommendations: It can of course be difficult to know whether or not a beneficiary will honour their pledge to use the materials in the manner stated in the agreement. In saying this, more time could have been spent with each family prior to signing the agreement, in order to better understand their motivation. It could have also been useful to obtain the advice and approval of the Community Committee on a case-by-case basis before proceeding with the works. As this figure of 39 beneficiaries represents more than half of those who opted to upgrade by themselves, it should be carefully considered whether or not

there is any added value in offering beneficiaries the option of upgrading their own shelters. Looking at this situation from another, more positive point of view, offering the materials to the beneficiaries so that they could carry out their own upgrades gave them the opportunity to use the materials for whichever purpose they wanted or needed. Even if it wasn't substantiated during the course of this project, this may have meant that some beneficiaries were able to move away from their temporary shelter and to re-establish themselves in a more agreeable location or in a permanent house.

- **Technical advice:** It is clear that some beneficiaries did not attend the training due to a lack of motivation or unavailability. Not everyone was interested in the technical side of the shelters; perhaps they would be interested to attend training only if they knew that they would receive something in return, or if it was training on a subject which really interested them. Generally mostly women did not attend the training. Instead it could have been their husbands, another family member or even a friend who attended the training. It could be concluded that in many cases, the person who has attended the training has not transferred any of the information to other members of their family.

  Recommendations: conduct the training "door by door" to ensure that everyone attends. Perhaps we could have also taken more time to explain the details in the construction manual, since some people didn't look at it either because of a lack of interest or illiteracy.

- **Payment of community assistants:** The community assistants were basically community members who helped our teams to locate the shelters, informed us of the progress, assisted us with the evaluation etc. The payment of these assistants may have created a dependency and a conflict of interest, and it is highly likely that they were more motivated by the money than the opportunity to serve their fellow community members by actively participating in the recovery process without financial gain.

  Recommendations: more sensibilisation of the community in the design phase of the project, and GRC/AutRC commitment to the project only if the community offers this assistance free of charge. These terms must be defined at the beginning of the project in a Project Agreement.

- **Procurement:** As before noted, the shelter projects faced some large delays due to a slow procurement process and this caused some tension in the field. This was more of a problem for the P-shelter than for the T-shelter upgrades, mainly due to the large bulk of materials purchased.

  Recommendations: One should ideally allow more time for procurement in the initial planning documents. The status of this process should be communicated to the beneficiaries as often as possible so that they are kept informed of the difficulties we are facing. Secondly, if the capacity of logistics is not enough to fulfil the requirements of all operational departments, one local staff member could be employed directly by each department in order to provide a support to logistics.

- **Distribution of materials:** It was not always easy to identify if the right beneficiary was receiving the materials due to absence of National Identity cards and other forms of identification.

  Recommendation: Create and issue to each beneficiary a Red Cross beneficiary identification card common to all the departments, which includes the beneficiary's name, unique

GRC/AutRC ID, photo and names of family members. This would be valid for the period of implementation.

- **Delivery of construction materials to beneficiaries:** Some beneficiaries held important items, preventing the construction teams from installing them.

  Recommendations: More sensitisation of the beneficiary to ensure that they understand the function of important parts of the structure, such as hurricane straps, and then they may be less likely to hold these from the contractors. There were many instances where the contractors complained that the beneficiaries did not provide them with the hurricane straps. We might also consider distributing less cement bags for the floor so the beneficiaries will have to use what they receive and will be likely to sell the excess bags. Typically beneficiaries used 3-4 bags of the 9 which were delivered for the construction of the concrete floor and used the rest for other purposes. Another solution may be to deliver the crucial structural elements directly to the contractors instead of the beneficiaries.

- **Urban (Gressier) versus rural (Leogane):** not all beneficiaries found it easy to provide the sand, gravel and rocks. This was less of a problem in rural areas where these materials could be found in abundance, but proved more difficult for those in urban areas, where it was necessary to purchase them. It appears that this was not foreseen in the project budget and in any case there is a high likelihood that providing these materials to a certain group of beneficiaries and not others could have raised complaints of inequality between the communities.

  Recommendations: consider designing the project differently for urban areas, and perhaps even employing another management team to implement the project in each area, i.e.: one office in Gressier, another office in Leogane.

- **Internal coordination and project planning with the WaSH department.** It is evident that in many instances that this was perhaps not good enough and has led to delays in the overall Joint Recovery Program. For example, even though the beneficiaries of the latrine component are the same as the shelter beneficiaries, the P-shelter database was not shared with WaSH, and no allowance was made to incorporate WaSH data into the database. The second issue was that of site selection. The shelter team asked the beneficiary to provide only enough land for the shelter (land with dimensions of 6.3m x 4.0m and the shelter itself is 6.2m x 3.7m), not taking into account space required for a latrine. According to the WaSH team, the site selection for the latrine was often quite difficult, the main reason being lack of space.

  Recommendations: Create a joint database at the beginning of the project which can be used by all departments who are working with the same groups of beneficiaries. Employ a database manager who can create and manage the database, working with all departments at the same time. We attempted to create a common database for the Joint recovery Program, but as this was started quite late in the program, it remains quite basic and incomplete. For the issue of site selection, create a team consisting of 1 construction delegate and 1 WaSH delegate who will be responsible for jointly implementing the shelters and latrines together.

- **Too many Community Committees, too many interlocutors:** Working in a Joint Recovery Program with four operational departments across ten communities meant that up to 40 Community Committees were created for the purposes of the program. There seemed to be

a lot of overlap between committees with some community members representing more than one committee in their community. This sometimes made it difficult to organise a meeting and at times it felt like we were working in a very inefficient manner and against the other departments in the program.

Recommendation: We could work in a more integrated manner between departments and form one Community Committee per community, which could work with all four operational departments. Another method to ensure smooth communication and reduce competition between departments could be to create a department who are solely responsible for communication with the beneficiaries, on behalf of the four operational departments. The department 'Beneficiary Communications' exists within IFRC and to a certain extent serves this function.

Leogane, May 2013

Robert Dodds & Alicia Gimeno

GRC/AutRC Recovery Program
Leogane, Haiti

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