Emergency Market Mapping and Analysis (EMMA)

Corrugated Galvanized Iron (CGI) Market System, Kyrgyzstan

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Executive Summary

The corrugated galvanized iron (CGI) market system is functioning, but at reduced capacity. The broken linkage from the Kazakhstan import markets has diminished retailers and producers access to the materials necessary for their trade, which is compounded by a reduction in the number of CGI processors operating after the emergency. With reduced access to supply, stocks of finished CGI and local production may not be sufficient to meet demand from reconstruction. A spike in demand without sufficiently robust supply linkages will drive up prices, negatively affecting vulnerable populations attempting to purchase CGI.

CGI processors cut and stamp the imported corrugated metal, which often comes in rolls or flat sheets. Prior to the emergency there were 14 processors of various capacities operating in the region. Nine have closed due to the violence and lingering tensions. Fewer processors may mean increased prices for retailers and consumers, and a weakened ability for the market to adequately respond to the demands of reconstruction. Demand has been significantly diminished by the June events, driving down sales at the retail level, although stalls in market areas that were not directly affected by the violence remain in business.

The ongoing closure of the Kazakh border presents a problem that may not be best addressed in the emergency recovery phase. For the immediate future it is recommended that interventions target affected households and processors with the goal of making optimal use of the capacity of the existing CGI market system. Regardless of the state of the market in the coming months, close coordination between international actors involved in shelter interventions will be critical to avoid distortion of the market and ensure adequate supply at reasonable prices.

Emergency Context

In June 2010, following April's political upheaval[1], the Central Asian state of Kyrgyzstan experienced ethnic violence and rapid displacement in the southern districts bordering Uzbekistan. Nearly 3,000 homes and businesses were damaged or destroyed in a 3 day period. Although the origins and perpetrators of the violence remain unclear, the violence predominantly targeted the Uzbek ethnic group[2]. Government estimates of the number of fatalities are 330, although unofficial sources quote that number to be significantly higher. At the height of the unrest approximately 375,000 individuals were internally displaced and a further 92,000 crossed the border to Uzbekistan. At present about 2,000 households, or 30,000 individuals remain displaced.[3]

The violence against Uzbek neighborhoods in Osh and Jalal-Abad districts in southern Kyrgyzstan was accompanied by the looting and burning of houses, businesses and schools serving that population. Destruction in Uzbek-neighborhoods is pervasive. Homes have been destroyed, assets stolen or lost,

[1] On 7 April 2010, violent civil protests erupted in the capital city Bishkek and provoked the dismissal of the President, Bakiev. An interim 'caretaker' government was instituted headed by Rosa Otunbaeva, but tensions continued, leading to a vacuum of national counterparts in many institutions at central and local levels, freezing of bank assets, and closure of borders, and disruption of the spring planting season.

[2] Kyrgyzstan: Ensuring Security and Human Rights Required to Put Country Back on Course, Refugees International 29/07/2010.

[3] Kyrgyzstan Complex Emergency; Factsheet #13, Fiscal Year (FY) 2010, Bureau for Democracy, Conflict and Humanitarian Assistance (DCHA), Office of U.S. Foreign Disaster Assistance (OFDA), 12/08/2010.

public services damaged, and social and market linkages disrupted. Returnees are faced with critical near-term assistance needs in shelter, NFIs[4], protection, and emergency economic interventions, as well as medium-term needs in education system rehabilitation and economic recovery and development.

Economic Development and Livelihoods Context

The economic impact of the June events has been immediate. The overall damage to the local economy is as follows: 170 shops, six market areas and more than 100 cafes and other sites damaged or destroyed in Osh alone.[5] In addition to the direct damage to business sites, fear of reprisals has immobilized many sectors in and outside of the metropolitan areas. Transport of goods to and from the Southern regions of Kyrgyzstan halted for most of June, and July from other regions of the country, and from other the neighboring countries China, Russia, Kazakhstan and Uzbekistan. This has had a severe impact on the agricultural sector, which contributed 27% of GDP in 2008 and remains an essential component of the economy as it employs 46% of the working population.[6] The construction market has also been affected in particular for those goods, which have been heavily imported before the June events, a significant amount of which comes from neighboring China and Kazakhstan to the Karasu market and is then fed to local markets in southern Kyrgyzstan.

The export markets noted above remained closed as the EMMA analysis drew to a close on July 28th, in addition to the closing of the Uzbek border, products like CGI from China and Kazakhstan, have also slowed to a halt most likely due to fears of instability in the South. It is also important to note that both Russia and Kazakhstan are currently not allowing commodities through their border, due in part to the newly signed Customs Union Accord between Russia, Kazakhstan and Belarus.

EMMA Methodology

The EMMA is a rapid market analysis designed to be used immediately after 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.

The EMMA assessment on the ground in Kyrgyzstan focused on early recovery needs for four selected critical markets (wheat flour, early potatoes, CGI and cement), and the impact of humanitarian aid to date on the local market. The IRC EMMA team led by Benjamin Barrows and Eugenia Gusev arrived on the ground several weeks after the initial June violence events. Four other local team members were trained and carried out the assessment. They were from three organizations on the ground: local staff from Mercy Corps, and staff from two local NGOs Mehr-Shavkat and TES center. The Assessment focused on Osh Oblast, particularly on Osh city, Aravan district (distinct because of 2 planting seasons) and Jalal-Abad oblast (city and surrounding villages). It is important to note that a large interagency livelihoods assessment has been conducted with ACTED, GTZ, German Agro Action (Welt Hunger Hilfe) in collaboration with local NGOs AMFIK and TES. The assessment interviewed 300 business owners, 300 MFI clients and 300 farmers/producers. The EMMA team has coordinated closely with ACTED to avoid geographic and programmatic overlap and ensure complementarity. Data from the assessment was not available at the time of the EMMA writing.

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[4] Non-food items.

[5] Rebuilding Southern Kyrgyzstan, IWPR, July 31, 2010: http://www.reliefweb.int/rw/rwb.nsf/db900SID/AZHU-87VNUX?OpenDocument.

[6] Duhr, Agnes, "Food Security Update and Nutrition Situation In the Kyrgyz republic" UNWFP April 2010.

The enumerator team was recruited in the first week of the IRC assessment teams' arrival in Osh city. This was possible through networking at the UN Cluster meetings as well as during bilateral meetings with local and international NGOs present on the ground. It was also possible in part because Southern Kyrgyzstan has several very active local NGO's who were present at the Cluster meetings. This strong local capacity should be noted for any future programming in Southern Kyrgyzstan. Following the initial recruitment the IRC EMMA team prepared Russian language materials for a two-day induction of the local enumerators. The EMMA team, including drivers and the translators employed for the EMMA assessment were of Uzbek and Kyrgyz ethnicity which was helpful for obtaining balanced data and accessing both Kyrgyz and Uzbek market places, households and farmers.

The Target Population

Target Group	Location	Essential Characteristics
Persons with damaged/ destroyed homes/ businesses	urban and peri-urban areas	Mostly ethnic Uzbeks and some ethnic Kyrgyz. 2,000 households have been displaced (UNOSAT), which is equivalent to approximately 30,000 individuals. 1,500 households in Osh oblast, 500 in Jalal-Abad oblast

Critical Market System

The critical market systems were selected after giving consideration to seasonality, the survival and livelihood needs of the affected population, current international interventions and other ongoing livelihood-oriented assessments.

Corrugated galvanized iron (CGI) was selected as a critical market system because it is one of the most important building materials needed for reconstruction of homes and businesses damaged or destroyed in June. CGI and corrugated asbestos are the main roofing materials used locally, and CGI will play an important role in self-help reconstruction as well as in construction financed as part of the international response. The EMMA team's key analytical interest in regard to the CGI market was to understand the ability of the market to respond to the crisis and to anticipate increase in demand.

Processed and semi-processed raw materials for CGI are imported via truck from Kazakhstan and China, and ready CGI is also imported from China. The metal is imported in standardized sizes, and often in flat sheets or rolls. Small factories in the Osh and Jalal-Abad areas perform value-adding processes such as cutting and stamping the metal into the distinctive corrugated shape. Retailers purchase finished CGI sheets directly from importers, processors and the Karasu market.

Although customized sizes are available from processors, below is a table of typical CGI sheets and their prices.

CGI Sheet Dimensions (meters)	Price per Sheet (KGS)
1 x 2	300-350
2.5 x 1.2	470-490
3 x .95	540-5-60
4 x .95	640-660

At this time last year plain 1 x 2 meter CGI sold for between 260 and 280 KGS per meter. The average price for the same sheet is now between 300 and 350 KGS. Colored CGI costs an additional 45-55 KGS per meter. Small retailers typical of the construction materials bazaars sell between 100 and 150 pieces per month, year-round. As prices have risen, retail sales have fallen by 40-60%. Exchange rate changes have also contributed to the increase of price relative to the market in 2009.

The table below lists and describes CGI markets visited by the EMMA team.

Market	Description
Edilbek	5 small businesses sell CGI. After the emergency, the businesses halted sales for 4-6 weeks. Sales have picked up recently as this is the building season. 3,000 – 3,500 sheets of CGI are sold per month, which is a similar sales volume to this time last year. Sheets are brought in from the Chinese retailers in the Karasu market area. Currently the market has about 10,000 – 12,000 sheets in stock.
Ak- Taylak	There are 3 retail shops and 2 factories close to the market where any size sheet can be procured. Retailers report lower earnings relative to this time last year. Retailers purchase flat sheets of galvanized metal by the ton from the Karasu market. One retailer also buys directly from China. The retailers work according to customer orders, and have the metal stamped and cut at the nearby factories according to demand. The factories work only in response to orders made by retailers or consumers.
Tatan	Five large retailers sell ready-made CGI sourced from China. Most of the retailers are Chinese, and report that they have the ability to restock for increased demand. They were too frightened to answer detailed questions.
Stocks held in Karasu	Only raw materials for galvanized metal sheets are delivered to Karasu, of which there are currently 50-60 tons in stock. The material comes in 5-ton rolls worth approximately $5,000 USD each. The businessmen who deliver the materials are predominately Chinese, who report that increasing delivery volumes to meet demand is feasible. Deliveries take 5-7 days, and sales are down 20-30% relative to this time last year. The Karasu market is the source of raw CGI for many markets, including those in Jalal-Abad.

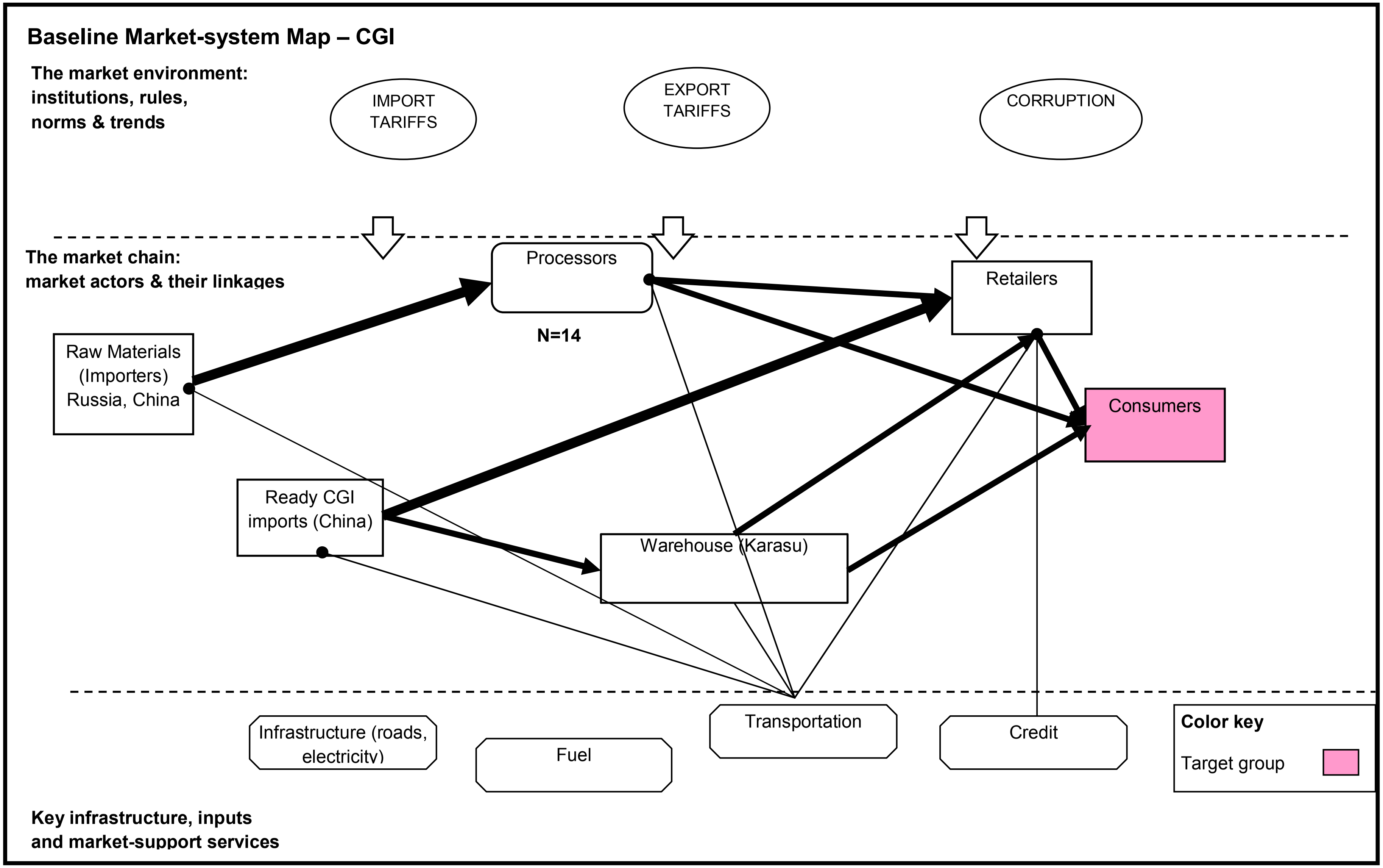
Retailers of CGI are predominately male and clustered in bazaars with other building material vendors. The loss of sales due to the emergency is a moderate threat to their livelihoods as many will have increased difficulty servicing their credit obligations and costs associated with the operation of their stalls. Common operating costs include rent for their space, collective fees for security/cleaning of market area, labor of shopkeepers, purchase of inventory, rental of storage space and fees to transporters. Business spaces for construction material merchants were less affected than those in the large markets and high-street areas of the Osh, Aravan and Jalal-Abad population centers.

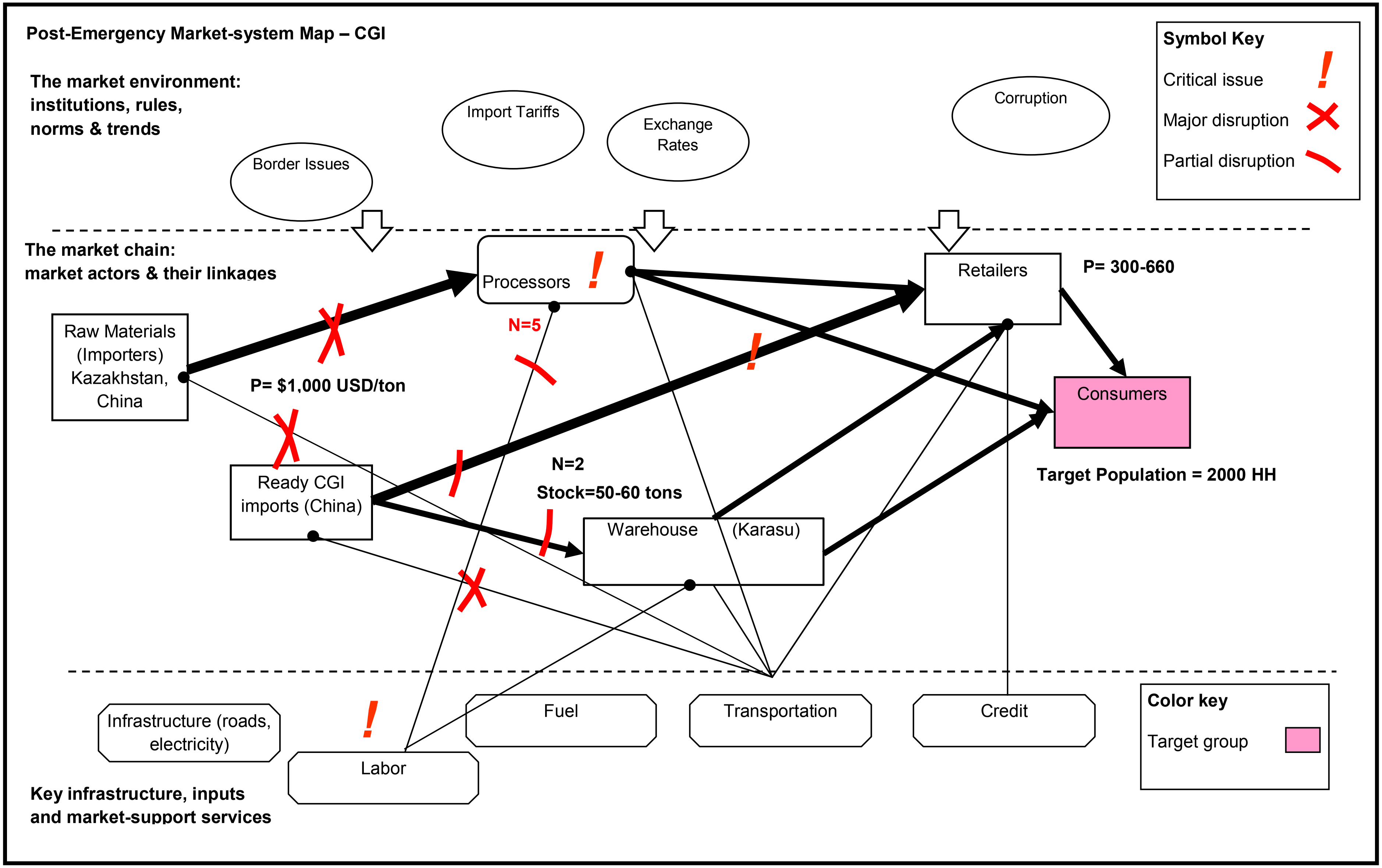
According to the latest pro-forma bill of quantity from the Danish Refugee council, between 18,000 and 25,200 sheets of 1.15m x 3m and 1.15m x 3.2m sheets of .4-.5 mm thick CGI[7] will be required for the internationally-managed construction of 900 transitional shelters undertaken by organizations in the UN-coordinated shelter cluster. If a small shelter similar to those being built by the cluster requires an average of 24 sheets of CGI, the total approximate amount needed to construct 2,000 shelters is 48,000. However, the amount of CGI materials used for the construction of the 650 shelters, slated to be built by Catholic Relief Services, may differ from those to be constructed by the shelter cluster. Further, the amount of CGI needed for reconstruction of damaged small businesses remains unquantified, pending further assessment of needs.

Market-system Maps

The main tool for the EMMA is the Market Map which is used to analyze how the CGI critical market has been affected by the June violence in Southern Kyrgyzstan. Specifically, the EMMA team conducted an analysis in the cities of Osh and Jalal-Abad and the surrounding villages. Each map features elements of the market environment that affect how the supply chain functions, how the infrastructure and inputs that enable market interactions have been impacted, and the effects on market actors themselves. The market maps shown in this section compare the system before and after the emergency. This comparison helps isolate the broken linkages in the market system and show where weaknesses may have already existed prior to the emergency.

[7] The low estimate of 18,000 is in the event that all 900 shelters built by the cluster have 2 rooms. The high estimate of 25,200 pieces is in the event that all 900 shelters built have 3 rooms.


Baseline Market-system Map – CGI
The market environment:
institutions, rules,
norms & trends
IMPORT TARIFFS
EXPORT TARIFFS
CORRUPTION
The market chain:
market actors & their linkages
Processors
N=14
Retailers
Raw Materials (Importers) Russia, China
Consumers
Ready CGI imports (China)
Warehouse (Karasu)
Infrastructure (roads, electricity)
Fuel
Transportation
Credit
Color key
Target group
Key infrastructure, inputs
and market-support services



Post-Emergency Market-system Map – CGI
The market environment: institutions, rules, norms & trends
Border Issues
Import Tariffs
Exchange Rates
Corruption
Symbol Key
Critical issue
Major disruption
Partial disruption
The market chain: market actors & their linkages
Raw Materials (Importers) Kazakhstan, China
P= $1,000 USD/ton
Processors
N=5
Retailers
P= 300-660
Consumers
Target Population = 2000 HH
Ready CGI imports (China)
N=2
Stock=50-60 tons
Warehouse (Karasu)
Infrastructure (roads, electricity)
Labor
Fuel
Transportation
Credit
Color key
Target group
Key infrastructure, inputs and market-support services

Importers: Importers bring raw materials as well as ready CGI sheets. Most observed in market areas were zinc covered metal sheets but other varieties do exist on the market. Importers are often Chinese and own/operate their own trucks. Imports also come from Kazakhstan and Turkey (via Kazakhstan). They deliver directly to processors, the Karasu wholesale market and to retailers.

Processors: Small scale processing factories process the raw materials by stamping the metal sheets. They also provide individual consumers with private order options which allow them to select exact sizing of the sheeting they require. No major construction companies exist in the South therefore, the processors supply mostly retailers at the construction bazaars, and individual customers. Some processors themselves have stands in the bazaars.

Nine out of 14 identified processors have closed. The continuing closures are linked with the inter-ethnic tensions. In some cases the workers were Uzbek, who are now scared to leave their mahalas due to the risks of movement, or the Uzbeks were frightened to come to work at processors owned by the Kyrgyz. In other cases the processors are located in Uzbek areas, making Kyrgyz employees scared to travel to work.

Bazaar Retailers: Bazaar retailers source their CGI from processors or from importers directly. They have on-site storage at the bazaar to keep their short term stocks near their vending station. Many bazaar retailers do rely on credit to purchase material during warmer seasons when people tend to build houses or to do maintenance on their existing house during the summer building season, although sales volumes are generally fairly steady throughout the seasons. Retailers hire truck drivers to transport the CGI from processors, and apart from a rise in fuel prices report no difficulty in supply.

Seasonal Calendar

The seasonal calendar below illustrates the seasonality of various livelihood activities. Although retailers report a fairly steady year-round demand for CGI, the season of home improvements and construction are the late summer and autumn months.

Key:	
Crop season:	includes Harvest (H) and Planting (Pl). Specific about crop culture for example Pl, Wh= Planted Wheat/ or H, Rice (Harvest Rice). Harvested Wheat and Potatoes (H, Wh,P).
Snow seasons:	Mountain (Mt), Valley
Holidays	Wedding (W), Religious (R)
Household expenses	Construction (const), W (weddings), S (school fees), w.prp (winter preparation)
Cost of Fuel	High Price (H$) and High Demand (HD)

Activity, Food or Income Source	J	J	A	S	O	N	D	J	F	M	A	M
Seasons	Hot	Hot	Hot	Hot	cool	cool	cold	cold	cold	cool	cool	Hot
Rainy season					Rain	Rain				Rain	Flood	Flood
Dry season	Dry	Dry	Dry									
Snow seasons						Mt	Mt/Valley	Valley	Valley	Valley		
Holidays			W, R	W,R	W	W						
Household expenses			$ W,S, const	$ W,S, const	$ w.prp	$ w.prp						
Labor ($$ when hot, effected by border closings), P 2/3 days, H 2 weeks	$	$	$									
Food Prices (L: Low, H: High)		L	L	L	L	L			H	H	H	H
Hungry time										H	H	
Home improvement												
Credit: for S, W. Demand is high, suppliers have to take credit to buy stocks												
Fuel High $ and High Demand			H $ HD	H $ HD	H $ HD					H $, HD	H $ HD	

Key Findings

The CGI market system is healthy enough to not warrant direct intervention from the international community. As such, direct intervention to at the household and retail levels will stimulate the functional market system. The strength of the market system notwithstanding, it is critical that international organizations closely coordinate the aspects of their response that deal with the purchase and/or distribution of CGI.

The key disruptions to the CGI market system are the decreased import of CGI and CGI raw materials and local processing capacity. With the continued closure of the Kazakh border, the supply chain has lost important input of CGI and raw materials. Retailers report a 30 to 70% drop in sales since the emergency, as construction activities slowed or stopped in reaction to the violence.

Although there is variation across the geographic market areas in Kyrgyzstan, stocks and production levels are sufficient to continue meeting the reduced level of demand for some weeks. However, stocks will quickly be depleted as self-help and internationally financed reconstruction begins in earnest. Without re-establishing the flow of CGI and raw materials from import markets to levels that meet or exceed those before the emergency, and ensuring adequate processing capacity the market system will not be able to service anticipated reconstruction needs. The subsequent scarcity would most likely drive up prices and push consumers into seeking alternative roofing materials such as corrugated asbestos or makeshift solutions.

Nine out of 14 CGI processors remain closed. As a consequence there may be a bottleneck in the market chain that limits the ability of the market to meet the increase in demand from reconstruction. The capacity of the 5 operating processors was not determined by the EMMA, but should be quantified at the earliest possible opportunity.

Main Recommendations

The key recommendations are for NGO's dealing with shelter roughly quantify the volume of CGI available in the market and identify processors and retailers able to absorb increased demand. Despite challenges that may arise in sourcing CGI domestically, it is recommended that CGI used in reconstruction be of domestic origin and purchased in the Kyrgyz market. Sourcing directly from importers will bypass the other market actors like middlemen and retailers and will preclude them from being to earn their livelihoods at a time when sales are already down.

The shelter cluster and other coordinating bodies are encouraged to provide strategic oversight and policy parameters for the purchasing of CGI for reconstruction anticipated in the coming months. Information about pricing, ordering and stocks should be shared with the cluster and any other coordinating bodies.

Although delays to construction and rising material costs are expected, the below recommendations close coordination between international actors may mitigate delays.

	Response Option	Feasibility & Timing	Advantages	Disadvantages
1	Vouchers to vulnerable households	High: Target population already identified. 2-3 weeks to implement	-Directly addresses reconstruction needs of target population not covered by int'l T-shelter reconstruction. -Allows beneficiaries to select desired CGI dimensions -Utilizes extant market system	-Subsequent increase in demand w/ supply problems may increase prices -May be extraneous if target population doesn't have access to/cannot afford to purchase other necessary building supplies like bricks, cement, etc.
2	Make bulk purchases at fixed price.	High: funding and vendor/supply identification already underway by shelter cluster members.	-Quantifies amount of CGI available in the market -Secures a fixed price -Stimulates market	May deny supply to individuals seeking CGI for self-help reconstruction -Demand with limited supply/supply issues due do border problems could drive up prices
3	Vouchers to producers for hiring temporary labor.	Moderate: Owners may be absent and/or reluctant to restart business in current climate. 3-5 weeks to implement	-Addresses a critical bottleneck in the market -Helps ensure adequate supply of CGI for international and self-help reconstruction	-May exclude some processors, stoking ethnic tension -Does not directly address cash problems of target population -May be moot if import/border supply issues persist