

# Relying on Markets for Shelter Response to Hurricane Matthew in Haiti

AN ANALYSIS OF THE IRON SHEETING MARKET IN  
SOUTH AND GRAND'ANSE DEPARTMENTS

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# List of Abbreviations

CGI	Corrugated Galvanized Iron
CNSA	<i>Conseil National pour la Sécurité Alimentaire</i>
CRS	Catholic Relief Services
DPC	<i>Direction de la Protection Civile</i>
EMMA	Emergency Market Mapping and Analysis
KII	Key Informant Interview
FGD	Focus Group
HEA	Household Economic Assessment
ICT4D	Information and Communication Technology for Development
IOM	International Organization for Migration
LRP	Local and Regional Procurement
MEAL	Monitoring Evaluation Assessment and Learning
MTPTC	<i>Ministère des Travaux Publics, Transports et Communications</i>
MFI	Microfinance Institution
NFI	Non-food items
NGO	Non-governmental organization
WASH	Water, Sanitation and Hygiene

# Executive summary

## BACKGROUND

Hurricane Matthew, a destructive category 4 hurricane, struck the southern peninsula of Haiti on October 4th, 2016, killing 900 people and leaving 750,000 others in need of urgent assistance. The hurricane ruined livelihoods and damaged 120,000 buildings. More than 175,000 people sought refuge in 307 temporary shelters (as of November 11, 2016, OCHA), and roughly half a million sought refuge with friends, family and neighbors, or resorted to makeshift temporary shelters.

The humanitarian community, led by the International Organization for Migration, is preparing to distribute at least 71,000 tarps and repair kits to meet people's immediate needs, but these items are insufficient to create a protected, private space. Families need help to build a more durable shelter for longer-term recovery.

## MARKET ASSESSMENT

Catholic Relief Services (CRS) conducted an Emergency Market Mapping and Analysis (EMMA) in eight communes in the South and Grand'Anse departments to assess the feasibility of a market-based shelter response. The exercise sought to answer three critical questions related to the market of corrugated galvanized iron (CGI) sheets for roofing:

1. Does the CGI market system have the capacity to meet the needs of the most vulnerable?
2. What are the constraints in the CGI market system that limit people's access to sheeting?
3. Which types of market-based responses do potential beneficiaries and vendors prefer?

The target groups for the analysis were people whose homes were severely damaged and who are vulnerable economically and/or socially. The exercise developed pre- and post-hurricane maps for the CGI market system, analyzed gaps, and proposed response options.

The gap analysis revealed that there are still more than 50,000 houses in South and Grand'Anse that need CGI—between 500,000 to 600,000 sheets. The 16,600 to 23,300 most vulnerable households, representing 8% to 11% of the total population in both departments, are the priority target. They need 166,000 to 280,000 CGI sheets to repair their roofs.

## ASSESSMENT RESULTS

Before the hurricane, wholesalers either purchased CGI from Haitian manufacturers or imported it. Vendors then bought the CGI from the wholesalers. Since the hurricane, more wholesalers have been importing CGI than buying locally. Beyond

Port-au-Prince, there are wholesalers in market hubs, mid-level wholesalers, retailers, and consumers. Generally, the thinner, cheaper 34-gauge CGI has been supplied to the South.

The most visible market impact of hurricane Matthew is the surge in demand for CGI. This surge is creating bottlenecks at the level of importers and wholesalers, which cause delays in delivery. Often, the quantity delivered to wholesalers or mid-level wholesalers does not correspond to the initial purchase request and fails to satisfy all customers.

The most widely available type of CGI on the market is 34-gauge. However, the team observed that even in sub-standard CGI there are now different types of CGI 34-gauge, which range in thickness from 0.18mm to 0.24mm and are not always galvanized. The poor quality is exacerbated by the absence of quality control. The Government of Haiti recommends wide distribution of 34-gauge CGI, which contradicts the technical advice from the Shelter and NFI working group (which recommends 3ft x 6ft CGI, minimum gauge 30 or 0.399 mm) or the 2013 building code from the Government's transport ministry (Ministère des travaux publics, transports et communications).

Prices of 34-gauge CGI have increased by 21%, from an average of HTG 213 to HTG 275. The price is inflated at all levels of the chain because the surge in demand outstrips supply.

Based on the estimated sheets purchased over the last three weeks in South and Grand'Anse (238,531), and the potential capacity of importing, producing, transporting and storing CGI in Haiti, the market can technically meet the demand of the most vulnerable (166,000 to 280,000 CGI sheets), but quality CGI is not available and the target group would not be able to afford it if it were. One producer, ACRA, can produce 10,000 CGI sheets per week that meet minimum quality standards, which means 280,000 sheets could be produced over the course of the upcoming dry season. The other half million sheets that meet minimum quality requirements would need to be imported.

The EMMA exercise confirmed that CGI sheets are crucial to meeting humanitarian needs. There are multiple reasons for this, including seasonality, tarp's life, the shelter needs of the most vulnerable, and issues related to protection.

## WEIGHING RESPONSE OPTIONS

A market-based approach to supporting shelter rehabilitation would be appropriate in this context because the CGI market is functional and has the structural capacity to deliver the needed sheeting. If done properly, a market-based response would not harm existing markets, but would support the local economy, including the formal construction sector (registered vendors), by outsourcing the logistics, transportation,



Branded 34 gauge CGI. CRS staff

storage, and handling of CGI to vendors. If the response involved a combined local or regional procurement (LRP) and voucher system, the use of “point of sales” when relying on a network of vendors could limit the number of distribution points compared to direct distribution. Therefore, a market-based approach would be more cost efficient than direct distribution, and it would reduce the security risk to beneficiaries.

Humanitarian response in this context must consider both supply and demand-side needs in order to ensure that quality materials are available and that

both consumers and vendors benefit. The response should use the market’s structural supply capacity whenever possible to deliver quality CGI to the most vulnerable in a cost-effective way, through direct or indirect market intervention. The response should also support the demand side of the market (beneficiaries), which could be done through direct or indirect market intervention as well. Software such as “Build Back Better” training should be used to reach a wide audience and obtain buy-in from communities. And finally, the response should allow for limited direct distribution of quality CGI to the most vulnerable if a market-based approach proves to be impossible in some areas.



Tarp-covered houses, Damassin. CRS staff

## RECOMMENDED RESPONSE

- After analyzing all possible options, the following response is recommended:
- “Build Back Better” training for the targeted community
- Combined local and regional procurement (LRP) and conditional commodity e-vouchers (CGI and other construction inputs) with a network of mid-level wholesalers to reach the target population in a cost effective manner. Using vouchers will ensure that people buy quality CGI, and will promote the engagement of local vendors.
- In very limited cases, LRP with direct distribution of quality CGI and other construction inputs to areas that absolutely don’t have access to markets and for essential community infrastructures.
- Cash-for-Work to rehabilitate markets and access roads, and to enable entire communities to have better market access more quickly.
- Advocating for a better business environment and coordinating with traditional and non-traditional Shelter and NFI working group participants in order to “build back better.”
- Price monitoring and protection mainstreaming to make sure we do no harm to people and markets.

# 1. Emergency context

A powerful Category 4 storm, Hurricane Matthew, made landfall early on October 4. Passing over the southwestern peninsula, it killed 900 people and destroyed homes, infrastructure, farmland and businesses—particularly in the South and Grand’Anse departments. An estimated 2.1 million people have been affected by the hurricane, with 1.4 million in need of humanitarian aid—and, of those, 750,000 people are in need of urgent assistance. Given the devastation to hospitals, potable water and sanitation infrastructure—as well as the preexisting cases of cholera in the country—the spread of illness, particularly cholera, is of grave concern. The devastation to farmland also threatens to result in a severe food shortage, as well as long-term food insecurity and disruption to people’s livelihoods. The hurricane damaged nearly 100% of the farms in South and Grand’Anse, decimating staple crops and gardens. Though the effects of the storm were felt throughout Haiti, the South and Grand’Anse departments have suffered some of the most severe devastation. Due to the limited enforcement of, and compliance with, minimum building and zoning standards in the area, shelter and makeshift housing had been built on floodplains. Also, inappropriate agricultural practices on hillsides resulted in severe soil erosion and landslides.

The Government has estimated that 120,000 buildings are damaged in the South and Grand’Anse, including homes, community buildings and markets. In addition, on a national level, 175,500 people are living in 307 temporary shelters. Roughly 80% of those shelters are in South and Grand’Anse. CRS’ rapid assessment noted that 80% of the buildings in Grand’Anse were completely destroyed, along with 50% of buildings in the South. An estimated 50% and 20% of buildings in South and Grand’Anse, respectively, sustained partial damage. In rural areas, the figures are even higher: Approximately 90% of houses in both the South and Grand’Anse are destroyed or severely damaged. Haitians traditionally build their homes from timber, walled with stone and capped by wooden trusses and tin sheeting for roofs. While these materials are available in Haiti, the demand is increasingly high given the scale of the need. People also have less cash on hand to purchase these items even if they are available. The humanitarian community, led by the International Organization for Migration (IOM), is preparing to distribute at least 71,000 tarps and repair kits to meet people’s immediate needs, but these items





Louis jean anelorme in front of destroyed house near Beaumont. CRS staff

are insufficient to create a protected, private space. Families will need assistance to build a more durable space for longer-term recovery. Haitians, especially those in rural areas, typically construct their homes by themselves with help from friends, family and limited assistance from hired masons and carpenters. The traditional building practices do not take into account simple, low-tech methods that can help reduce risk in future disasters. Furthermore, the available skilled labor is going to be in significant demand, resulting in some families attempting to rebuild without skilled labor because of limited availability and high cost.

## 2. EMMA methodology

Catholic Relief Services (CRS) carries out the commitment of the United States Conference of Catholic Bishops to assist the poor and vulnerable overseas. Our Catholic identity is at the heart of our mission and operations. We welcome as a part of our staff and as partners people of all faiths and secular traditions who share our values and our commitment to serving those in need.

CRS seeks to provide an immediate response to Hurricane Matthew in the South and Grand'Anse by delivering emergency assistance and recovery programming to the most distressed populations. CRS anticipates that the key post-hurricane interventions will be in Agriculture Livelihoods, Shelter, and WASH. Cash and markets-based responses are a cost-effective way to meet the needs of those most affected.

CRS conducted an Emergency Market Mapping and Analysis (EMMA) exercise to assess the appropriateness and feasibility of a market-based response to hurricane Matthew for selected critical market chains. This included identifying intervention options for market-based support (direct, indirect support or a combination of both), determining the most appropriate modalities for market-based programming (in-kind, voucher or cash, conditional/non-conditional, restricted/non-restricted), assessing the risk of doing harm, and informing the Cash and the Shelter and NFI working groups as well as the Early Recovery Cluster to detail their market-based strategy.

The EMMA is a rapid market analysis designed to be used in the first 2-3 weeks of a sudden onset crisis. Its rationale is that a better understanding of the most critical markets in an emergency situation enables decision makers (donors, NGOs, the government, and other humanitarian actors) to consider a broader range of responses. It is intended to be neither statistically significant nor to replace existing emergency assessments, or more thorough household and economic analyses such as the Household Economic Assessment (HEA), but instead should add to the body of knowledge after a crisis.

In Haiti the EMMA team was made up of 11 fully dedicated team members: 2 EMMA team leaders with strong market experience, 6 enumerators, 1 MEAL/ICT4D officer as well as 2 drivers.

Training was provided on October 24 and 25, as well as on an ongoing basis throughout the course of the assessment.

First-hand data collection took place October 26 to November 2 in eight communes of South and Grand'Anse: Les Cayes, Port Salut, Coteaux, Camp Perrin, Beaumont, Jeremie, Moron, Dame Marie. The communes were selected to provide a representative sample of livelihoods zones and markets (hubs, secondary, tertiary) in the affected area. A total of 121 Interviews were held in "market centers" as well as outside "market centers" in each communes: 11 KII with local leaders (9%), 48 KII (24 men, 24 women) with households (40%), 11 gender-disaggregated FGD (9%), and 51



CGI Vendor Port Salut. CRS staff

KII with vendors (42%). Households interviewed in the eight communes were from the target population (see section below). Please refer to Annex 2 for list of vendors interviewed.

An ICT solution was used to collect data: KII responses were entered into iPads running iFormBuilder. Information provided by focus groups was noted on paper. The team also used a paper observation form and held a debrief meeting every day after data collection to compile quantitative and qualitative information from different tools used, and to update the seasonal calendar and market system mapping.

Secondary sources and desk-based research were used to maximize use of available information prior and after the data collection.

### 3. The target population

An estimated 2.1 million people have been affected by the hurricane, with 1.4 million in need of humanitarian aid—and, of those, 750,000 people are in need of urgent assistance. The Government has estimated that 120,000 buildings are damaged in the South and Grand’Anse, including homes, community buildings and markets. In addition, on a national level, 175,500 people are living in 307 temporary shelters—and, roughly 80% of those shelters are in South and Grand’Anse. CRS’ rapid assessment noted that 80% of the buildings in Grand’Anse were completely destroyed, along with 50% of buildings in the South. An estimated 50% and 20% of buildings in South and Grand’Anse, respectively, sustained partial damage. In rural areas, the figures are even higher: Approximately 90% of houses in both the South and Grand’Anse face complete destruction.

The eight communes selected for EMMA were in two livelihoods zones (CNSA, 2015): southeast coastal, inland and mountainous areas are in the southwestern coast maize, manioc and bush products livelihoods zone (HTO7), whereas the southwest coastal areas are in the south beans, bananas and petty trade one (HTO8).

Among the population in these livelihoods zones, CNSA distinguished four types of socio-economic profiles: very poor, poor, middle, and better-off (note that the CNSA study focused on the rural area, therefore urban area livelihoods might be different). Prior to hurricane Matthew, income

across these two livelihoods zones varied between HTG 4,100/month for the poorest and HTG 22,000/month for the richest. It is worth noting the differences between poor and very poor in both livelihood zones prior to hurricane Matthew because it potentially indicates different kinds of vulnerability: In HTO7, average very poor incomes were HTG 4,100/month and average poor incomes HTG 7,900/month. In HTO8, average very poor incomes were HTG 5,400/month and average poor incomes HTG 6,600/month. Moreover, HTO7 very poor and poor incomes relied essentially on labor and petty trade, whereas HTO8 incomes relied essentially on crop sales, fishing and charcoal/wood products. There were no major differences regarding expenditures, as most were dedicated to food and other essential goods and services.

The target groups for the EMMA were hurricane Matthew-affected households in the eight communes surveyed in South and Grand’Anse Departments. These consisted of people whose homes were severely damaged (roof line and below), people who are vulnerable economically (very poor) and/or socially (the elderly, pregnant or



- HTO1 Dry Coastal Maize and Charcoal
- HTO7 South Beans, Bananas, and Petty Trade
- HTO8 Southwestern Coast Maize, Manioc, and Bush Products

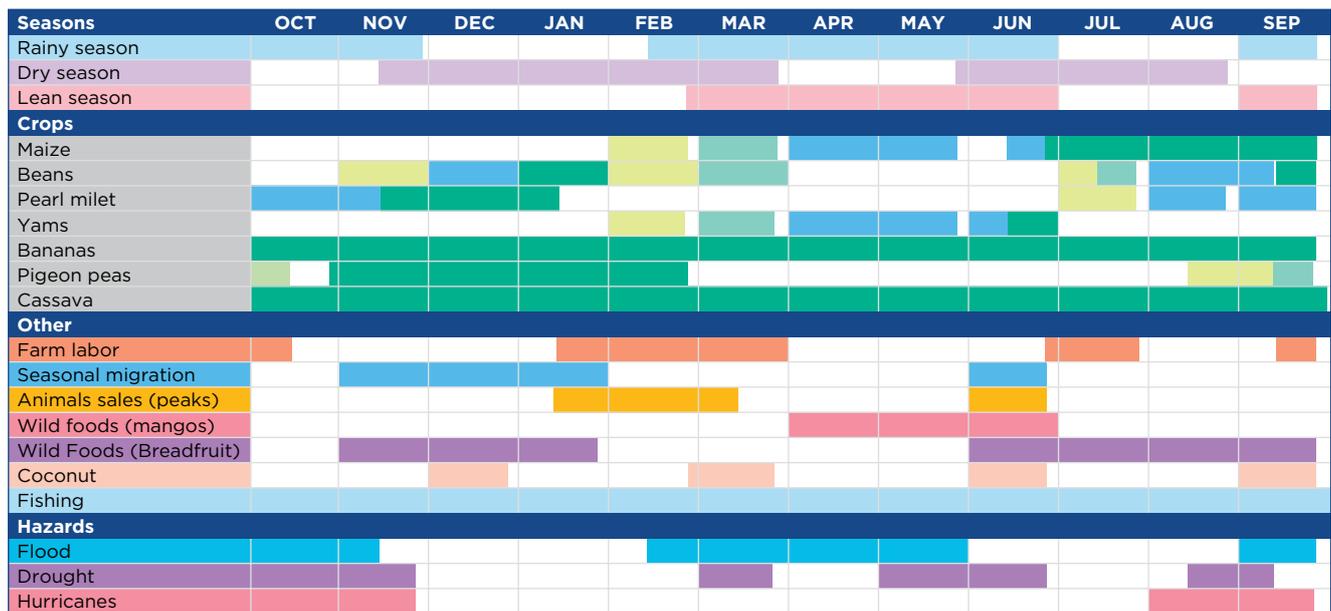
Map adapted from: FEWS NET, OXFAM, GVC, CNSA, Haiti rural livelihoods profile, April 2015.

lactating women, female-headed households with children under 5 years of age, and the disabled). The focus was on the most vulnerable people as they had pre-existing vulnerability conditions that were accentuated with the loss of their main assets: their houses, principal livelihood activities, and assets (mainly livestock). In addition, the teams noted that these households are less likely to recover quickly because of existing debt and most are not receiving remittances. These selection criteria align with most critical humanitarian needs and also fit with CRS' mission. It is estimated that roughly 100,000 to 140,000 individuals (16,600 to 23,300 households) meet these criteria in all communes of the South and Grand'Anse Departments. In other words, this extremely vulnerable target group represents approximately 8% to 11% of the entire population the South and Grand'Anse departments.

Vendors are also included because market infrastructure was damaged by the hurricane and is critical for the early recovery phase, with direct or indirect market-based intervention. There are hundreds of vendors of different scale in the South and Grand'Anse Departments.

The seasonal calendar below shows the timing of various activities that relate to food security, shelter, or income needs and opportunities for the target population.

#### SEASONAL CALENDAR FOR COMBINED LIVELIHOOD ZONES HT07 AND HT08



**Crops legend** Land Preparation (yellow) Sowing (light green) Weeding (blue) Harvest (dark green)

While the crisis has not affected the timing of the calendar per se, families' ability to respond to the change in seasons has been severely curtailed. Most families report severe to total losses of crops, stored grain, livestock and fishing equipment (boats, nets, etc.). They are unable to plant this upcoming season because not only have they lost their seed stock, but there is none available in the local market, and, even if there were seed available, households have no money to purchase them. In addition, with their livestock lost, families will be unable to sell livestock to finance their children's schooling. It is also anticipated that with the loss of livelihoods, individuals might be forced to migrate elsewhere to seek work.

The below charts show the immediate impact of the cyclone on revenue and expenses. Note that our sample population was more urban and they self-reported incomes, which explains possible differences with CNSA baseline study on livelihoods. However, our assumption is that these trends are correct since they were verified by field observation in rural areas.

Note that average bi-weekly household revenue has dropped from around 30,000 gourdes to below 5,000 gourdes. Families have had to adjust expenses accordingly from over 20,000 gourdes to 15,000 gourdes. These expenses cannot continue indefinitely as they are much higher than current revenues.

While we cannot be completely confident the total income/expense figures provided by respondents are accurate, we're confident about the relative level of each category and the relative level pre- and post-hurricane. Expenses for discretionary spending have dropped the most—education, clothing, productive assets—whereas expenses for cereals and other food have increased. The increase can be explained by the fact that households no longer benefit from home agricultural production to supply much of their food needs.

Crop cultivation and livestock rearing were the largest sources of income prior to the earthquake. Unskilled labor, petty commerce, fishing, and loans were secondary sources of revenue for the respondents. All of these sources of income have now dropped dramatically.

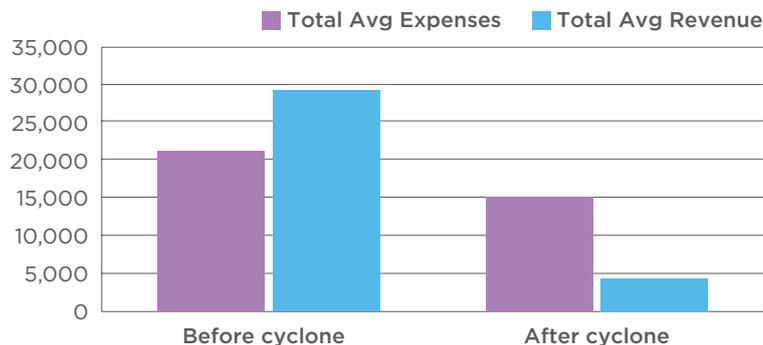


Figure 1. Bi-weekly expenses and revenue pre and post Hurricane

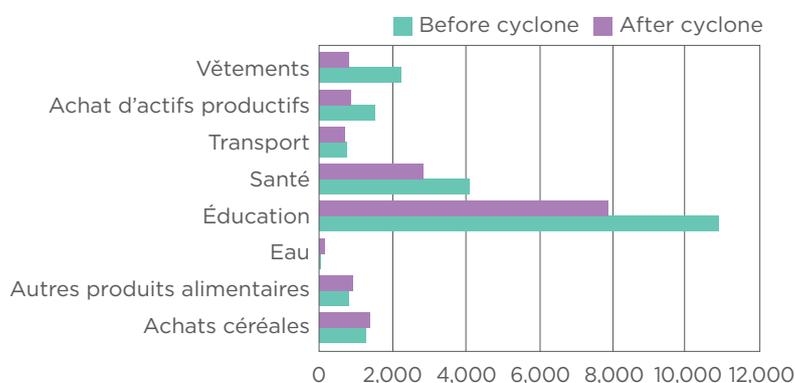


Figure 2. Expenses before and after cyclone

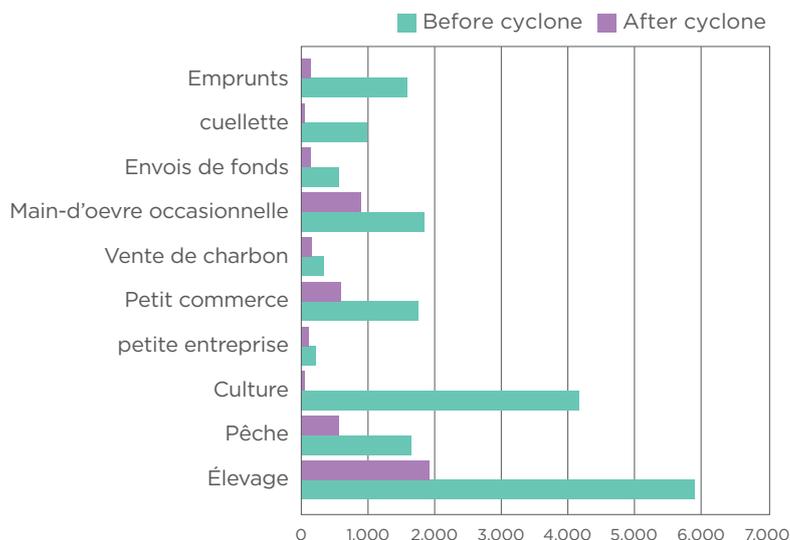
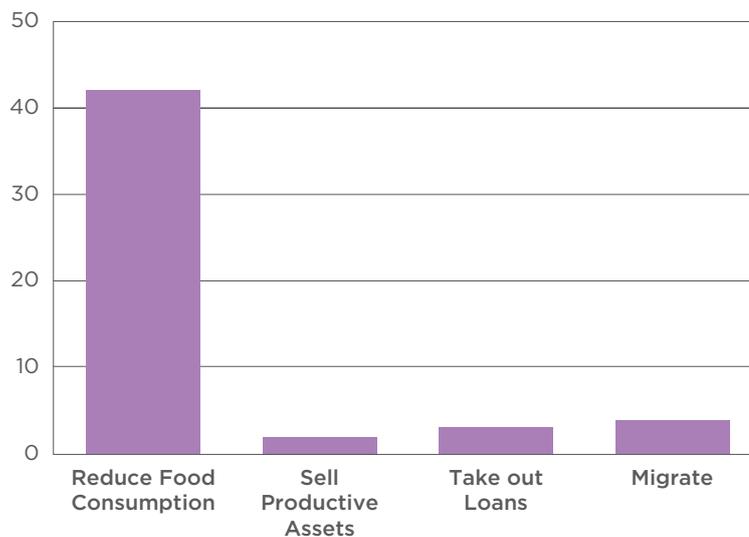


Figure 3. Source of revenue before and after cyclone

Residents, having lost their houses and livelihoods, have had to figure out ways to cope. Most, as shown below, are eating less. Few people are able to find credit, and few have productive assets remaining to sell. For the time being, migration is limited, but this may increase as time goes on.

One of the main results of the loss of housing has been the sheltering of large numbers of people in the remaining standing houses. Many families also continue to stay in government shelters while waiting to rebuild their houses. This overcrowding raises serious protection concerns. The team also observed unemployed youth frequenting shelters in Les Cayes, hoping to receive food distributions by mixing with the people who had lost their homes. This creates a highly volatile situation in the shelters as frustration mounts in both groups.

Some people have reported that they have resorted to theft in order to eat. Recent pillaging of food convoys and trucks transporting other goods demonstrates not only the frustration of many, but also how others have taken advantage of the opportunities provided by that frustration.



**Figure 4. Coping Strategies**

## 4. Critical market system

Critical market systems in an emergency context are those that “played, play, or could play a major role in ensuring survival and/or protecting the livelihoods of the target population.” Based on these criteria, the team pre-identified the following critical market chains: rice, beans, fresh vegetables, aqua tabs, CGI sheets, timber, labor for construction, and financial services. An online survey was circulated for 36 hours on October 21 to more than 80 contacts of the Early Recovery cluster. Respondents were asked to rank critical market chains according to the following criteria: relate to significant or urgent need; market system affected by emergency; fits agency mandate well; seasonal factors, timing is appropriate; consistent with government or donor plans; and response options appear to be feasible. Nine organizations responded to the online survey, ranking CGI as the most critical market for an EMMA, followed by rice and beans, then by construction labor.

It appears that CGI was ranked highest because of the housing destruction caused by the hurricane. Although many tarps have been distributed, most people’s housing needs remain unmet. The timing of the EMMA was critical to inform a shelter response that could include a market-based approach. Other market chains were also critical but did not necessarily require an EMMA, and some of them were already under assessment (rapid market assessment methodology or similar). An EMMA for CGI would determine whether a market-based approach could be a feasible alternative to address the cost-effectiveness and logistical challenges of traditional CGI distribution approaches. Because of these issues, an EMMA was expected to be more useful in informing decisions regarding response options for shelter than other sectors<sup>1</sup>.



Jn Felix Jn Nycoss in front of store. CRS staff

<sup>1</sup> Nevertheless, CRS organized jointly with Oxfam on November 3 and 4 a two-day training and workshop for other organizations interested participating in the EMMA for other critical market chains in November. (Goats, lumber, maize, fresh fish, and access to financial services were selected.)

# 5. Key findings: results of the gaps and market analysis

The EMMA on CGI sheets focused on the following questions:

- Does the CGI market system have the capacity to meet the needs of the most vulnerable people in the targeted areas?
- What are the constraints in the CGI market system that limit people's access to CGI sheeting?
- Which types of shelter market-based responses do the potential beneficiaries and vendors prefer?

## A. RESULTS OF THE GAP ANALYSIS

According to DPC, 70,000 houses were partially or totally destroyed in South and Grand'Anse. With an average of six people per household, potentially 420,000 individuals were affected in all categories, not only the study target group. The teams observed that three weeks after the disaster, tarps had been widely distributed to households by the humanitarian community.

CGI sheets have been distributed by some humanitarian community members: these distributions focused almost exclusively on community infrastructure such as schools and public buildings, in addition to rapid response from missionary organizations to rebuild schools and churches. Although these CGI sheets were distributed in limited volume (based on observation, KII, and cluster reports estimate of <15,000 CGI sheets), it seems it addressed the most urgent needs related to public infrastructure.

Most of the businesses destroyed in the communes visited during the assessment had been rebuilt by their owners. The teams observed significant owner-driven reconstruction of concrete houses. These owners are most probably from middle and better-off categories and/or receiving remittances that allow them to rebuild. However, there were frequent observations from the field of very poor or poor families buying a couple of CGI sheets at a time to quickly repair their roofs with this and scavenged CGI. It seems that most of the CGI supplied until now are directed to owner-driven reconstruction.

All the CGI sheets distributed or from owner-driven reconstruction are almost all exclusively below standard to what the Haiti Shelter and NFI working group is recommending (cf. annex 1). Minimum requirement for humanitarian assistance are 3ft x 6ft CGI 30 gauge (0.399mm). Almost all CGI available in markets in the country were 3ft x 6ft CGI 34 gauge (0.234mm), and not always galvanized.

The following chart shows the supply of 34-gauge CGI before and after the hurricane.

Supplies of 34-gauge CGI have tripled since the cyclone as vendors respond to the increasing demand.

Interviews with suppliers show that sales over the past week (adjusted for double counting—sales from one vendor to another, and also non-surveyed suppliers) were around 95,000 sheets. Multiplied by a factor of 2.5, this yields an estimate for total sheets sold in the past three weeks, and allows for a calculation of around 20,000 houses already re-covered, with an estimated 50,000 houses still needing to be covered.

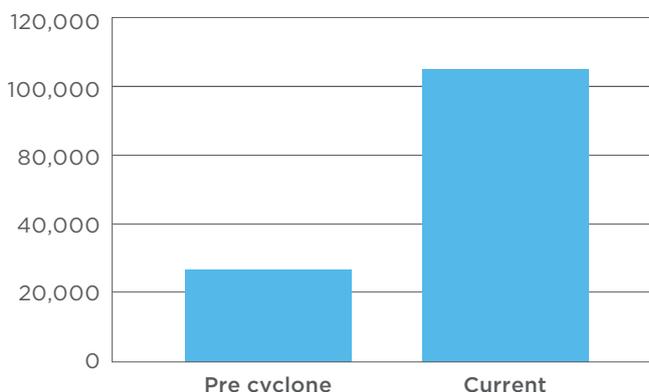


Figure 5. Vendor CGI stock before and after cyclone

ESTIMATED FULFILLED AND REMAINING CGI NEEDS FOR GRAND'ANSE AND SOUTH	
Sheets distributed last week	112,250
Minus 15% estimate of double counting excluding vendors not surveyed	16,838
Total sheets sold last week	95,413
Estimated sheets distributed in the last three weeks	238,531
<b>Estimated houses covered</b>	<b>19,878</b>
<b>Estimated houses still needing to be covered</b>	<b>50,417</b>

Among the 50,417 houses that remain un-covered there is a high probability that close to 100% of the target group still need roofs. This accounts for about 24.7% (which also correspond to the national extreme poverty rate from UNDP, 2014) to 34% of the estimated remaining needs. Because these extremely vulnerable households lost their main assets, they are likely not able to use owner-driven strategies. Even if they could, none of the CGI sheets available on the market meet the Shelter and NFI Working Group minimum standards (3ft x 6ft CGI 30 gauge (0.399mm)). And even if the sheets were available, they would be too expensive for these families to afford it. Therefore, technically, 100% (16,600 to 23,300 households) of the target group needs for humanitarian standard CGI sheeting that are not fulfilled.

TARGET GROUP	HH IN NEED	HH SHORTFALL	OTHER AID	TOTAL GAP TARGET POPULATION	LIKELY GAP DURATION	PREFERENCE FOR HELP
People affected by Hurricane Matthew and extremely vulnerable households in South and Grand'Anse	100,000 and 140,000 individuals (16,600 to 23,300 households) <i>Indicative need for total population: 420,000 individuals, 70,000 households</i>	Average of 10 to 12 CGI sheets (min. 30 gauge for Shelter and NFI working group, 34 gauge for Government of Haiti) per household	71,000 tarps and repair kits to meet people's immediate needs; these items are insufficient to create a protected, private space. Families will need assistance to build a more durable space for longer-term recovery	166,000- 280,000 3ft x 6ft CGI sheets 30-gauge minimum as none of them are distributed or available on the market <i>Indicative gap for total population: 700,000 to 840,000 CGI sheets</i>	3-7 months	Commodity voucher
Vendors whose business infrastructure were affected	No data but damage visible or report of damage in all commune visited	n/a	Owner driven reconstruction	No particular gap observed (market fully functional)	n/a	n/a

## B. MARKET ANALYSIS RESULTS

The following describes the market stakeholders:

- **“Regular importers/wholesalers” in Port-au-Prince.** According to the EMMA on CGI done in Port-au-Prince in 2010, there are three sub-categories of vendors: the level of regular importer/wholesaler in the capital. Since we have not reported on the third category (opportunistic importers), we will be focusing on two of the sub-categories identified in that earlier EMMA:
  - “Regular Importers”—There are two main actors in this category, and they primarily source CGI from overseas (China, Martinique, Mexico) and overland from Dominican Republic for sale to large wholesalers and mid-sized wholesalers. At least one only imports rolls of steel and has specialized machinery to cut and mould into corrugated sheets. “Regular Importers” function using a combination of formal bank loans, own capital, and foreign investment, and maintain warehouse and storage space in Port-au-Prince for their stock. They usually have a fleet of trucks to deliver CGIs by pallets of thousand CGI sheets (capacity max of 8-10 pallets) to wholesalers in market hubs.
  - “Large Wholesalers”—about ten businesses are in this category, and they primarily purchase CGI from importers and distribute to mid-level wholesalers, construction contractors, and small stores. However, “Wholesalers that import” have the capacity to bypass “Regular Importers” and source stock directly from overseas or from the Dominican Republic if the demand is great enough. These actors rely on a mixture of bank credit and own credit, and also extend informal supplier credit to small wholesalers and retailers who purchase from them. “Wholesalers that import” maintain warehouse systems; the quantity of CGI imported is dependent on warehouse space and credit arrangements. They usually have a fleet of trucks to deliver CGIs by pallets of thousand CGI sheets (capacity max of 8-10 pallets) to mid-level wholesalers in market hubs in different departments.
- **Wholesalers in Market Hubs outside Port-Au-Prince**—there are six businesses or more in this category, and they purchase CGI from regular importers/wholesalers in the capital but also overseas (mostly overland import from the DR but not entirely). They distribute to mid-level wholesalers, smaller retailers, construction contractors, and small stores. However, “Wholesalers that import” have the capacity to bypass “Regular Importers” and source stock directly from overseas or from Dominican Republic if the demand is great enough. These actors rely on a mixture of bank credit and own credit, and also extend informal supplier credit to small wholesalers and retailers who purchase from them. Wholesalers in Market Hubs outside Port-au-Prince maintain warehouse systems and the quantity of CGI imported is dependent on warehouse space and credit arrangements. This is often less than Wholesalers in Port-au-Prince because the demand is less. They usually have at least a truck to deliver CGIs by pallets of 1,000 CGI sheets to middle-wholesalers in market hubs in different departments.

- **The mid-level wholesalers** purchase CGI from importers and wholesalers, and distribute to retailer outlets, construction companies, and public construction projects. At this level, businesses function using a combination of formal banking loans and informal credit from suppliers. Mid-level wholesalers often extend credit to small retailers on repayment terms, and operate small supply warehouses. Mid-level wholesalers often have a small truck (capacity max of 1,000 CGI sheets) to deliver to retailers within same commune. Delivery is included in total sale price of CGI.



Epicerie in Beaumont with CGI. CRS staff

- **Retailers** are generally small neighborhood hardware shops that serve customers in the local area. These actors procure CGI and other construction materials from “wholesalers who import” and mid-level wholesalers on supplier credit, and either sell commodities on a cash basis and/or offer consumer credit to customers on extended repayment terms. These stores generally have little storage space and often purchase CGI based on individual orders from customers. Usually customers pick up their orders at the store.
- **Consumers.** We have identified two broad categories of CGI consumers: institutions and individual consumers.
  - **Institutions** have public infrastructure where CGI is commonly used. They are not necessarily the same CGI quality that individuals use. Institutions often rely on construction companies to build roofs for their infrastructure. They often source their product at the wholesaler or middle-wholesalers.
  - **Individuals** use CGI for their houses or businesses. They often rely on local semi-qualified or unqualified labor to build or renovate their roofs. They often source their product to semi-wholesalers or retailers. These individuals were most likely to have had their houses destroyed by the hurricane.

Baseline Mapping of CGI market chain 26, 28, 30, 32, 34 gauge shows the estimated number of actors in each part of the market chain, before hurricane Matthew, and the volume of CGI flow between the supply chain links. The quantity of stock movement informs decision making regarding the capacity of the market system to respond to the CGI demand in post-Matthew South and Grand’Anse. The range of volume of CGI imported and distributed is quite large. This sizeable range is indicative of the difficulty in obtaining accurate import and sales information from vendors. Detailed analysis of customs records and production information was not feasible in the confined timeframe of the EMMA study, but further research is recommended to better quantify the specific import capacity.

### C. PRE-HURRICANE MATTHEW MARKET SYSTEM

In general, doing business is complicated in Haiti: the country ranked 181 out of 190 countries in Doing Business report (World Bank, 2017). Limited financial services and bad infrastructure make the business environment even more challenging for commodities such as CGI, which is a relatively expensive item and also represents a logistical challenge. In addition to the cost of doing business, the market chain relies heavily on imports of raw and manufactured materials, to which high inputs costs, monetary inflation, import tariffs and limited bankable demand make CGI sheets even more expensive in Haiti.

Since the 2010 post-earthquake environment, new institutions and rules have entered the environment, which affected the market functioning—primarily the specific procurement rules and regulations of international aid agencies and government-instituted building codes. Good quality CGI sheets (3ft x 6ft CGI, minimum gauge 30 or better) were more widely introduced post-earthquake, but they remained expensive and mostly available in Port-au-Prince for institutions, better-off households, or NGO projects following Haiti Shelter and NGI working group guidelines.

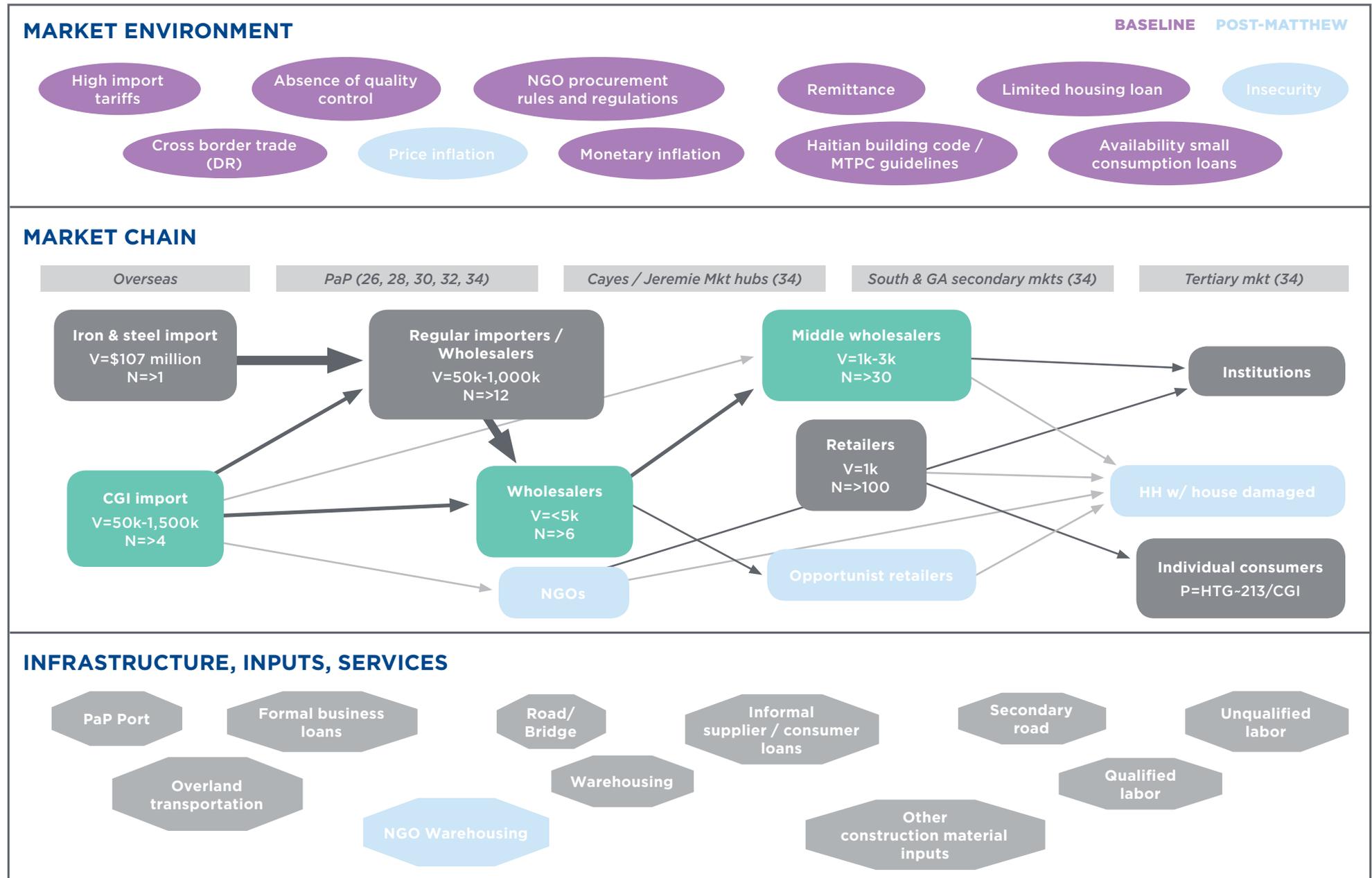
**26-, 28- and 30-gauge CGI sheets are priced 2-3 times** higher than the widely available 34 gauge.

GAUGE	THICKNESS	AVERAGE COST PER 3FT X 6FT CGI SHEET
34	0.234mm	HTG 275
32	0.34mm	HTG 307
30	0.399mm	HTG 461
28	0.475mm	HTG 835

Because of this, most consumers prefer the cheaper 34 gauge (which is often not galvanized properly). In the EMMA, virtually no 26-, 28-, 30- or 32-gauge sheets were found with vendors. Even though the Haitian building code (MTPTC, 2013) promotes the use of good quality CGI sheets, the lack of quality control exacerbates the situation.

In addition, although unqualified labor is largely available, semi-qualified and qualified labor availability is limited, particularly outside the capital. Despite a “functioning” market chain, the analysis of the CGI market system prior to the hurricane highlights some of the conditions that made the South and Grand’Anse households vulnerable to hurricane Matthew (use of sub-standard CGI and poor construction practices). Because of final market volume before hurricane Matthew and solvability of the demand, it seems that, despite importation/production capacity, the volume of CGI sold on the market was limited (probably <1.5 million sheets).

Mapping CGI 26, 28, 30, 32, 34 guage market chain



## D. HOW HAS THE CGI MARKET CHANGED SINCE HURRICANE MATTHEW?

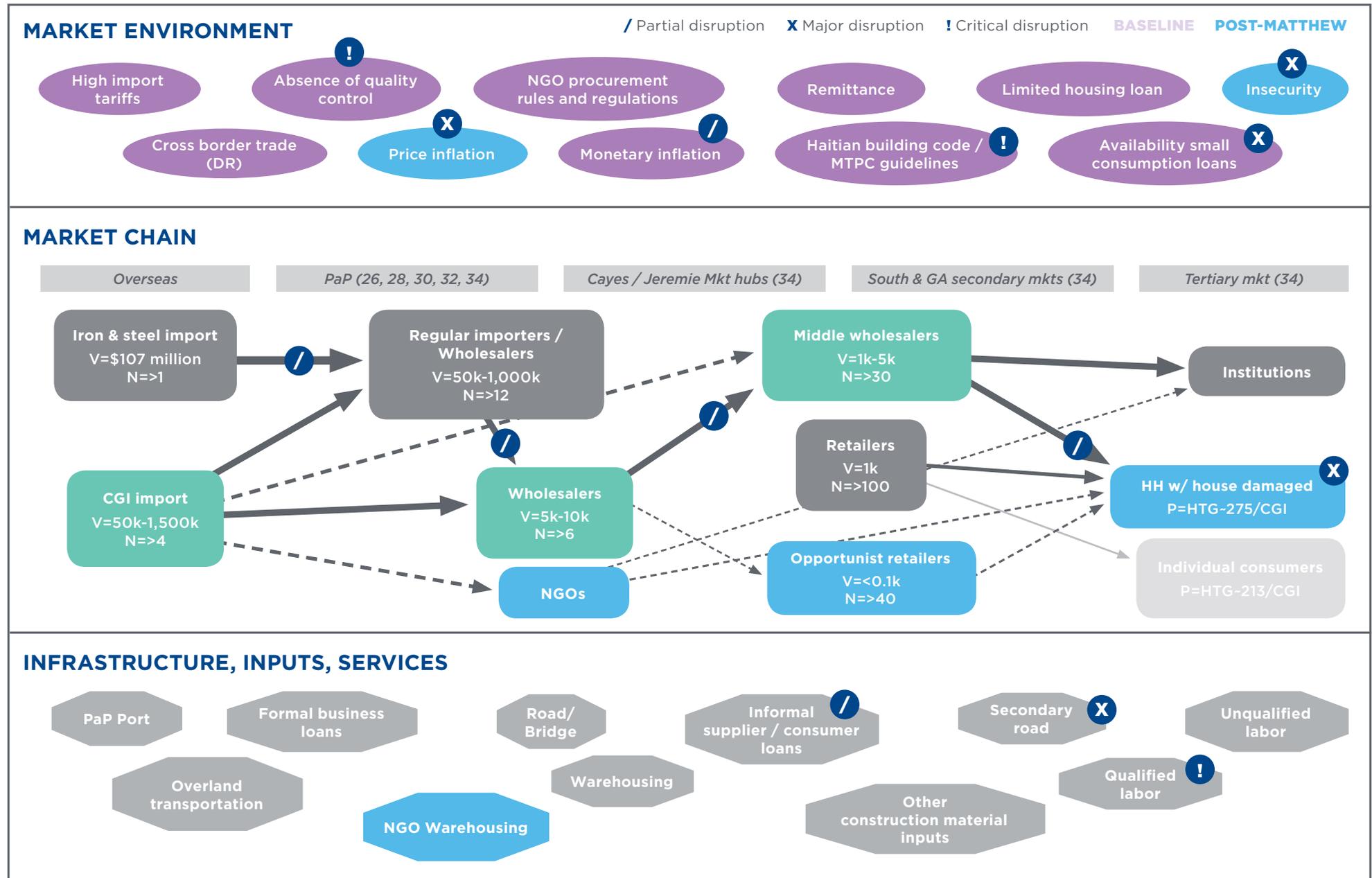
The most visible market impact of hurricane Matthew is probably the surge in demand for CGI: there is a potential market for 1 million to 2.5 million sheets. This surge is creating bottlenecks at importer/wholesaler levels resulting in delivery delays: it takes up to a month to import or to produce large volume of CGI when ordered, and often the quantity delivered to wholesalers or mid-level wholesalers does not meet the initial purchase request in order to satisfy all customers. Consequently, mid-level wholesalers have been adopting a strategy of diversifying their sources of CGI, i.e. if one supplier does not have sufficient CGI, the wholesaler tries another, and continues until his needs are met. In addition to traditional supply sources, some mid-level wholesalers now also source directly from the Dominican Republic. Moreover, some vendors who had not been previously handling CGI, seeing an opportunity, stepped into the market. However, these opportunistic vendors don't have the sectoral expertise and their limited number means they don't have a large impact on the market.

New actors that might be disruptive, however, are NGOs. NGOs might source in large quantities directly from importers, wholesalers, or even overseas. These new NGO market players could potentially harm the mid-level wholesalers by taking away customers through direct distributions. In addition, large quantities of CGI distributions could also force down wholesale and retail CGI prices. While this would benefit consumers, it would be a loss to vendors. NGOs competing for a limited CGI pie could also potentially increase delays in delivery. On the other hand, prices could potentially rise for 26, 28 and 30 gauge as NGOs pursue the limited quantities available on the market. On the other hand, the price for 34 gauge might come back to normal if some of the solvent and subsidized demand is met.

34-gauge CGI is still the most widely available in the market. However, the team observed even in sub-standard CGI, there are now multiple qualities of CGI 34 gauge (which ranges in thickness from 0.18mm to 0.24mm and is not always galvanized). The poor quality of CGI available is exacerbated by the absence of quality control. Moreover, guidelines provided by GoH to respond to the emergency (*Cyclone Matthew, Note de conjuncture 2*, October 7, 2016) recommend wide distribution of 34-gauge CGI, which is contrary to the technical recommendations from the Shelter and NFI working group and the MTPTC building code from 2013.

Prices of 34-gauge CGI have spiked at final market from an average of HTG 213 to HTG 275 (+21%) in South and Grand'Anse. Prices were inflated at all levels of the chain because the surge in demand outstripped supply. However, vendors predicted that the price would decrease when solvent demand was met. These price rises are not necessarily related to the costs of inputs or intermediate costs as their prices quickly came back to normal after the disaster. Transport costs appear stable. Some of the price increases can be attributed to the high monetary inflation rate on import which existed even before hurricane Matthew.

Mapping CGI 26, 28, 30, 32, 34 gauge market chain



The high price volatility changes the terms of trade between regular importers/wholesalers and mid-level wholesalers: payments are made at the sales price of the day of delivery; there is no payment made in advance. In addition, credit provided by suppliers to clients has fallen by 25%. In contrast, only 11% of vendors who provided credit to clients pre-hurricane refuse to provide credit now, but they report being more selective.

In addition of having lost most of their valuable assets and having prior debts with MFIs, the CGI price increases limit even more vulnerable households from economic access to shelter inputs to rebuild their house during the upcoming dry season. This also limits their access to skilled labor.

Finally, poor secondary road conditions and security concerns can be highly disruptive to the CGI market chain because they create obstacles in reaching the most vulnerable. During the first four weeks of the emergency, at least 12 trucks of humanitarian assistance in South and Grand'Anse, and 1 truck of CGI from one importer/wholesaler in Jeremie, were reported looted.

## E. CAN THE CGI MARKET MEET THE DEMAND?

Based on the estimated number of sheets distributed during the last three weeks in South and Grand'Anse (238,531), and the potential capacity of imports, production, transportation and storage of CGI in Haiti, the CGI market can technically meet the demand of the most vulnerable (166,000 to 280,000 CGI sheets). The problem is not capacity but sustainability, physical and economic access, and the potential of doing harm to local markets.

The only widely available and affordable CGI sheet is 34 gauge. These CGI sheets do not meet the minimum standard recommended by the Shelter and NFI working group (3ft x 6ft CGI 30 gauge or 0.399mm). The recommended 26-, 28-, 30-gauge sheets are produced in very limited quantity in Haiti because of the absence of solvent demand. One producer, ACRA, is able to produce 10,000 CGI sheets per week meeting minimum quality requirements: 280,000 CGI could be produced in Haiti over the course of the dry season 2016/2017. The rest of CGI sheets that meet minimum quality requirements will need to be imported.

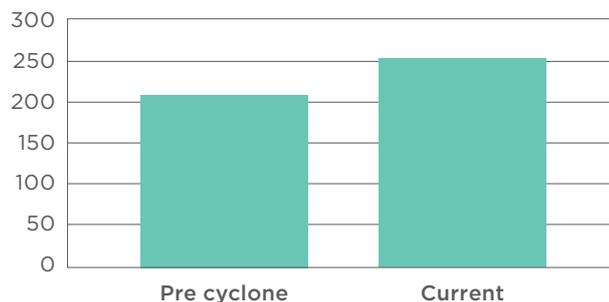


Figure 6. Price of CGI sheet (34) before and after cyclone



Figure 7. Credit from suppliers and credit to clients

Moreover, because there is a lack of other quality construction material and limited qualified labor, simply relying on the 34-gauge CGI market is not a sustainable solution. Without more solid CGI and stronger building material, vulnerable families will again need to repair or replace their homes after the next hurricane.

MTPTC did an excellent job at clearing the main roads between markets hubs and to some extent secondary markets. This increased the resilience of the markets, which were quickly functional after the disaster, with CGI flowing into markets hubs and secondary markets. However, because secondary roads have been difficult to access after hurricane Matthew, individuals have difficulty in reaching these markets. Additionally, they have now absolutely no purchase power to buy CGI sheet now without using negative coping mechanisms.

Finally, LRP combined with in-kind direct distribution or commodity voucher system can be considered if the supply of quality CGI sheets is sufficient to cover the demand since there is no market chain established for the higher quality CGI. However, any distribution is likely to harm well-established mid-sized wholesalers. This not only affects services offered to the population by these wholesalers, but also increases insecurity in the delivery of humanitarian assistance, with adverse reactions from wholesalers against humanitarian actors.

# 6. Main recommendations and conclusions

## A. RESPONSE LOGIC

A market-based approach to supporting shelter rehabilitation would be appropriate in this context because the CGI market is functional and has the structural capacity to deliver the needed sheeting. If done properly, a market-based response would not harm existing markets, but would support the local economy, including the formal construction sector (registered vendors), by outsourcing the logistics, transportation, storage, and handling of CGI to vendors. If the response involved a combined local or regional procurement (LRP) and voucher system, the use of “point of sales” when relying on a network of vendors could limit the number of distribution points compared to direct distribution. Therefore, a market-based approach would be more cost efficient than direct distribution, and it would reduce the security risk to beneficiaries.

Humanitarian response in this context must consider both supply and demand-side needs in order to ensure that quality materials are available and that both consumers and vendors benefit. The response should use the market’s structural supply capacity whenever possible to deliver quality CGI to the most vulnerable in a cost-effective way, through direct or indirect market intervention. The response should also support the demand side of the market (beneficiaries), which could be done through direct or indirect market intervention as well. Software such as “Build Back Better” training should be used to reach a wide audience and obtain buy-in from communities. And finally, the response should allow for limited direct distribution of quality CGI to the most vulnerable if a market-based approach proves to be impossible in some areas.



Rebuilding near Dame Marie. CRS staff

## B. RESPONSE RECOMMENDATIONS

After analyzing all possible response options (cf. annex 3), we recommend the following responses:

- Build Back Better training for the entire community. Despite the limited quantitative impact, the trainings are cheap to implement and well-accepted by communities. They also offer solutions that are adapted to local context (such as doubling 34-gauge roofing) for vulnerable people who were not selected as beneficiaries, but who still need shelter support. People could also self-select for the trainings, and thereby become eligible for shelter assistance.



Torbeck - Victim by house. CRS staff

- Combined local and regional procurement (LRP) and conditional commodity e-vouchers (CGI and other construction inputs) with a network of mid-level wholesalers to reach the target population in a cost effective manner. Using vouchers will ensure that people buy quality CGI (3ft x 6ft CGI, minimum gauge 30 or better), and will promote the engagement of local vendors. Although there is virtually no market for quality CGI, minimum humanitarian shelter requirements need to be respected: this combined response option would allow NGOs control over the supply chain to deliver quality CGI, using the transportation, storage and handling functions of vendors. Other options would have been to cover all needs with direct distribution of quality or sub-standard CGI. Nevertheless, direct distribution of quality CGI would take as much time as using combined LRP/ commodity voucher because supply time would be similar. Using direct distribution would undermine the businesses of mid-level wholesalers, harm local markets, and be a logistical burden for NGOs. Some of the functions could instead be outsourced to a network of vendors while maintaining control over the supply chain.
- In very limited cases, LRP with direct distribution of quality CGI and other construction inputs to areas that absolutely don't have access to markets and for essential community infrastructures in need of CGI (schools, health centers, etc.). Airlifts lifts and/or advanced points of distribution could be considered.
- Cash-for-Work to rehabilitate markets and access roads, and to enable entire communities to have better market access more quickly. Cash for Work should

focus on rehabilitating community market infrastructures such as secondary roads that connect remote villages to market hubs or secondary markets. Cash for Work should integrate a protection mainstreaming component in order to include target population that is not able to do the work required to rehabilitate community infrastructures.

- Advocating for a better business environment and coordinating with traditional and non-traditional Shelter and NFI working group participants in order to “build back better.” Since the timely supply of quality CGI is contingent on the business environment (overland transportation from DR for example), it is important to work with the private, financial and public sectors to facilitate CGI supply and imports while reinforcing quality control. Moreover, coordination with other traditional and non-traditional Shelter and NFI working group participants is also critical to agree to minimum standards to meet, to avoid duplication, and to have a coherent strategy of interventions (response options and modalities) to do no harm to markets and populations.
- Price monitoring and protection mainstreaming to make sure we do no harm to people and markets, and to take appropriate corrective action when needed.

# Annex 1: CGI specifications from Haiti Shelter and NFI working group

Corrugated galvanized iron or steel sheets, commonly called CGI sheets, are a lightweight roofing material made of thin sheets, stiffened by corrugations. Corrugations, such as waves, considerably increase the strength and stiffness of the lightweight material. Indeed, without these waves, the metal sheets are fragile and highly deformable. The steel used is mild steel for forming, which is galvanized to increase the durability of the metal sheets, allowing them to better withstand harsh weather conditions.

CGI Specifications
Corrugated iron sheets - sine wave profile, 19mm depth, -75mm peak to peak
24, 26, 28 gauge, galvanized, 6' sheets, 2'8" wide. (Longer lengths are available and should be considered.) Tensile strength: 300N/mm <sup>2</sup>
Coating: hot dip galvanization with minimum 120g/m <sup>2</sup> zinc or aluminium-zinc on each side that is 240g/m <sup>2</sup> total coating weight.
Hardness HRB: 85 HRB minimum
Note: testing will be required, and it is suggested that agencies use reputable inspection companies, and use their own quality control processes. Calipers or devices to measure thickness are a minimum
Sheets should be free of rust and other defects.

	IDEAL				TOO THIN	
SWG	24	26	28	30	32	34
Mm	0.701	0.551	0.475	0.399	0.34	0.234

## The quality of a CGI sheet is determined by:

- Corrugated galvanized iron or steel (CGI) sheets are lightweight materials used to cover roofs.
- Thin material shaped with corrugations to provide stiffness.
- CGI sheets come in various sizes.
- The thickness is expressed in gauge → to avoid confusion, recommended to use mm.
- 24-gauge (0.701mm) CGI sheets are the ideal recommendation for permanent shelters.
- 26-gauge (0.551 mm) CGI sheets are recommended for permanent shelters.

- 28-gauge (0.475 mm) CGI sheets are a good compromise for shelters.
- 30-gauge (0.399 mm) CGI sheets is the minimum thickness that should be used for shelters.
- The major problem with CGI sheets is corrosion zinc coating is applied to protect the steel base (the most efficient process is hot-dip continuous galvanizing).
- The service life (durability) of the CGI sheets depends on the zinc coating thickness and environment of the shelter.
- Zinc coating should be 275 g/m<sup>2</sup> for both sides (**equivalent of 20 µm/side**)
- An online tool can be used to predict the service life of the CGI sheet based on the environment (link: <http://www.galvinfo.com:8080/zclp/>).
- CGI sheets are available in the Emergency Items Catalogue (EIC) (link: <http://procurement.ifrc.org/catalogue/detail.aspx?itemcode=EBUIBSHEGR20&from=kit>)

## Tips for people purchasing CGI sheets and galvanized steel items:

- Always purchase CGI sheets (hot-dip galvanized steel) with zinc coating thickness = 20 µm/side equivalent of 275g/m<sup>2</sup> (Z275 according to the ASTM and EN).
- Fixings/fasteners and sealing washers must be made of galvanized steel, with similar zinc coating thickness to avoid corrosion and breakage.
- Always verify the zinc coating thickness, by using a coating thickness gauge - magnetometer → supplier may want to sell electro-galvanized steel, which looks like hot-dip galvanized but can have a zinc coating thickness 10 times thinner.
- If the price for items made of galvanized steel seems expensive, you should check if the items are not made of stainless steel (3 times more expensive than galvanized steel) → use a magnet, if the magnet does not stick to the item, then it is made of stainless steel.
- If you are buying galvanized steel items which are intended to be in contact with the ground (anchors), then the zinc coating thickness should be approximately 30 µm/side → equivalent of 400g/m<sup>2</sup> (Z350 - Z450 according to the ASTM and EN).

# Annex 2: Vendors interviewed

DEPARTMENT	LOCATION	NAME OF BUSINESS	TYPE OF VENDOR	CONTACT INFORMATION
Grand' Anse	Jeremie	Ricot store matériaux de construction	Gwosis	(509) 3649-8663 ext. 37661311
Grand' Anse	Jeremie	Rosalvo et Fils dépôt	Detayan lavil	(509) 3621-9118
Grand' Anse	Jeremie	Excellent matériau de construction/ Guerrier Excelen	Enpotate gwosis	(509) 3781-0770
Grand' Anse	Jeremie	Carmin Magloire	Detayan lavil	(509) 3838-5199
Grand' Anse	Jeremie	Nadia Lucien Decimus	Gwosis	(509) 3749-9918
Grand' Anse	Jeremie	Men bobo matériaux de construction	Gwosis	(509) 3750-8844 ext. 46113445
Grand' Anse	Jeremie	Men mache Salomon	Gwosis	(509) 3648-7455
Grand' Anse	Jeremie	Luxama Belone	Detayan lavil	(509) 3100-4664 ext. 4338-5407
Grand' Anse	Jeremie	Felixte Famila	Gwosis	(509) 3648-7455 ext. 33385979
Grand' Anse	Jeremie	Jean Felixte Jean Nycoss	Gwosis	(509) 3619-5405 ext. 36857465
Grand' Anse	Jeremie	Leopole Alcendre	Gwosis	(509) 3685-3151
Grand' Anse	Jeremie	Men mache Salomon	Gwosis	(509) 3648-7455 ext. 33385979
Grand' Anse	Dame-marie	Bani Junior	Komesan nan vilaj	(509) 3481-2141
Grand' Anse	Dame-marie	Genel Exavier	Gwosis	(509) 4425-7691
Grand' Anse	Dame-marie	Bellevue Milet	Detayan lavil	(509) 3192-8749 ext. 3465-4287
Grand' Anse	Dame-marie	Robertson Louis	Detayan lavil	(509) 3637-1397 ext. 3190-4568
Grand' Anse	Moron	Farizien Alberto, Saint Sauveur	Detayan lavil	(509) 3684-7522
Grand' Anse	Moron	Mme Filomene Noelsaint	Komesan nan vilaj	(509) 4653-6095
Grand' Anse	Moron	Dume Meprelhomme	Komesan nan vilaj	(509) 3411-0056
Grand' Anse	Dame-marie	Louis Enold	Gwosis	(509) 3766-8593
Grand' Anse	Beaumont	Antoinise Joissaint	Detayan lavil	(509) 3638-3654
Grand' Anse	Beaumont	Bazile Hugue	Gwosis	(509) 3709-1639 ext. 38989527
Grand' Anse	Beaumont	Nazaire Marie Elia	Detayan lavil	(509) 3873-5331
Sud	Camp perrin	Robert Michael, Dieu Devant shop	Detayan lavil	(509) 4444-6973 ext. 37394993
Sud	Camp perrin	Pierre Myvil Toussaint	Gwosis	(509) 3787-1491
Grand' Anse	Beaumont	Saint Jacques Ramil	Komesan nan vilaj	(509) 3611-4501
Grand' Anse	Beaumont	Madame Marcel Fortune	Komesan nan vilaj	(509) 3751-4915
Grand' Anse	Beaumont	Madame Maisonoeuvre Dorestant	Komesan nan vilaj	(509) 3707-1159
Grand' Anse	Beaumont	Lafayette Dorlis (Borno)	Gwosis	(509) 3785-7217

Sud	Camp perrin	Saint Jean Mainsonoeuve, par la Grace dépôt	Gwosis	(509) 3197-4564
Sud	Les cayes	Discipline	Gwosis	(509) 3740-2816
Sud	Les cayes	Poly store	Gwosis	(509) 3457-0110 ext. 3055157625
Sud	Port-salut	Henrys qc	Enpotate gwosis	(509) 3715-6466 ext. 38072326
Sud	Les cayes	Jean Chery, Trinite dépôt, Mandarine SA	Detayan lavil	(509) 3805-2501
Sud	Les cayes	Discipline	Gwosis	(509) 3740-2816
Sud	Port-salut	Christian quincaillerie	Detayan lavil	(509) 3634-4376 ext. 36381127
Sud	Les cayes	A la découverte matériaux de construction	Detayan lavil	(509) 3866-4117
Sud	Port-salut	Lebon Brant	Komesan nan vilaj	(509) 3660-7912
Sud	Port-salut	Moyira depot	Detayan lavil	(509) 3486-8511 ext. 38283826
Sud	Torbeck	Jean Enot Meseroux	Detayan lavil	(509) 4729-2707 ext. 42044211
Sud	Port-salut	Mondesir Person	Detayan lavil	(509) 3634-4376 ext. 36522060
Sud	Torbeck	Raphael Jean Leopold	Detayan lavil	(509) 3743-6385
Sud	Les cayes	Smith Tisima	Enpotate gwosis	(509) 3762-9553
Sud	Les cayes	Guillaume Pierre Neptune	Enpotate gwosis	(509) 3667-1085
Sud	Coteaux	Pableau Fenelon	Detayan lavil	(509) 3876-3086
Sud	Les cayes	Regis Clausel	Gwosis	(509) 3772-0907
Sud	Les cayes	Edner Valcin	Gwosis	(509) 3695-7353 ext. 4016-4529
Sud	Les cayes	Nicoderme Raphael	Gwosis	
Sud	Coteaux	Claude pPaul Verelt	Detayan lavil	(509) 3789-1607
Sud	Coteaux	Halex Izidor	Komesan nan vilaj	(509) 3719-5280
Sud	Port-salut	Erik	Komesan nan vilaj	
Sud	Les cayes	Ti pap	Detayan lavil	

# Annex 3: Response options matrix

The options below can address the weaknesses identified along the market chain.

OPTION	ADVANTAGES	DISADVANTAGES	FEASIBILITY, TIMING AND RISK MITIGATION MEASURES
Unconditional distribution of cash to households for the self-procurement of CGI and other inputs (other construction material and labor)	<ul style="list-style-type: none"> <li>Fast delivery and less of a logistical burden</li> <li>Choice for beneficiaries, included uncovered and unforeseen needs</li> <li>Dignity for beneficiaries</li> <li>Support very local economy (down to retailer level)</li> <li>Preferred option vendors</li> </ul>	<ul style="list-style-type: none"> <li>Security risk both for beneficiaries and humanitarians (\$ amount to cover shelter needs high compare to other cash multipurpose cash or other cash sectoral intervention)</li> <li>Risk to not build back better and with CGI 34</li> <li>Exclude potentially remote area that too far away to access markets</li> <li>Not preferred options according to KII Households (debt/high needs increase risk to spend money on what it is not originally intended for or very short term consumption needs)</li> </ul>	<ul style="list-style-type: none"> <li>High feasibility</li> <li>November to May (seven months of the dry season)</li> <li>Risks could be mitigated if conditionality. Conditionality could exist at community level</li> </ul>
Local and Regional Purchase with direct distribution of quality or sub-standard CGI. Include package for other inputs such as other construction material. For labor could include labor or owner-driven construction	<ul style="list-style-type: none"> <li>Access to remote area</li> <li>Control supply chain</li> <li>Control CGI quality (except for sub-standard CGI)</li> </ul>	<ul style="list-style-type: none"> <li>Logistical burden (transport, storage, handling)</li> <li>Not meeting minimum shelter requirements (sub-standards CGI)</li> <li>Cost-effectiveness</li> <li>Could harm functioning markets</li> <li>Security</li> <li>Many point of distributions</li> <li>Risk of not building back better if no control and or capacity building of labor</li> </ul>	<ul style="list-style-type: none"> <li>High feasibility</li> <li>November to May (seven months of the dry season)</li> <li>Risks could be mitigated if control and or capacity building of labor in order to respect Shelter and NFI working group recommendations + MTPTC building code</li> </ul>
Conditional vouchers	<ul style="list-style-type: none"> <li>Outsource risks, logistic, storage and handling to vendors</li> <li>Cost-effective delivery</li> <li>Support market chain</li> <li>Control on quality of construction to build back better</li> <li>Preferred option for beneficiary</li> <li>Less point of distribution (in that case point of sales) to manage than direct distribution</li> <li>Monitoring of point of sales could be done remotely using ICT4D</li> </ul>	<ul style="list-style-type: none"> <li>Payment delay to vendors can affect delivery to beneficiaries</li> <li>Vendor fraud</li> </ul>	<ul style="list-style-type: none"> <li>High feasibility</li> <li>November to May (7 months of the dry season)</li> <li>Risks could be mitigated using commodity voucher that could include other inputs such as transportations, other construction materials and labor.</li> <li>Risk could also be mitigated using ICT4D (e-voucher)</li> </ul>
Unconditional vouchers	<ul style="list-style-type: none"> <li>Outsource risk/logistic to vendors</li> <li>Support market</li> <li>Preferred option for beneficiary</li> <li>Less point of distribution (in that case point of sales) to manage than direct distribution</li> <li>Monitoring of point of sales could be done remotely using ICT4D</li> </ul>	<ul style="list-style-type: none"> <li>Payment delay to vendors can affect delivery to beneficiaries</li> <li>Vendor fraud</li> <li>Risk of not building back better if no control and or capacity building of labor</li> </ul>	<ul style="list-style-type: none"> <li>High feasibility</li> <li>November to May (7 months of the dry season)</li> <li>Risks could be mitigated using commodity voucher that could include other inputs such as transportations, other construction materials and labor.</li> <li>Risk could also be mitigated using ICT4D (e-voucher)</li> </ul>

Build Back Better trainings	Possible to do blanket coverage Inexpensive	Risk of not building back better if no control of the supply chain Vulnerable households economic access constraint to CGI and other inputs	High feasibility November to May (7 months of the dry season) Risks could be mitigated if training of vendors and supply chain for better quality CGI subsidized
Indirect support to supply side of market chain: facilitating imports - reducing tariffs, speeding up the custom process, or state subsidy for CGI	Improve quality and volume of CGI available on the market	Risk of not building back better if no control of the supply chain Vulnerable households economic access constraint to CGI and other inputs	Low feasibility, but interesting to advocate for it >1 year
Indirect support to demand side of market chain: Prêt sur Garantie , subsidies/ credit line to MFI and debt forgiveness, Cash for Work	Increase purchasing power of vulnerable households Address multiple issues of vulnerable households Multiplier effects for the local economy Restore community assets which increases market and CGI access	Risk of not building back better if no control of the supply chain Vulnerable households economic access constraint to CGI and other inputs	High feasibility for cash for work November and December Medium feasibility for other activities if no donor support More than three months Risk could be mitigated if strong advocacy for support to MFI
Coordination with other NGOs and Government of Haiti, including missionaries and organization not represented in Shelter and NFI working group, for appropriate modality of CGI distribution and respect of Shelter/NFI working group recommendation and Haitian building code	Improve quality of humanitarian assistance Respect of standard and good practice Avoid duplication Do no harm market chain and local economy	Consultative process: coordination quality and timeliness depend highly on willingness of organizations to collaborate	Medium to high feasibility Immediate Reach out to stakeholders not participating to Shelter and NFI working group and share technical recommendations as well as building code with them
Price monitoring	Provide information to make informed decision at all levels (beneficiaries, vendors, NGOs, donors, Government of Haiti) Data could be collected remotely (phone or ICT4D)	Specs of CGI could vary and it takes some basic training to recognize CGI that respect standards	High feasibility Immediate
Protection mainstreaming	Make sure we do no harm people with market-based intervention and monitor potential protection issues while addressing their shelter needs	Require basic training	High feasibility Immediate

# Annex 4: Recommendations response framework

ACTIVITY	KEY RISKS & ASSUMPTIONS	TIMING	LIKELY EFFECT ON MARKET SYSTEM AND TARGET POPULATION	INDICATORS
<b>Build Back Better training</b>	<p>Beneficiaries might prefer hardware component of humanitarian assistance</p> <p>It would require to have information sessions with vendors and qualified labor as well to inform them about specs of construction inputs to meet minimum requirements</p>	<p>Immediate implementation is required as owner-driven reconstruction but not to the standards is on-going</p>	<p>Build acceptance with communities.</p> <p>offers also adapted solutions to local context (such as doubling 34-gauge roofing) for vulnerable not selected beneficiaries who would need shelter support.</p> <p>self-selection to be eligible for shelter assistance</p> <p>Send signal to market about CGI specs needed</p>	<p># of hurricane affected individuals who completed basic build back better training</p> <p>% of target population who received assistance that effectively build back better</p>
<b>Combined LRP and conditional commodity e-vouchers</b> with a network of mid-level wholesalers to reach out target population	<p>Mid-level wholesalers are willing to work with NGOs and accept rules and regulations (particularly for negotiated price of sale, contractual obligation for the NGO and payments)</p> <p>Importers/Producers/Wholesalers able to honor their contract with NGOs procuring CGI without delay</p> <p>Acceptance of e-vouchers by target populations and vendors (if technology is an issue, switch to paper voucher)</p>	<p>Require to place order as soon as possible as well as securing price with Importers/Producers/Wholesalers</p>	<p>Guarantee quality across supply chain up to final consumers to cost-effectively build back better</p> <p>Do no harm market and people</p>	<p># of beneficiaries receiving e-voucher</p> <p>Quantities of building materials procured with the distributed e-vouchers</p> <p>Percent of households with a completed shelter six months after receiving e-vouchers</p>
<b>LRP with direct distribution of quality CGI</b> (and other constructions inputs) <b>to area that absolutely don't have access to markets and for uncovered essential community infrastructures in need of CGI (schools, health centers, etc.).</b>	<p>Logistic and cost-effectiveness of transporting, storing and handling CGI in inaccessible areas</p>	<p>Immediate</p>	<p>Meet uncovered individual and community needs</p>	<p># of beneficiaries receiving CGIs and other construction inputs</p> <p>Percent of households with a completed shelter six months after receiving CGI (and other construction inputs)</p> <p># of community infrastructure rehabilitated</p>

<p><b>Cash for Work</b> (indirect market support) <b>to improve access to markets to entire communities</b> while addressing other humanitarian needs of most vulnerable</p>	<p>Cash for Work should integrate a protection mainstreaming component in order to include target population that is not in capacity to do the work require for rehabilitation of community infrastructures</p>	<p>Immediate</p>	<p>Support demand side of market Enable market environment</p>	<p># of beneficiaries who participate to Cash for Work Total amount distributed to beneficiaries # of community infrastructure rehabilitated</p>
<p><b>Advocating for a better business environment and coordinating with traditional and non-traditional Shelter and NFI working group participants</b> in order to build back better</p>	<p>Consultative process: coordination quality and timeliness depend highly on willingness of organizations to collaborate</p>	<p>Immediate</p>	<p>Build back better and enable market environment</p>	<p>Common strategy for shelter including market component implemented by Shelter and NFI working group participants</p>
<p><b>Price monitoring</b></p>	<p>Vendors accept to participate to price collection (it could be a condition for vendors in order to participate to our programs)</p>	<p>Immediate</p>	<p>Make sure we do no harm markets</p>	<p># of bi-weekly price monitoring reports</p>
<p>Protection mainstreaming</p>	<p>Communication channel amongst intervention sectors (Shelter and Protection) might not be fluid yet as well as cross sector expertise</p>	<p>Immediate</p>	<p>Make sure we do no harm people</p>	<p># protection cases reported</p>

# Annex 5: Bibliography

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