

## Emergency Market Mapping & Analysis (EMMA) report

# The Market System for Corrugated Galvanised Iron (CGI) Sheet in Haiti

International Rescue Committee (Lead),  
American Red Cross, Haitian Red Cross, International Federation of the Red Cross,  
Save the Children, Mercy Corps, Oxfam GB, ACDI/VOCA,  
World Food Program and FEWS/NET.

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### EMMA Final Report Sections

1. Executive summary or brief
2. Emergency context
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4. The target population
5. Critical market systems
6. Key findings – results of the gap and market analyses
7. Main recommendations and conclusions

### Abbreviations

|      |                                       |
|------|---------------------------------------|
| EMMA | Emergency Market Mapping and Analysis |
| HEA  | Household Economy Approach            |
| NGO  | Non-Governmental Organization         |
| CGI  | Corrugated Galvanised Iron            |
| EQ   | Earthquake                            |
| DR   | Dominican Republic                    |
| PaP  | Port-au-Prince                        |

## Section 1. Executive summary or brief

On January 12, 2010 a 7.0 magnitude earthquake hit the island of Haiti, approximately 25 km (16 miles) west of Port au Prince. Haitian government estimated that up to 230,000 died country-wide in the quake, and another 300,000 were injured. Additionally, emergency needs assessments have confirmed that shelter is among the major needs and priorities for affected populations. 180,000 to 3000,000 households (900,000 to 1.5million persons) are estimated to have become IDPs as a result of housing destruction. Further assessments is required to determine the number of homes actually destroyed, but in the meantime, this study will use 180,000 – 300,000 as the number of families without adequate housing in metropolitan Port au Prince.

Based on a small sample of households surveyed, we estimate that 80 to 90 % of these families lack the ability to procure the necessary CGI for roofing due to the loss of assets, capital, and work opportunities. As a consequence, 1.4 to 2.7 million CGI sheets will be needed to assist these households in securing adequate transitional shelter.

As a consequence, the capacity of the CGI market chain to provide for this massively increased need is a critical issue for the reconstruction process. This will focus on two questions regarding the CGI market system: 1.) Does the local market system have the capacity to meet the demand for CGI in greater Port au Prince?; and 2.) How do beneficiaries prefer to receive shelter assistance (in-kind materials, unconditional grants, etc.)

The CGI market chain is built around 4 categories of major actors for whom the EQ has had very heterogeneous impacts:

- The **importers**: they are broken into regular importers, wholesalers who also import when the demand is great enough, and opportunistic importers who respond to ad hoc demand for major construction projects.
- The **Middle-Wholesalers**: they are supplied by the importers – wholesalers and opportunistic importers - partly on the basis of informal credit.
- The **Retailers**: Local hardware stores that are supplied by middle-wholesalers and rely largely on informal credit and smaller share of formal credit.
- **Consumers**: they procure mainly from the retailers who operate as neighbourhood shops serving the local area.

The market chain analysis concludes that:

- The **market is disrupted and in particular is broken at the retailer/consumer end of the system**;
- Very little in the way of market signals are being transmitting along the market chain due to decreased purchasing power among consumers. Despite the high level of destroyed homes and enormous need, local demand for CGI and construction materials is low. Similarly, the international community has made no movement on purchasing CGI in large quantities, although importers and large traders believe they will do so. The result is that the market for CGI has ground to a halt: wholesalers and importers do not know how to plan for the anticipated increase in demand, and given this uncertainty, have been reluctant to import more CGI stock without contracts in place.
- Regular importers have the capacity to bring in the needed volumes of CGI, but will face supply delays (1-3 months to import from usual sources), high transportation costs from the Dominican Republic and storage challenges (destruction of warehouses and NGO occupation of big storage surfaces).
- Middle-wholesalers and retailers will most probably keep a weak position on the market chain and have high difficulties to access CGI since importers will focus on bigger customers. This might result in the increase of CGI prices on local markets for household consumers.
- As a consequence of a massive orientation of imports and supplies towards the big reconstruction projects, supplies to provinces will probably decrease and become insufficient. Prices might therefore increase in the regions outside of Port au Prince.

In the situation where NGOs import their own CGI from overseas, bypassing domestic importation/wholesale/retail capacity, it is expected that:

- Importation will require massive storage capacity, which will reduce ability of local supply chain to replenish and continue to function as normal
- CGI and material is distributed directly to beneficiaries, meaning no capital will enter the local supply chain and demand from consumers for CGI and construction goods will remain low.
- It is unlikely that many of the small retailers that are not currently operating will be able to recover business. Those that are currently functioning will continue to have very low income and might have to close.
- A series of livelihoods along the supply chain will be affected due to loss of income opportunities.

Based on the results of the market analysis, and to re-establish a flow along the supply chain ensuring income opportunities and CGI availability at all levels, a multifaceted approach that integrates the following elements is recommended:

- CGI Vouchers to vulnerable households, redeemable at neighbourhood hardware retailers; (Consumers declared clearly preferring receiving in kind material rather than cash for reconstruction)
- Distribution of building material (iron sheets and timber) to very vulnerable HH who have no mobility, or for whom procurement of building material represents transportation costs and loss of income (no work during one day);
- Cash grants associated to micro-credit for neighbourhood retailers to reconstruct/rehabilitate shops, stocks, and re-start business activities;
- Support to negotiation between retailers and traders to ensure that small retailers maintain access to stocks
- Advocate to International Community to respect the market and use the distribution mechanisms embedded in the market

The present recommendations are based on the assumption that the shelter cluster's reconstruction strategy will focus on a transitional shelter response using a design that includes a CGI roofing and therefore will create a massive demand for CGI. The approach proposed in general shall be integrated to projects involving construction (schools construction, public health centers, etc), and should be implemented progressively as importers' capacity increases.

## **Section 2. Emergency context**

On January 12, 2010 an earthquake of 7.0 magnitude hit the island of Haiti, approximately 25 km (16 miles) west of Port au Prince. The earthquake occurred at 16:53 local time. The Haitian government estimates that 230,000 died country-wide in the quake, and another 300,000 were injured. According to IOM 900,000 to 1.5million people have been displaced by the earthquake and aftershocks, many of whom are living in spontaneous urban camps. Approximately 38% of all buildings in greater Port au Prince have been damaged or destroyed according to the UN. WFP has distributed food to more than 2.5 million people in Port au Prince and outlying areas.

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 (i.e. donors, NGOs, government, other humanitarian actors) to consider a broader range of responses. It is not intended to replace existing emergency assessments, or more thorough household and economic analyses such as the HEA, but instead should add to the body of knowledge after a crisis.

In Haiti the EMMA team was made up of 18 staff members from 11 organizations including: International Rescue Committee (Lead), American Red Cross, Haitian Red Cross, International

Federation of the Red Cross, Save the Children, Mercy Corps, Oxfam GB, World Food Program, ACDI/VOCA, Action Contre la Faim (ACF) and FEWS/NET. While EMMA is designed to be used by those without economic training, this team had a mix of those with significant market experience and those with none. Approximately two days of training was provided, with additional training throughout the course of the assessment on various aspects of the tool.

Field work primarily took place in Port au Prince, with secondary sources and desk-based research used to maximize use of available information. Interviews were held with key players in the market system, as well as support players. The present EMMA took place from the 7<sup>th</sup> to the 17<sup>th</sup> of February 2010.

### **Section 3. EMMA methodology**

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 (i.e. donors, NGOs, government, 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 HEA, but instead should add to the body of knowledge after a crisis.

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### **Section 4. The target population**

The target population for all market chains studied through the EMMA process was earthquake-affected population of greater Port au Prince, defined as the communes of Port au Prince, Delmas, Croix des Bouquets, Carrefour, Tabarre, Cité Soleil, and Petion-Ville. Market chains were selected based on their applicability to the widest number of affected people. In analyzing the market system for corrugated galvanized iron (CGI), the assessment team further narrowed the target population to those families displaced by the earthquake, as a proxy for the number of homes destroyed. Using data from IOM, the Emergency Shelter Cluster, and organizations planning shelter interventions, we estimate this population to be between 180,000 to 300,000 families in the greater Port au Prince area. This broad range of displaced persons indicates a high level of uncertainty and inaccuracy in counting the true number of homes destroyed in Port au Prince.

More than 2 million people in greater Port au Prince were affected by the earthquake. The impact was spread across wealth groups, although many homes of the wealthiest were constructed in a manner that prevented significant damage. However, many assets from this group were lost, which will affect the pace of reconstruction. Middle classes invested much of their wealth in building their homes over a relatively long period of time, and are unlikely to have access to funds for immediate rebuilding. The poor and very poor had sub-standard homes and proportionally fewer investments to lose, but have suffered greatly from the loss of income. The EMMA team chose not to disaggregate the target population, due to the widespread needs across the city and all wealth groups.

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.

**Table 1: Seasonal Calendar**

|                      | JAN        | FEB       | MARCH        | APRIL  | MAY | JUNE       | JULY     | AUG             | SEPT | OCT | NOV      | DEC                        |
|----------------------|------------|-----------|--------------|--------|-----|------------|----------|-----------------|------|-----|----------|----------------------------|
| Rains                |            |           |              |        |     |            |          |                 |      |     |          |                            |
| Road Conditions      | OK         |           |              | BAD    |     | OK         |          | BAD             |      |     | OK       |                            |
| Cyclones             |            |           |              |        |     |            |          |                 |      |     |          |                            |
| Lean Season          |            |           |              |        |     |            |          |                 |      |     |          |                            |
| Food Prices          |            |           | highest      |        |     |            |          |                 |      |     | highest  |                            |
| Education            |            |           |              |        |     |            | Holidays | Education costs |      |     |          |                            |
| Remittances increase |            |           |              |        |     |            |          |                 |      |     |          |                            |
| Planting Beans       |            | highlands |              |        |     |            |          | highlands       |      |     | lowlands |                            |
| Harvest Corn/Beans   |            |           |              |        |     |            |          |                 |      |     |          |                            |
| Planting Rice        |            |           |              |        |     |            |          |                 |      |     |          |                            |
| Harvest Rice         |            |           | small season |        |     | big season |          |                 |      |     |          |                            |
| Holidays             | King's Day | Carneval  |              | Easter |     |            |          |                 |      |     |          | Christmas/ Marriage Season |

## Section 5. Critical Market Systems

The market systems selected were chosen because they affect large sections of the target population. Participants were asked prior to the start of the EMMA to identify markets that they felt would be important to consider. On the second day of the EMMA training, a brainstorming session was kicked off with these initial suggestions, followed by additional suggestions from the participants. The group looked at market systems that fell into three categories: emergency needs, income potential, and longer term livelihood support. Six market systems were shortlisted: beans, rice, water vendors, construction labor, shelter materials, and cooking fuel.

Due to the size of the group it was necessary to select only four markets to analyze. After much discussion, and after Participants considered the market systems that would be of greatest interest to their organizations, and, two food markets were selected (beans and rice), one income market (construction labor), and one type of shelter material (corrugated iron sheeting (CGI)). This report refers to the CGI market, which was prioritized for analysis based on the immediate need to provide a shelter solution to displaced populations.

## Section 6. Key findings – results of the gap and market analyses

The CGI market system is critical because it supplies shelter material for families to have a protected place to live, particularly in light of the fast approaching rainy season (March through May) and hurricane season (July through November). Additionally, the CGI market represents a livelihood strategy for a variety of people working at all levels of the market system, from importers to neighbourhood retailers. Understanding CGI as a critical commodity, this analysis attempts to answer two questions:

1. Does the CGI market system have the capacity to respond to the need for CGI sheeting in post-earthquake Port au Prince?
2. What preference do affected families have for receiving shelter assistance?

### Gap Analysis

Table 2 below quantifies the total need of CGI from displaced families in Port au Prince and the timeframe for that need to be met. The Household shortfall number is based on Sphere minimum standards and derived from transitional shelter designs proposed by the Emergency Shelter Cluster and other agencies, calling for 10 sheets (6-foot length) per household, and informal household interviews, which showed that 80-90% of those interviewed had no resources to meet their CGI needs. Therefore, 8 to 9 CGI sheets per household is representative of the total demand unable to be met by current household means. As shown in this table, the total CGI need for families displaced from their homes in Port au Prince is 1.4 to 2.7 million sheets of CGI.

**Table 2: Gap Analysis**

| Target group                         | HH in need        | HH shortfall                            | Other aid                               | Total Gap                    | Likely gap duration | Preferences for help |
|--------------------------------------|-------------------|---|---|------------------------------|---------------------|----------------------|
| Displaced families in Port au Prince | 180,000 – 300,000 | Average of 8-9 CGI sheets per household | No aid for transitional shelter for now | 1.4 – 2.7 million CGI Sheets | 12-months           | In-Kind Distribution |

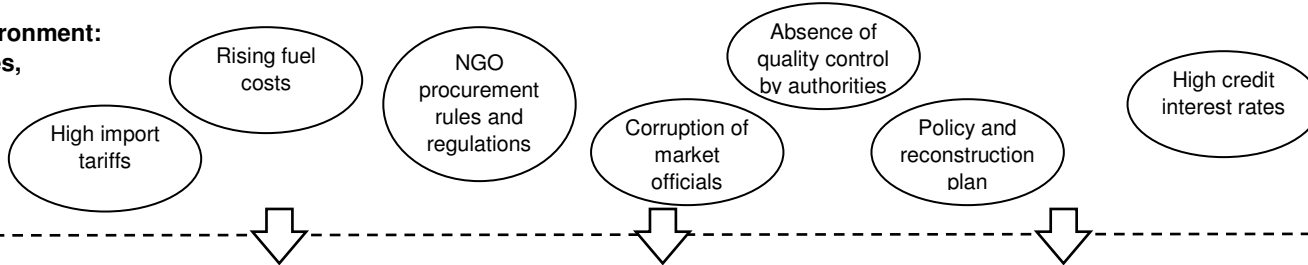
This gap in CGI coverage exists principally because the families who need CGI to erect an adequate transitional shelter before the rainy season do not have the purchasing power to buy it on the local market. Secondly, even if this purchasing power existed, as many as 50% of the local hardware retailers were either destroyed, left PAP for the countryside, or do not have the capital to keep the store open. The next section of the report will analyze the impact of these conditions on the remainder of the market chain.

### Market Analysis Results

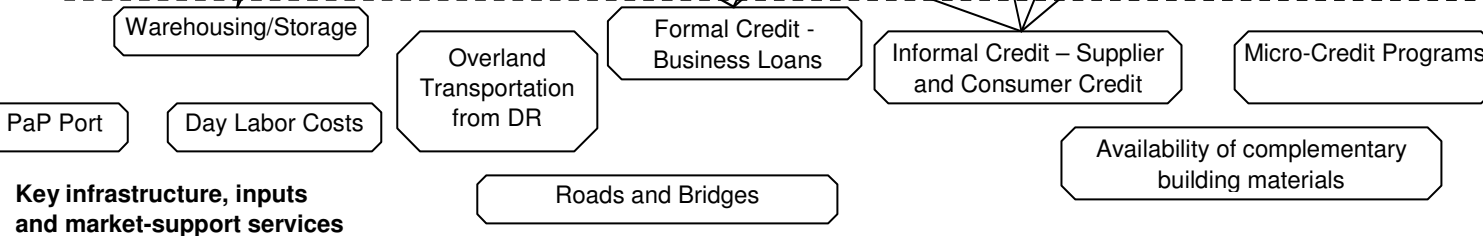
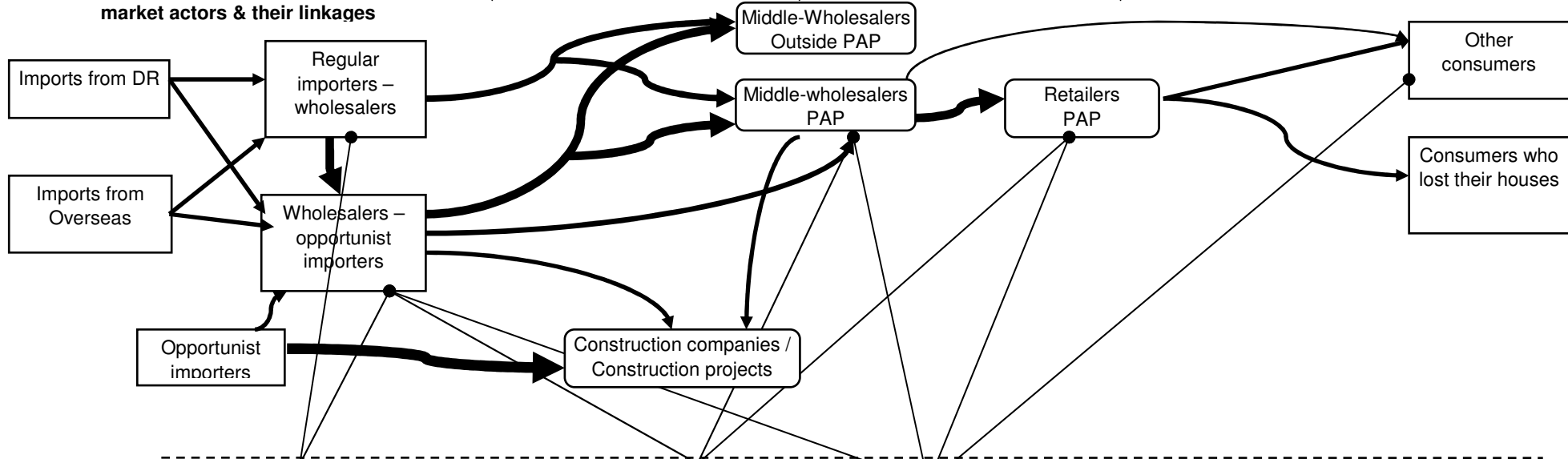
The main tool for EMMA is the Market Map, used to analyze how the CGI supply chain has been affected by the earthquake. Each map features elements of the market environment that affect how the supply chain functions, infrastructure and inputs that enable market interactions, and the market actors themselves. **Map 1** below displays the market system prior to January 12<sup>th</sup>, 2010.

**MAP 1:  
Corrugated Iron Sheetings – Pre-Earthquake Market System**

**The market environment:  
institutions, rules,  
norms & trends**



**The market chain:  
market actors & their linkages**



### **Pre-Earthquake Market System**

The pre-earthquake market environment was characterized by high costs of doing business – from high import fees, rising fuel costs, and an absence of quality control regulations. In the post-earthquake environment, new institutions and rules have entered the environment, which will impact the market functioning – primarily the specific procurement rules/regulations of international aid agencies and government-instituted building codes and reconstruction plans.

Also influencing the market chain are infrastructure and support services that enable the supply chain to operate. Warehouses, ports, available credit, overland transportation, and roads from Dominican Republic are the primary inputs for the CGI market system. Prior to the earthquake, PaP port was among the most expensive in the Caribbean to bring goods through, but for many importers was preferable to shipping material overland from Dominican Republic. Formal credit was very expensive with interest rates ranging from 27-38%. The earthquake resulted in extensive damage to the port of PaP, an acute shortage of warehouses, increased transportation costs, and a nearly-complete freeze on credit to businesses and consumers. How these impacts affect the overall functioning of the market system will be analyzed below.

Lastly, the market chain in the middle section of the map represents the linkages between the different actors involved in linking consumers with CGI (100% of which is imported). There are 4 main categories of actors, including importers/wholesalers, middle-wholesalers, small hardware retail shops, and consumers.

#### **Importers:**

At the level of importer/wholesaler, there are three sub-categories:

1. “Regular Importers” – There are about two main actors in this category, and they primarily source CGI from overseas and from Dominican Republic for sale to wholesalers and middle-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.
2. “Wholesalers that import” – number about 10 businesses in this category, and they primarily purchase CGI from importers and distribute to 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 that import” maintain warehouse systems and quantity of CGI imported is dependent on warehouse space and credit arrangements.
3. “Opportunistic Importers” – (unknown number) engage in the supply chain only when they determine a great enough opportunity to profit from high import demand for CGI. These actors may be either official or unofficial import/export agents, and generally do not maintain warehouses for stock. “Opportunistic Importers” rely on own capital for procurement and transportation to retailer.

#### **Middle-Wholesalers**

The middle-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. Middle-wholesalers often extend credit to small retailers on repayment terms, and operate small supply warehouses.

#### **Retailers**

Retailers are generally small neighbourhood hardware shops that serve customers in the local area. These actors procure CGI and other construction materials from “wholesalers who import” and middle-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. These retailers were heavily impacted by the



earthquake, with an estimated 50% of shops closed either because they were damaged, the owners moved out of the city, or the owners did not have the capital to keep them open.

### **Consumers**

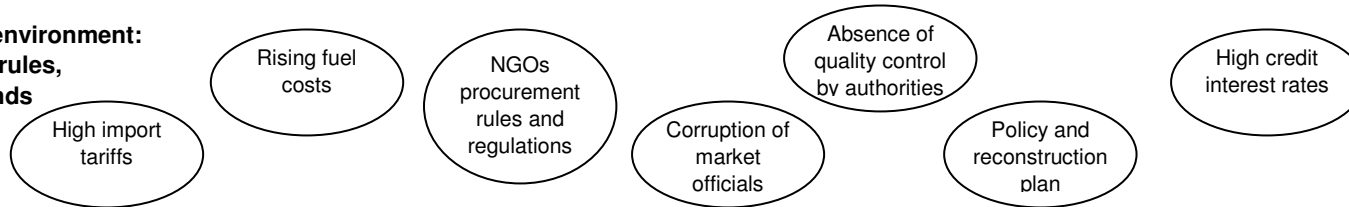
We have identified three broad categories of CGI consumers, listed below. In this study we are only interested in the quantity of CGI demanded by category #2. However, it is important to understand that the demand for CGI posed by categories #1 and #3 deducts from the quantities available for category #2. Further analysis will be needed to quantify the CGI demand posed by non-housing construction projects and other consumers.

- Construction Companies or other Public/Private Construction projects, either for reconstruction or continuation of pre-earthquake projects
- Families that have lost their homes and in need of CGI as a basic shelter material
- Any other consumer

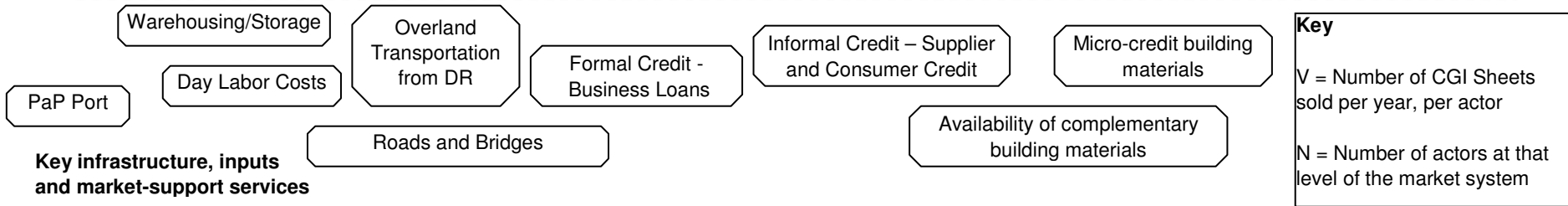
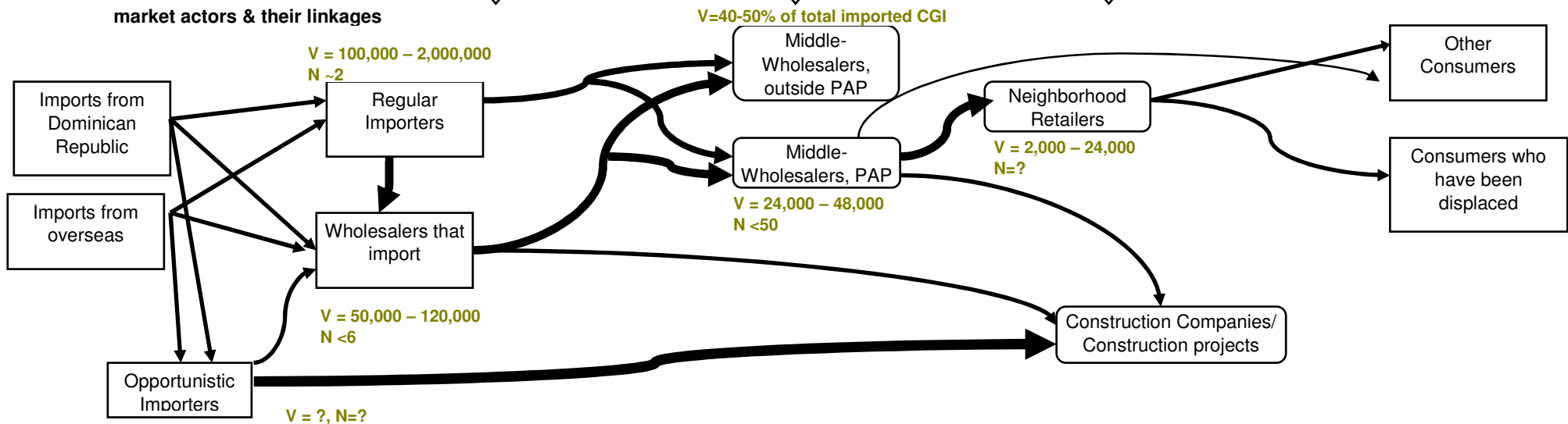
Map 2, shows the estimated number of actors in each part of the market chain, before the earthquake, and the volume of CGI flow between the supply chain links. The quantity of stock movement informs decision making regarding the capacity of the market system to respond to the CGI demand in post-earthquake Port au Prince. The range of volume of CGI imported and distributed is clearly quite large. This sizeable range is indicative of the difficulty in achieving 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.

**MAP 2:  
Corrugated Iron Sheetting Market System – Volume Map**

**The market environment:  
institutions, rules,  
norms & trends**



**The market chain:  
market actors & their linkages**



**Key**  
V = Number of CGI Sheets sold per year, per actor  
N = Number of actors at that level of the market system

### ***How the Market Systems has changed since the earthquake***

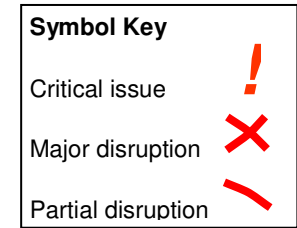
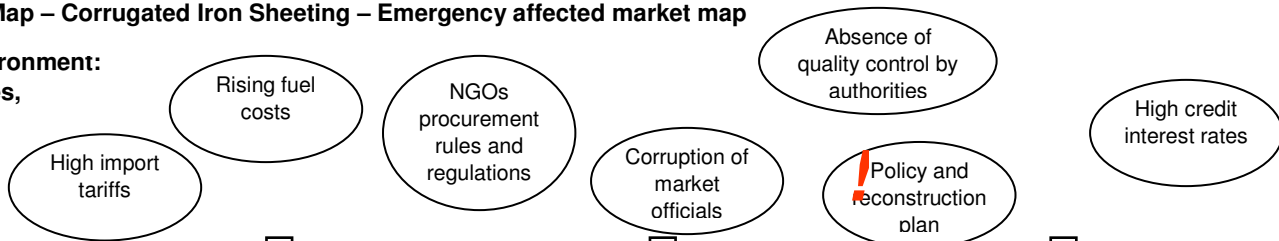
As the red markings on Map 3 indicate, the market system for CGI following the earthquake was much affected by the earthquake.

With regards to the market environment and inputs, several key elements were impacted, and as a result, have changed the context of the market chain. It is important to understand the changes in these key market inputs before discussing how the market chain has been affected:

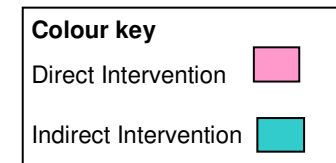
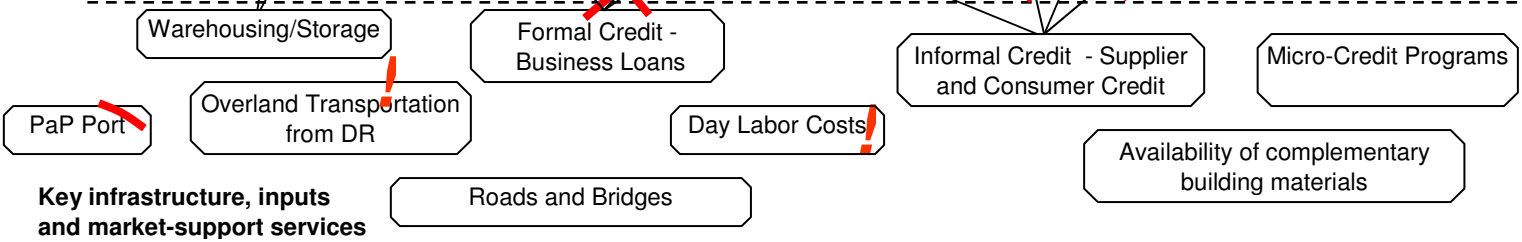
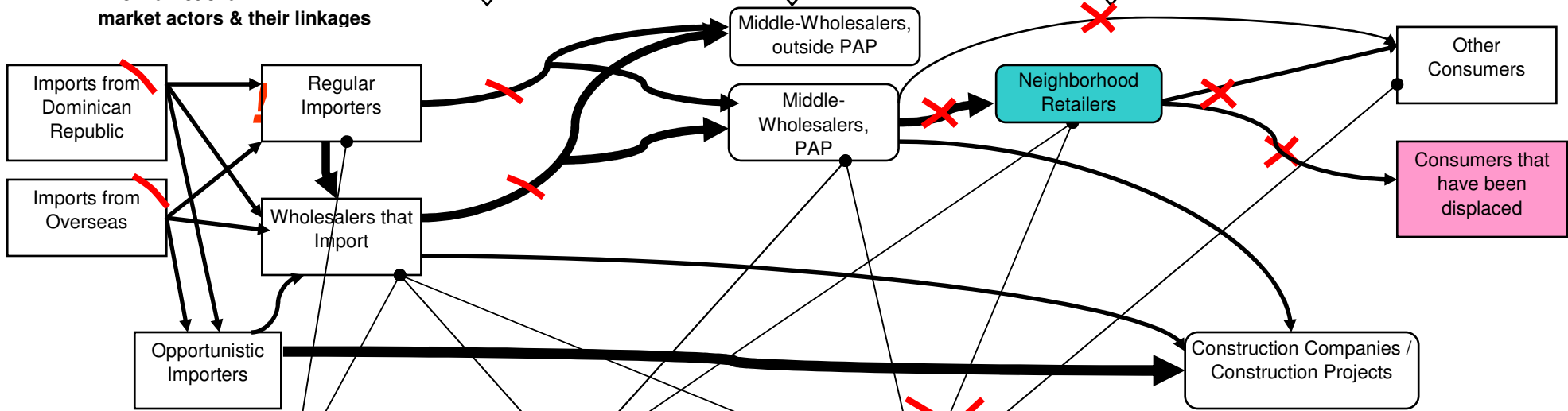
1. Port au Prince Port – the port was severely damaged in the earthquake, but recent reports indicate that commercial inputs have once again begun entering the port. Importers must still compete with humanitarian cargo for use of the port, but the fact that the port is operational means there is only a partial disruption
2. Warehouse/Storage space – despite the port being open, there is very limited warehouse space in Port au Prince. Humanitarian agencies have occupied as much warehouse space as they could find, and continue to search for more. Available warehouse space is largely located in insecure areas and reports of warehouse break-ins and theft have increased in recent weeks. Many wholesalers have leased space in their warehouses to NGOs. This lack of storage space is a significant disruption of the market chain because it significantly reduces the capacity of importers and wholesalers to procure CGI.
3. Formal credit – Prior to the earthquake, formal bank loans featured interest rates as high as 27 to 37%, making formal credit exceedingly expensive. After January 12, 2010, banks restricted the availability of further credit lines. As a result, many business activities along the CGI market chain were severely limited, particularly the procurement of more stock at the middle-wholesaler level.
4. Informal credit – Informal supplier and consumer credit extended by one actor in the CGI market system to another is common at every level in the market. However, this credit system was heavily impacted by the earthquake, particularly as debtors passed away, moved out of Port au Prince, sustained losses of supplies and sales, or otherwise lost means of making debt payments. As a result, the informal credit system, starting with consumers, collapsed like a chain of dominos, disrupting linkages between market actors at all levels.
5. Government policies and reconstruction plans – The lack of a clear reconstruction strategy has hampered the resumption of commerce along the chain. Importers, wholesalers, and suppliers have all reduced their purchases and opted to sell out of current stocks before re-ordering more CGI from further up the market chain. This hesitation to procure new stock is in part triggered by the tight credit market which is making businesses delay procurement until they have an assured purchaser. At the moment, consumers have very limited purchasing power, the government has temporarily halted all construction projects in PaP, and the humanitarian community has yet to procure CGI in any significant quantity. As a result, importer and wholesalers, middle-wholesalers, and retailers are waiting for a significant uptick in demand before expending precious capital on new stock.
6. Transportation from DR – The two primary modes of transportation for CGI entering Haiti are via ship to the PaP port (one to three months from date of procurement), and by truck from DR (one to three weeks from date of procurement). With the earthquake damage to the port, transport companies from DR began adding a surcharge of up to \$2,000 per 20-foot container. Therefore, the price of CGI imported from DR on the market in PaP is significantly more expensive. With the exception of one importer who imports rolls of steel to convert into CGI sheets, most importers/wholesalers prefer for CGI to arrive via the port.
7. Day Labour costs – several importer/wholesalers discussed in interviews the rising cost of dayly labour used to manage warehouses, unload trucks, etc. in the immediate period following the disaster. This rising cost is further reflected in the cost of CGI sheeting on the market in Port au Prince.

**MAP 3:**  
**Market-System Map – Corrugated Iron Sheet – Emergency affected market map**

**The market environment:  
institutions, rules,  
norms & trends**



**The market chain:  
market actors & their linkages**



Together, these key elements come together to influence changes in the CGI market chain since the earthquake. Starting from the far right of map, the consumers represent the market actor most impacted. As described earlier, there was a large-scale destruction of life, livelihoods, and homes. The earthquake affected families from all socio-economic classes, separated whole communities from income opportunities, and heavily stressed the savings and asset-bases of the affected population. As a result, displaced families have very little household income to purchase CGI or other shelter materials. In individual and focus-group interviews with women, men, elderly and younger family members, households expressed a very strong (near unanimous) preference for in-kind assistance for shelter reconstruction. The preferences for in-kind assistance were based on the following:

- Shops that sold construction materials have been destroyed or have closed down in their part of the city.
- Security – worries that money is much more portable than CGI and easily taken. This concern may be motivated in part by groups of “gangs” who are organizing themselves in camp settings.
- Families indicated that if they received financial support, it would be prioritized for food, cooking equipment/fuel, medical costs, and water. A large expenditure on improved shelter was not an immediate priority, but something acquired over time, so receiving construction materials in-kind would be preferable.

Additionally, many households prefer to switch from concrete structures to wood and to not rebuild using multi-story construction and heavy materials, such as concrete blocks. The majority of households interviewed expressed interest in a CGI roof instead of concrete.

Following the consumers, the retailers were the second most-impacted category in the market chain. As previously discussed, as many as 50% of retailers sustained major damage to stores and stocks, moved away from PaP, or do not have the capital to start up their businesses after the earthquake. For those retailers who have remained open, they have experienced a tremendous slow-down in business. One retailer reported that between January 13th and February 13, 2010 he has earned just 4% of what he earned in the previous 4 weeks. In addition to the slowdown in sales, retailers are suffering high debt burdens following the earthquake. Many sold construction materials on extended repayment terms for consumers before the earthquake, and many of those borrowers have moved away from Port au Prince, passed away in the earthquake, or no longer have the means to make their debt payments. Additionally, because the majority of retailers purchase their CGI and construction material on supplier credit extended by the wholesalers and middle-wholesalers, the lack of income for retailers means they are struggling to meet their repayment conditions, and have limited capacity to purchase more CGI from suppliers. As a result of these conditions, the CGI market chain has broken. There are major disruptions between the consumers and the retailers, and between the retailers and the middle-wholesalers who supply them.

The middle-wholesalers have fared better throughout the earthquake. Despite operating in a credit-crunch environment where banks have restricted formal lines of credit, middle-wholesalers have maintained access to their consumers, mainly construction companies and some NGO construction projects. The Government of Haiti, however, officially halted all construction projects until an engineer evaluated and approved the construction, creating a partial disruption in demand for CGI and construction materials from the middle-wholesalers. Also, the middle-wholesalers are operating in a “wait-and-see” fashion, holding off decisions to replenish their stocks of CGI until they have clear signals from the Government or international humanitarian community on how the reconstruction process will proceed. Until those signals begin to be transmitted down the market chain by either purchasers, government-endorsed building plans, or purchasing by international organizations, the middle-wholesalers will not risk their capital on purchasing.

The situation of importers/wholesalers is similar to the middle-wholesalers in that they too are waiting to see how the international community and government are going to respond to the massive need for shelter materials in the short term. However, unlike the middle-wholesalers, the importers and wholesalers in general, have the capital to begin procuring more material today. These market actors did sustain losses of stocks, warehouse space, and machinery in the earthquake, but generally, these actors are fully-insured for these losses. Additionally, given the long-standing high interest rates, many importers and wholesalers have avoided taking bank loans and instead rely on own capital and foreign

investment and do not face as acute a credit crunch as other market actors. Despite this capacity to import CGI to meet the apparent need, the importers and wholesalers have been reluctant to procure more for several reasons:

1. Warehouse Constraints – not only did many warehouses collapse in the earthquake, the humanitarian community quickly occupied many of the remaining warehouses. Currently, there is very little warehouse space remaining in PaP, and much of it is in insecure locations susceptible to theft. Without storage locations, importers and wholesalers cannot bring CGI into the country to meet the demand.
2. Damaged Machinery – At least one importer only procures rolls of iron sheeting and has the capacity to convert these rolls into corrugated iron sheeting. However this machinery was heavily damaged in the earthquake and will not be operational until late March, 2010. Until then, the importer is not purchasing any other CGI.
3. Uncertainty – All importers and wholesalers reported experiencing a great deal of uncertainty about how the international community will procure material – either locally or import directly. Because they are primarily operating on own capital and foreign investment, these actors are hesitant to import CGI until they have a contract for purchase in hand.

This reluctance to import CGI to meet demand has several key impacts on the market system:

- First, importers and wholesalers are looking to large purchases (such as the humanitarian community) for market signals. Because of this re-orientation of the import/wholesale aspect of the market to the NGO community, the remainder of the market chain that relies on importers/wholesalers to function is further disrupted.
- Secondly, the humanitarian community has displaced the capacity of importers/wholesalers to bring in much needed CGI – both in terms of warehouse space and in terms of access to import terminals. Importers are just beginning to increase shipments delivered through PAP port, previously prioritized for humanitarian shipments only. Additionally, the humanitarian community has limited the private sector's access to warehouse space.

In short, importers and wholesalers are looking to the humanitarian community to increase CGI demand, but at the same time, the humanitarian community has limited the ability of the local private sector to respond to that demand. If importers and wholesalers continue to orient their actions principally towards the humanitarian community and reconstruction projects, the availability of CGI on the local market will be seriously constrained, further weakening the position of retailers and consumers with poor purchasing power, and likely increasing CGI prices.

### ***Can the CGI Market Meet the Demand?***

Based on MAP 2, which presents the pre-earthquake volume of CGI that moves along the market chain each year, we can analyze the capacity of the CGI Market system to respond to the total CGI Gap discussed in Table 1.

Map 2 shows that in a normal year there are about 2 importers in Port au Prince that can procure between .1 and 2 million 6-foot sheets of CGI each year. This capacity is augmented by wholesalers that import, of which there are about 6. These firms can bring in between 50,000 and 120,000 CGI sheets each. Combined, these importers and wholesalers can import between 500,000 and 4.7 million sheets of 6-foot CGI in a baseline year, and this number does not take into account the unknown amount of CGI that “Opportunistic Importers” import each year, which would only increase the total import capacity. The estimated gap of 1.4 to 2.7million sheets of CGI that is needed in Port au Prince does fit within the range of the import capacity of local market chain actors, in a baseline year.

However, as described under the previous heading, the current situation of importers differs from the baseline year in four key ways that affect the ability of importers and wholesalers to meet the total assessed CGI gap:

1. Warehouse space – lack of warehouse space constricts the amount that importers can bring into the country and safely store, even for short periods of time
2. Lack of demand – because of the loss of income and livelihoods at the consumer-end of the market map, demand for CGI has dropped significantly, despite the tremendous need for housing material.

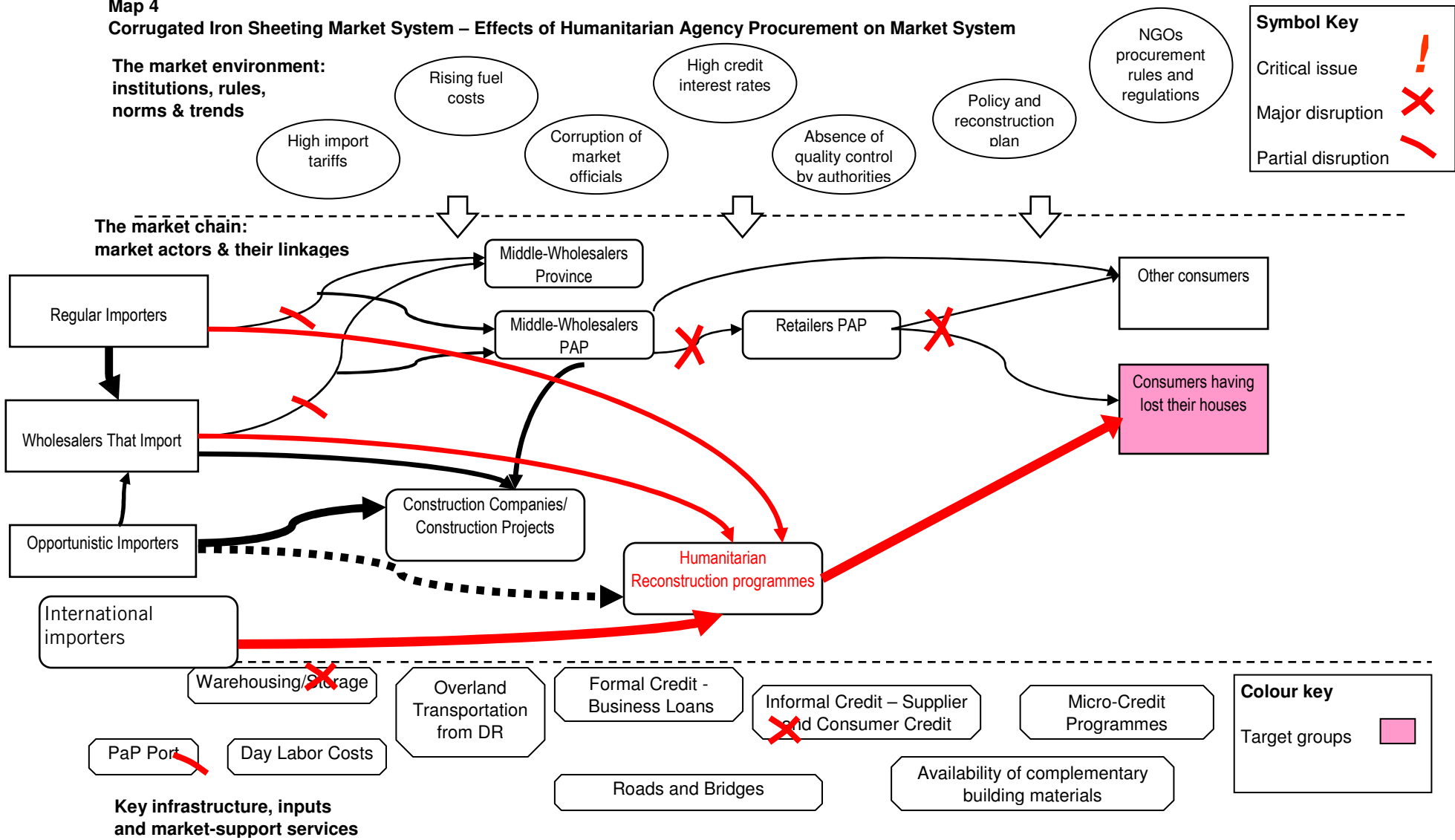
3. Credit – Without commitments from the humanitarian community, importers and wholesalers that import are reluctant to use their own capital to finance stock replenishment, despite the enormous need for CGI.
4. Damage to Machinery – one of the key importers only imports iron rolls, and uses specialized machinery in Port au Prince to convert the iron into CGI. This machinery has been damaged but, according to the importer, will be operational by the end of March 2010.

Each of these key elements that limit the ability of the importers and wholesalers to increase the availability of CGI in the country, with the exception of #4 above, can be influenced by the humanitarian community, and thus improve the market system's ability to meet the critical CGI gap. The CGI market chain does have the capacity to supply CGI at the same levels as the baseline year (500,000-4.7million sheets), but the humanitarian community will need to influence the market environment to mitigate the challenges currently inhibiting importation at those levels. Namely, the humanitarian community can take the following actions to increase private sector import capacity of CGI:

1. Reduce Warehouse Occupancy.
2. Rely on local markets to provide material instead of procuring and storing own stocks.
3. Increase CGI demand – utilize a voucher system to stimulate demand on the consumer/retailer side of the market chain, and “pull” material through the private sector supply infrastructure (see Response Recommendations)
4. Freeing up Credit – guarantee payment for each voucher redeemed.

If the humanitarian community attempts to meet the critical gap for CGI by providing direct in-kind support to households, it is highly unlikely that conditions #1, #2 and #3 above will be met. Traditional humanitarian response options for providing CGI include either importing the material directly and completely by-passing the local CGI market, or procuring locally from the left-hand side of the market chain – namely from importers and wholesalers – and distributing directly to households, effectively by-passing the remainder of the market system. This style of response is represented in Map 4, below.

**Map 4**  
**Corrugated Iron Sheetting Market System – Effects of Humanitarian Agency Procurement on Market System**





The red lines in Map 4 represent the humanitarian community's direct importation, and local procurement, supply systems. The width of arrows indicates the volume of CGI flowing between the different actors. If this procurement system is put in place in Port au Prince, the following outcomes are expected:

- Importation of CGI by the humanitarian community will require large amounts of warehouse space, which will limit the import capacity of local market chain actors and their capacity to replenish stocks and function as normal
- Distributing CGI directly to households will mean no capital will enter the local value chain beyond the importer/wholesaler. Additionally, because of the free distributions, demand from consumers for construction materials will remain low. This represents a double-blow to local retailers who were particularly hard-hit by the disaster. Not only are they losing business from the humanitarian community, they are losing business from the consumers who receive housing materials directly from NGOs for free.
- It is unlikely that many of the small retailers who lost stock in the earthquake, or whose stores were damaged, will be able to re-enter the market chain. Without stimulating demand at the retail level, many retail outlets will either not reopen following the earthquake, or those that are currently open may close down because of the low income.
- Credit markets could remain blocked because the humanitarian reconstruction funding will be directed at the import/wholesaler level or towards international CGI producers. Because there are many more factors in the credit market than the humanitarian community, it is difficult to assess the extent to which humanitarian decisions can affect this aspect of the CGI market system.

Most importantly however, decisions by the humanitarian community to import directly from overseas, or to procure only from local retailers/wholesalers, puts at risk a series of livelihoods along the supply chain between importer/wholesalers, and retailers. Day labourers, storekeepers, warehouse assistants, and countless numbers of individuals rely on middle-wholesalers and retailers for their livelihoods. Bypassing this section of the market chain directly stresses these livelihood strategies, particularly in a time of tight credit and diminished demand.

## **Section 7. Main recommendations and conclusions**

### ***Response logic***

Since the market is functional but disrupted, the recommended response logic intends to utilize the market capacity to deliver needed shelter materials to households in need. Doing so will revitalize the market where it is disrupted, create livelihood opportunities for unskilled and business labor, and deliver assistance to households.

The response shall therefore simultaneously target the different weaknesses and levels of the market chain:

1. Support the capacity of the affected population to access the needed CGI when their assets / capital and income sources have been badly disrupted;
2. Support restoring middle-wholesalers' and retailers' capacities to access stocks from wholesalers and to supply to consumers;
3. Provide the needed market signals to importers and wholesalers to encourage the rapid scale up of CGI importation, consistent the baseline import capacity.

### ***Response Recommendations (See also Annex 3)***

Based on the results of the market analysis, and to re-establish a flow along the supply chain ensuring income opportunities and CGI availability at all levels, the response should be multifaceted and address simultaneously the different weaknesses identified along the market chain. The EMMA team considered a broad range of response options (outlined in Annex 2) before making the following recommendations for intervention:

- CGI Vouchers to vulnerable households, redeemable at neighbourhood retailers; (Consumers declared clearly preferring receiving in kind material rather than cash for reconstruction)

- Distribution of building material (iron sheets and timber), procured from middle-wholesalers, to very vulnerable HH who have no mobility, or for whom a voucher redemption process would involve high transportation costs and loss of income (no work during one day);
- Cash grants or micro-credit support for neighbourhood retailers to reconstruct/rehabilitate shops, stocks, and re-start business activities; this intervention may be based on existing micro-finance institutions that have proven in past emergencies to be capable of undertaking such programmes;
- Direct re-capitalization of existing micro-finance institutions to be the actors of the support to retailers' recovery;
- Support to negotiation between retailers and wholesalers/middle-wholesalers to ensure that small retailers maintain access to stocks;
- Advocate to International Community, NGOs, UN and reconstruction actors to respect the market and use the distribution mechanisms embedded in the market
- Monitor the prices of key construction materials to ensure programmatic activities do not adversely impact the market system.

The present recommendations are based on the assumption that the shelter cluster's reconstruction strategy will focus on a transitional shelter response using a design that includes a CGI roofing and therefore will create a massive demand for CGI. In addition, the following factors represent major issues to be considered in order to ensure that the proposed response is effective and reaches its optimal impact:

- The response shall be progressive to follow the importer's capacities in terms of timing (2-3 months to import the biggest quantities of CGI);
- Importers shall be informed now about the reconstruction plans validated by the Government and implemented by NGOs and UN agencies, so that they can make available the needed CGI by June 2010 for the construction of transitional shelters;
- CGI can be imported more than 2-3 months if brought from Dominican Republic. However, material from DR is more expensive and transportation companies are price gouging. Despite the higher cost, this method of importing should be considered in the short-term in order to rapidly increase CGI availability and to create a demand so importers begin sourcing large quantities of CGI from overseas;
- The Rehabilitation of the port of PAP continues as scheduled and is increasingly available for commercial, non-humanitarian cargo;
- Rehabilitation and construction of storage capacity / warehouses will be essential to increase the storage capacity that is today totally congested and highly occupied by the arrived NGOs;
- An adaptation of NGOs and donors procurement rules shall be undertaken to ensure the local procurement and provide to importers / wholesalers the means of a speedy recovery (to avoid "blocking" stocks because of long administrative work).

Since the EMMA is based on a quick market analysis, further analysis is recommended to complete and refine the results of the present study. It is recommended to further analyse:

- The impact of the earthquake and subsequent economic disruption on the microfinance institutions and how they can influence the CGI market
- The features of the second hand CGI market: The phenomenon of selling and reselling CGI. After EQ a market for used CGI sprang up overnight, and the majority of people interviewed who currently owned CGI had either scavenged it from old home or bought on the used CGI market
- Household profile analysis in urban areas with mixed livelihood strategies and catastrophic emergency that impacted all socio-economic groups
- Philanthropic donations and offers of transport, etc. from international and domestic organizations – how this impacts the supply chain and transportation?

- This analysis may need to be refined and updated when the government announces plans/regulations for reconstruction, which may impact the market by expanding demand of CGI for reconstruction in addition to homes.
- 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.

## Annexes

### ***Annex 1: Actors interviewed***

- ACRA
- Le Flamengo (Zuraik Williams)
- Pierre Theard Import - Export
- Euroceram
- Batimat / Chabuma S.A.
- Entreprises Maxime Castera
- K&M
- Quincaillerie Nouvelle
- Casami
- Petits détaillants: Celicourt Dantès
- Population affectée à Carrefour feuille (Focus group discussions)
- Population affectée à Delams 32 (Focus group discussions)
- Population affectée à Marché Salomon (Focus group discussions)
- Population affectée à Rue Oswald Durand (Focus group discussions)

### ***Annex 2: Response Options: Response Recommendations Framework***

Several options – described below - can address the different weaknesses identified along the market chain.

| <b>Option</b>  | <b>Advantages</b>  | <b>Disadvantages</b>   | <b>Feasibility and timing</b>  |
|--|--|--|--|
| Distribution of cash to households for the self-procurement of iron sheets (and other building material) | <p>Immediate impact and allows flexibility for HHs to meet own needs.</p> <p>HHs can purchase materials from local retailers instead of big sellers: it can support very local economy and therefore all levels of the market chain</p> <p>Can easily complement cash distributions with construction training, in-kind shelter inputs, and TA</p> <p>Minimizes logistics and distribution burden on implementing organization</p> | <p>It requires additional cost burden on HHs, such as transportation costs and loss of one day of work to purchase the required items. These costs are not affordable by very vulnerable HH.</p> <p>Risk that cash is spent for other urgent needs especially for the most vulnerable HH. Beneficiaries showed a clear preference for in-kind material support.</p> <p>It implies that retailers and middle-wholesalers have enough CGI available on sale.</p> <p>May require in parallel the support to the re-establishment of retailers in the affected areas</p> | <p>High feasibility.</p> <p>Can be started very soon however the supply from importers side will not answer to a massive punctual demand.</p> <p>Implementation of cash distributions should be progressive, based in importers' capacity to bring in CGI.</p> |
| Procuring Iron sheeting on the local market and distributing to  | <p>Immediate impact.</p> <p>Reduces risk that cash</p>   | <p>Excludes the retailers if NGOs procure from the importers / wholesalers.</p>  | <p>High feasibility.</p> <p>1 to 3 months to</p>   |

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| affected HH  | <p>is used for other needs.</p> <p>Does not imply additional costs for very vulnerable HH (transportation costs)</p>   | <p>Bypasses the most-affected elements of the market system, benefiting only those organizations at the far left and far right of the map.</p> <p>Requires large-scale storage capacities.</p> <p>Involves high logistics and distribution burden on implementing organization</p>  | <p>receive first shipment of stock (importation delays for local importers and traders)</p> <p>Because of quantity needed and limited shipping/storage capacity, will need to be implemented in a phased approach over 12 months</p>  |
| Distribution of “commodity” vouchers redeemable at local retailers for CGI               | <p>It promotes the local market and all levels of the market chain.</p> <p>Targets the two components of value chain most affected by EQ – consumers and small retailers</p> <p>Minimizes logistics and distribution burden on implementing organization</p> | <p>For beneficiaries, it requires transportation costs and loss of work-time to receive the required items. These costs are not affordable by very vulnerable HH.</p> <p>Number of retailers and extent to which they were impacted by the earthquake varies by neighbourhood</p> <p>Large wholesalers may not be interested in selling to multiple small retailers</p> | <p>High feasibility.</p> <p>2 weeks to begin to identify small retailers that are ready and able to supply.</p> <p>Can be started very soon however the supply from importers side will not answer to a massive punctual demand because of shipping and warehouse capacity. This should be progressive and the linkage along the chain between importers and retailers should be ensured.</p> |
| Micro-credit for small retailers who have lost their stocks and shops (new credit lines) | <p>Quickens recovery of store-stocks and capital.</p>  | <p>Small retailers might already be indebted and this approach would overload them</p>  | <p>Medium feasibility.</p> <p>It requires partnership with micro-credit institutions (that might have been affected themselves)</p>   |
| Direct re-capitalization of existing micro-finance institutions                          | <p>Enables MFIs to continue extending credit to small retailers</p>  | <p>Indirect intervention that may be difficult to monitor</p> <p>The impact on beneficiaries may lag behind the re-capitalization due to retailer purchasing and storage requests</p>   | <p>Highly feasible, rapidly implemented</p> <p>2 weeks to implement 1-3 months to impact affected households</p> <p>Requires identification of MFIs supporting local construction retailers, and providing direct financial support</p>   |

|  |  |   |  |
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| <p>Cash grants to small retailers who have lost their stocks and shops for shop reconstruction and business recovery</p>   | <p>Quick recovery of stocks and capital</p> <p>Enables retailers to rebuild shops, make payment on outstanding loans or credit liabilities</p> <p>Can utilize the same transfer infrastructure used for household cash grants, or direct transfers to retailers' bank accounts</p>           | <p>Risks that grants are spent for other immediate needs.</p> <p>Can be readily associated with micro-credit to include shop reconstruction / rehabilitation.</p> <p>Profitability of businesses shall be analysed case by case to check that the environment of each retailer is conducive to recovery</p> | <p>High feasibility</p> <p>2-3 weeks to identify shopkeepers</p> <p>Time to impact on beneficiaries: 1-3months</p> |
| <p>Support the information sharing and negotiation between retailers and wholesalers to ensure continued supplying of small stores.</p>  | <p>Gives to small retailers access to small and big traders stocks and avoid breakage of market chain</p> <p>Could be applied in conjunction with cash grants to HHs to stimulate the market</p> <p>Inform traders of the real demand in order to increase flow of material to consumers</p> | <p>Requires willingness of traders to sell smaller stocks when the level of demand can be very high from NGOs and other reconstruction projects actors.</p>   | <p>Medium feasibility.</p> <p>It will take time since it requires coordination between several actors.</p>         |
| <p>Advocacy towards reconstruction actors (NGOs, Government, UN....) to maximize existing market chain infrastructure</p>  | <p>It will give an understanding of the market to all emergency actors in particular</p>   | <p>Cost of building material might be higher than if imported from abroad directly by NGOs.</p> <p>Might be constrained bby NGO procurement rules/regulations and quality control concerns.</p>   | <p>High feasibility.</p> <p>Immediate</p>  |
| <p>Price monitoring system for building materials (cement, aggregate, sand, timber, reinforcement bars, and corrugated iron sheets at major suppliers in Port-au-Prince ...)</p> | <p>Track cost information for NGOs' planning and budgeting</p> <p>Provide information about availability and access for private sector participants and policy makers</p>  | <p>Difficulty to assess impact</p>  | <p>Feasible, if built on FEWS NET capacity</p> <p>Rapid implementation (two weeks)</p>                             |

### Annex 3: Response Recommendations Framework

| Response activities of combinations   | Key risks and assumptions   | Timing issues   | Likely effect on market system and target groups  | Indicators   |
|---|---|---|---|--|
| CGI Vouchers to vulnerable households, redeemable at neighbourhood hardware retailers   | Retailers are willing to work with vouchers systems<br><br>Beneficiaries prefer in-kind support<br><br>Large retailers willing to distribute to smaller retailers instead of preferring en masse purchasing by NGOs | 1 to 3 months for retailers to increase quantities available on local markets   | Maintains the market structure by promoting all levels of the chain   | Number of vouchers provided<br><br>Quantities of building materials procured with the distributed vouchers<br><br>Percent of households with a completed transitional shelter 6 months after receiving voucher |
| Distribution of building material (iron sheets and timber) to very vulnerable HH** who have no access to transport, elderly, etc. | Very vulnerable households cannot reach neighbourhood retailers to select shelter materials   | 1-3 months import lag-time  | Provides at least transitional shelter for HH for the rainy season  | Quantities of building materials distributed<br><br>Number of shelters constructed with distributed material   |
| Cash grants associated or micro-credit support to retailers for restart of activities   | Retailers prefer cash grants  | Cash grant to retailers can be immediate to ensure they meet capital needs in short-term<br><br>1 to 3 months for voucher program to be active, retailers to increase quantities available on local markets | Impact on two most-affected populations in the CGI market system – consumers and local retailers<br><br>Increases access to CGI at family level<br><br>Increases livelihood opportunities for local retailers | Number of small retailers supported with cash grants and micro-credit<br><br>Number of retail stores that re-opened after receiving assistance   |
| Support to negotiation between retailers and traders to ensure that small retailers maintain access to CGI                        | Big traders have interest in supplying small retailers rather than bigger orders for big  | Few weeks to 1 month<br><br>Retailers in destroyed areas are willing to   | Provides to retailers capacity to access stocks and therefore meet demand created by  | Number of meetings organized between importers and retailers   |

|  |  |                                    |   |   |
|--|--|------------------------------------|---|---|
| supplies   | reconstruction actors (like NGOs)  | restart activities<br>2 to 4 weeks | voucher system  | Quantity of CGI sold to hardware stores taking part in voucher system   |
| Advocate to International Community to respect the market and use the distribution mechanisms embedded in the market | NGOs and donors are ready to make their procurement rules and regulations flexible and supportive to the local market                          | Immediately                        | Rebuilt importers capacity and feed the country market with CGI | Number of advocacy papers<br><br>Number of presentations to cluster meetings and other relevant coordination places<br><br>Number of NGOs procuring at least partly on the local market |
| Direct re-capitalization of existing micro-finance institutions  | Micro-finance institutions have been affected but keep a basic and minimum operation capacity on which the intervention can base its launching | Immediately                        |   | Number of micro-finance institutions supported  |
| Price monitoring system for building materials   | Enough personnel are allocated to this task so that it is not neglected in favour of immediate support actions                                 | Immediately                        | NGOs<br>Market actors   | Price bulletins   |