



## **Market Baseline Assessment to Support Preparedness**

### **Kenya's Mukuru Informal Settlements**

**3<sup>rd</sup>-13<sup>th</sup> June 2013**





Humanitarian Aid  
and Civil Protection

## Executive Summary

### Backdrop

In the second half of 2011, Kenya witnessed one of the worst droughts in recent pasts. It suffered from the impacts of high inflation, rising fuel prices and a weakened economy contributing to sky rocketing prices across board. Inflation rates rose from 4.51% in January 2011 to 17.32% in September 2011.

The development and humanitarian agencies as well as the government focussed their energies in responding to the crisis in the Arid and Semi Arid regions, the hinterland of Kenya. Right in the city of Nairobi and other similar cities there were poor and vulnerable people who were equally impacted but were ignored. To access basic essentials, the poor urban population resorted to erosive livelihood strategies of prostitution, criminal activity, children dropped out from schools and engaged into scavenging or child labour. They also cut down on non food expenditures such as health, education, sanitation, soaps, and even on water for washing and cleaning.

Oxfam Kenya Urban programme decided to conduct a market assessment of the critical markets that impacted on the poor and the vulnerable population. As part of the Kenya contingency plan, the organisation would respond to 10,000 households if there is a humanitarian need. Therefore the market assessment would help the Kenya team to be prepared with a response option that would best fit the emergency context. In case of the urban programme, it was analysed that the slow onset disaster of rising commodity price was expected to be one critical emergency response area and hence the emergency context of 2011 was analysed in details.

### Target population

People living in the informal settlements of Nairobi constitute 60% of the city's population. They live out of precarious livelihood strategies mostly from micro and small enterprises, casual jobs. They depend on markets for at least 90% of their household consumption. Thus any upward change in the prices impacts heavily on the people living in the informal settlements whose incomes are dependent on very volatile livelihood strategies.

As per an Oxfam study<sup>1</sup> the informal settlement has four wealth groups- wealthy (10%), middle poor (20%), chronic poor (50%) and the very poor (10%). The same report also highlights that in case of an emergency situation the wealthy group generally remains stable but a big population from the middle poor group move into the chronic poor and simultaneously the chronic poor also move into the lower wealth group.

The 'very poor' wealth group typically has an annual average income of 20,000 to 40,000 Kenyan shillings (approx. \$247 - \$ 494 USD). In comparison the income required to cover basic needs is about 60,000 Kenyan shillings (approx. \$741 USD) leaving a deficit of 40,000 to 20,000 Kenyan shillings. Very poor households typically purchase 90% of their food, as they have limited opportunity for food production. This leaves this group extremely vulnerable to price increases.

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<sup>1</sup> Oxfam Response to Urban Food Crisis: situation analysis and strategy options

## **Critical Market**

The market assessment team analysed critical market systems that plays, played or could play a major role in ensuring survival, and /or protecting livelihoods of the target population. The team also assessed the roles that other agencies and government play in the market systems, whether the market systems have scope for feasible response options and critical issues in terms of timing and seasonality.

On the basis of agreed criteria and ranking the teams' shortlisted three critical market systems a) that relate to survival needs (maize and water) b) that relate to protecting and promoting livelihoods (credit) and they are as follows-

1. The maize and maize flour market system
2. The water market system
3. Credit market system

## **Maize Market**

In July 2011, maize prices were recorded to be two to three times higher than during the same period in 2010, and stood at an average of KSH 3,800 per 90 kg bag (wholesale). Prices of Maize typically peak from June – August across Kenyan markets as local supplies (stores and production) are at their minimum. In 2011, these prices followed expected trends in September with prices beginning to fall across the open-air markets in western Kenya.

Maize gap analysis calculated using a representative sample of 80,000 households from Kwa Jenga village in Mukuru slum indicates that during the food price rises of 2011, the very poor household's consumption of maize dropped from 300 g / p / day (1200 kcal) to 100g / p /day (400 kcal); whereas poor household consumption increased from 100 g / p /day (400 kcal) to 200 g / p / day (800 kcal). This is explained by a reduced diversification of the diet during the 2011 crisis and a greater reliance on maize as a staple food, whilst also reducing the overall Kcal intake. WFP calculate that maize should contribute 290 g / p / day (1160 kcal) as part of a diverse diet and yet is clear that during 2011 individual consumption of maize (which is the key staple, and often not complimented by more than tea, sugar and some spinach) was well below this level and contributed a small proportion of the 2100 kcal required for an active and healthy life.

In summary the maize market in Kenya has much more scope to expand, but low technology production, poor storage facilities, corruption, political control, and poor implementation of legislation and policy impacts upon the integration of market and its ability to cope during the drought or food price crisis. Integration in normal times is fairly good and continues to provide effective competition for prices, however during 2011, hoarding of maize, monopolies over the imports, and overall maize shortages led to significant price hikes which had significant impacts on households ability to purchase adequate maize. Please note that data collection for all of the market actors above the medium-size wholesalers and wholesale retailers, was seriously hampered by fears that we were government inspectors, and therefore data collected is limited in its scope and accuracy

Maize response recommendations:

- Cash grant to 40 small shops / posho mills (< KS 10,000 capital) KS 10,000 (loan in recovery).
- Cash grant or scale up with social protection to 10,000 V poor HH of KS 6,000 / HH / month to meet basic food and water needs.
- 150 Food vendors to be supported with KS 5,000 grant.
- Vouchers for 5000 vulnerable HH's to purchase cooked food
- Advocate social protection for urban poor to build upon existing work.
- In kind food assistance to v poor households in the event of a maize shortage.
- Advocate to Gov and NCPB for transparency with imports / hoarding / price setting

## **Water Market**

The bulk of the water in the informal settlement is from National Water Sewerage Corporation (NWSC) that supplies water through private water vendors and CBO water kiosks. The private water vendors have been grouped as both legal and illegal. The price of water from NWSC is sold at a KES 15/m<sup>3</sup> to the water vendors and the CBO water kiosks. Depending on the reliability of the water supply, the households buy water between KES 5-10/ 20 litre jerrican. The CBO kiosks tend to have lower rates, but just like the private vendors, the price is a function of reliability of supply. For instance, at Mukuru Kwa Rueben where the supply is constant or rather predictable, the price of water is KES 3/ jerrican at the CBO kiosks and KES 5/ jerrican. At Mukuru Kwa Njenga where the supply is sporadic, water retails at KES 5-10/ jerrican at the private water vendors and KES 5/ jerrican at the CBO kiosks. The recommended retailing price is KES 3/ jerrican. This is about 8 times above what an average household in the formal settlement would pay for the same amount of water.

Apart from the NWSC supply, the households in the informal settlement also access water from the boreholes within the settlements. The water quality from the boreholes is said to have high 'mineral' content, so it is less preferred though the supply is reliable and the price is lower at KES 2-3/ jerrican. Many households use this source for their daily chores while they will buy 2-3 jerricans for cooking and drinking.

The lack of or limited infrastructure development by NWSC in the informal settlement has not only compromised the reliability of water supply but also the quality of water that reaches the water vending stations. Water is accessed from the several water chambers at the periphery of the informal settlements. These chambers belonging to NWSC usually accommodate up to 50 water connections. It is from here that each vendor will have to find his/her means to channel the water to their respective water vending stations. Often, the pipelines pass through open sewer drains. They are exposed to contamination. The water pressure at the chambers is usually very low forcing the vendors to pump water to their respective vending stations. This entails one to buy or hire a pump and pay for electricity. These costs are passed on to the consumer.

Though not formalised, there is an association of water vendors within the informal settlement. This association is concerned with how the water vending business is conducted in the slums. The association controls its membership, location of water vending stations and most importantly the pricing. For instance at both Mukurus, the 'recommended' retail price set by NWSC is KES 3/ jerrican but the cartels have set it at KES 5/ jerrican. No one dares to sell below their set price. The association also handles disputes amongst its members. Disputes have to do with damage of pipelines, vandalism of water meters and individual lines, positioning of water vending stations amongst others.

There is chronic water shortage in the informal settlements even during the normal times. During the normal times, households access far less water than what the sphere or the Government of Kenya standards stipulate. Of the 250,000 NWSC connections, only 4,000 serve all the informal settlements serving about 60% of Nairobi's population. During the emergency year, it gets worse as all the NWSC supply is completely shut down. At that time water will be supplied to the informal settlement using water bowsers. Most households will only manage to access 1 jerrican per day. During that time, water was not meant to be sold, but most households bought water at KES 3/ jerrican. Opportunistic water vendors took advantage of the situation where they sold water at KES 20-50/ jerrican.

Though the households in the informal settlement access far less water than what the standards call for, it is envisaged that during an emergency they will access far less than what they access during the normal times. Therefore an emergency response for as far as water access is concerned will only try to deliver amounts that will guarantee that the

households access amounts that they access during the normal times. The emergency response will only target the poor and very poor categories., to serve the two populations, 762m<sup>3</sup> and 1,905m<sup>3</sup> per day will have to be provided for the very poor and poor respectively. Assuming that the emergency lasts three months, a total of 240,000m<sup>3</sup> of water will have to be supplied in the two Mukuru during that period.

The recommendations were categorised into two as follows.

**Baseline Response options include:**

1. Increase water supply
  - Drilling boreholes within Mukuru
  - Utilizing the existing boreholes (private and institutions)
  - Supporting the infrastructure (storage, pipelines) to ensure supply from the Boreholes to the vendors
  - NWSC to allocate more water to informal settlements
  - Bring chambers closer to the people
  - Promote rain water harvesting
2. Advocacy for NWSC to increase supply
3. Improve storage at household level  $\geq$  50 Litres
4. Improve quality at household level
  - Create awareness
  - Advocate to bring water chambers closer to the people
  - Promote water treatment at HH level
5. Improving purchasing power at the household level
  - Safety nets
6. Formalize the informal groups (Cartels) into CBO's to link to NWSC for further support
7. NWSC to enforce its rules and regulations

**Emergency Response options include:**

1. Increasing purchasing power
  - Cash grants
  - Vouchers
2. Construct pipeline from the Boreholes to both private and CBO water vendors
3. Water tankering
4. Provision of water treatment options at HHs and vending levels using aqua tabs or water guard.

Overall, the price of water in the informal settlement is regulated by the informal associations 'cartels' who take advantage of the unreliable water supply. The lack of investment by the NWSC on infrastructure development has made the cost of availing water to the inhabitants of the slum a challenge. Low volumes of water supplied coupled with low pressure makes the investment and operation costs incurred by water vendors escalate. These costs are in turn transferred to the consumers.

**Credit Market**

Formal and informal credit market systems interact within the informal settlement. Actors in the formal credit market system are those that are registered and have the legitimacy to operate in the business of credit. Whereas the informal credit market are not registered bodies and conduct their business 'illegally' but are the main source of credit to the target population. Formal credit markets are more accessible by the wealthier groups and people who have assets to offer against security. Some of the actors in the informal credit systems do imbibe the rigorous documentation process as in the formal lending system but are essentially not recognised by the law as credit service providers.

The target population has access to informal sources of credit in kind and in cash from medium traders, big traders, savings and credit groups, and within their own wealth group.. Due to the stringent requirements, the target population are most of the time excluded from any formal lending systems and even with the informal lending system, their access is to very small sized food or in kind credit thus making the credit market segmented.

The credit market (formal) is governed by the terms and conditions decided by the Central Bank of Kenya (CBK) which then has a cascading effect on decisions made by the Association of Micro Finance Institutions and the money lenders. The credit market system has the potential to meet the gaps, but for credit market the bottleneck is more with the target population a) many do not have National ID cards, or b) do not have any assets to pledge security, c) mostly not part of any group, and d) do not have regular income sources. Thus most of the times even if there is a need they do not approach lenders as they know that they do not have the requisite documentation or the paying capacity thereby making it a demand side problem.

During emergency situation, the small traders are likely to be more affected in the market system. In a chronic scenario this group is just able to manage their expenditure with the income. In an emergency this group is likely to move to the wealth group lower than its current status. This is also a group that lends in kind and food credit to the target population. Thus if this group moves to the lower wealth group then the credit links will be affected severely for the target population. Reaching out to this group with a response mechanism will help to keep the credit links live and will also help in reducing the number of target population to be reached in the next crisis.

In conclusion, there are a wide range of actors already existing in the credit market system and have an existing relationship among the various actors. The actors have the capacity to expand their services both in terms of accessing and lending credit. Therefore the credit market system has the capacity to meet the needs of the target population in chronic times BUT only if the target population met the requirement. In emergency times too, the market system can cover the gaps and a market response can be designed to meet the target population's gap/needs.

### **Recommendation**

There is a great demand for credit by the target population and the supply side has the capacity to meet the demand. One of the main reasons for the supply side not able to meet the demand is the regulations and the requirements for servicing credit. Hence to facilitate target populations access to credit, it is essential to have longer term development programmes in enabling the environment. Some of the key recommendations that the programmes should pursue during normal times are

- Advocacy with Government to implement safety nets for the very poor and poor
- Advocacy & lobbying with government and communities for I. D. registration
- Linking with institutions that could provision grants for the poor (individual and groups)
- Promotion of Group Savings and Lending for the poor HHs and very poor households
- Skills training for poor HHs

In slow on set emergencies, following response intervention is recommended

- Cash injection to the poor HHs
- Cash grants for Protection of livelihoods for small traders

## **Section 2: Emergency Context**

Kenya suffered from high inflation, rising fuel prices, and a weakened economy (by 50% against major currencies), which all contributed to rising prices across the board in the year 2011. Inflation rates rose from 4.51% in January 2011 to 17.32% in September 2011. Government of Kenya had already declared a national emergency given the recurrent droughts and failed short and long rains. Concurrently the food prices were constantly increasing. As per the FEWSNET information on retail prices in Nairobi June 2011, the staple food- maize had already increased by 112% in comparison to the start of the year. The Kenya Food Security Steering Group (KFSSG) Short Rains Assessment survey outcomes in February 2011 stated that close to 50 percent of overall household income was allocated to food purchases, a clear indication of heightened vulnerability due to volatility in food prices, amidst unstable labour opportunities.

Such slow onset scenarios of increased commodity prices (food and non-food items) warrants concern for the people living in the urban informal settlements as they are primarily reliant on markets for accessing household food commodities. Whilst there was little disaggregated data available to demonstrate the impact of this slow onset emergency in the urban slums, IDP numbers increased from January to August 2011, whilst at the same time prices continued to raise, admissions for treatment of severe acute malnourishment increased by 62% between January to May 2011. A large proportion of urban dwellers were unable to meet food needs on a sustained basis over an extended period, adopting instead, detrimental coping strategies such as increased child labour, skipping meals and foregoing non-food expenditures, so as to bridge significant deficits as well as taking up erosive coping strategies of prostitution, criminal activities. Most commonly adopted coping strategies as per the same study suggest that 40% depend on food on credit, 34% households have reduced number of meals, 32% have reduced size of meal, 23% borrow food, 21% skip meals for the entire day, 9% eat cheaper meals and 13% of households reported a restriction in adult members food consumption. Subsequently, urban food insecurity has deepened and is increasingly cyclical, creating a large population of people that are persistently unable to meet basic food and non-food needs.

Analysis by UNICEF shows that the number of children affected by food insecurity in urban areas was equal to the number affected by food insecurity in the drought-affected areas in northern Kenya. The response across the Horn of Africa including Kenya in 2011 was substantial, but there was no funding accessible to the urban emergency from key donors, demonstrating a clear lack of coherence in approaches.

### **Oxfam and partner's mandate and experience**

Oxfam and all the partners conducting the market assessment have an interest in urban programming and have been working with the target population for quite some years. Oxfam also has a humanitarian mandate and believes in building local capacities to be prepared for response, if need be. The market assessment not only helps in designing programmes more effectively but also has a do no harm approach. Thus helps the organisations to design and develop effective long term programmes but also enables understand market dynamics in emergency situations to be able to design intervention that are appropriate during those times too.

In 2009, there was a food security crisis due to increase in staple food prices, water and non food items. Household incomes of people living in the informal settlement declined by an average of 21%, whereas, the price of maize only had increased by 133%, thereby increasing the gap in affordability and accessibility of food and other basic essentials. Oxfam through its partner had responded to the crisis with a monthly predictable cash transfer programme for immediate response to 5000 households in Mukuru and Korogocho, and

followed on with recovery interventions of skill training, cash for work, business management and entrepreneurship training and business start-up capitals. Concurrently Oxfam also lobbied and advocated with the Government to establish an urban social protection (safety net) programme which the Government eventually started in 2011. During the 2011 crisis, Oxfam could not mobilise funding for the response in urban areas as most of the donor funding was channelled to the rural areas affected by drought. Oxfam during this period continued its recovery programme with the households that had been supported since 2009.

Oxfam in an event of emergency in the urban areas would reach out to 10,000 households with an appropriate response.

### **Section 3: The Target population**

As per the 2009 Census thirty two percent (32%) of Kenya's population of about 40 million are urban dwellers. The population is growing rapidly in urban areas, and particularly in informal settlements. The target population are the poor and very poor population living in the informal settlements of Nairobi.

For purposes of the market assessment, Mukuru informal settlement was selected but the principles and the findings will apply broadly across the informal settlements within Nairobi. Mukuru is considered to house 800,000 population and cuts across two constituencies of Embakasi and Makadara. It comprises of fourteen villages. Within Mukuru, the assessment team focussed on three large villages Kwa Njenga, Kwa Rueben and Lunga Lunga. As per the 2009 population census Kwa Njenga has 256,000, Kwa Rueben 222,000 and Lunga Lunga approximately 190,000. This translates to approximately 51,200 and 44,400 38,000 households respectively.

As per an Oxfam study<sup>2</sup> the informal settlement has four wealth groups- wealthy (10%), middle poor (20%), chronic poor (50%) and the very poor (10%). The same report also highlights that in case of an emergency situation the wealthy group generally remains stable but a big population from the middle poor group move into the chronic poor and simultaneously the chronic poor also move into the lower wealth group.

The 'very poor' wealth group typically has an annual average income of 20,000 to 40,000 Kenyan shillings (approx. \$247 - \$ 494 USD). In comparison the income required to cover basic needs is about 60,000 Kenyan shillings (approx. \$741 USD) leaving a deficit of 40,000 to 20,000 Kenyan shillings. Very poor households typically purchase 90% of their food, as they have limited opportunity for food production. This leaves this group extremely vulnerable to price increases.

Oxfam GB found that the poorest household's income was on average Ksh 3369, with a monthly debt of Ksh 3237, bringing the total spend per month to Ksh 6600 per month. As found in a typical informal settlement, the proportion of income spent on staple food can be as much as three-quarters for the very poor or poorest groups in the community. With little disposable income left for other items of expenditure, families resorted to a range of coping strategies including keeping their children away from school; using 'flying toilets' rather than 'pay as you go' public toilets; walking rather than use public transport; and limiting the amount of water purchased to a bare minimum. High rates of morbidity and mortality in urban slum dwellers is due to 50% of slum dwellers having no access to safe and affordable drinking water and 18% with no access to sanitation (Oxfam 2011)<sup>3</sup>. 'Living conditions are shocking with only 3% living in a house with permanent walls, water and electricity' (World Bank 2010).

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<sup>2</sup> Oxfam Response to Urban Food Crisis: situation analysis and strategy options

<sup>3</sup> Oxfam GB (2011) Emergency Food Security & Livelihoods Urban Programme Evaluation

The absence of widespread and comprehensive short, medium and long-term interventions in urban areas has motivated adoption of negative coping strategies. Several explanations were given for urban food insecurity. These included: Income poverty; the need to allocate resources to non-food expenditures (e.g. rent); the high cost of food reflecting transportation costs; the volatility of food and non-food prices; social isolation; and, lack of safety net and coping strategies.

The characteristics of the urban households have been mapped in the following table

Characteristics	Very Poor (20%)	Poor (50%)	Medium Poor (20%)	Better Offs (10%)
<b>MAIZE</b>				
Maize consumed per person per day	0.3	0.1	0.4	>0.4
Food purchase frequency	1-2 kg / day	2 kg / day	5 kg / week	> 5 kg / week
Preferred type of maize meal	Ground maize meal (Posho milled)	Ground maize meal (Posho milled)	Sifted maize meal by Big Millers	Sifted maize meal by Big Millers
Preference of supplies	Small shops with credit, grounded flour (posho milled), posho milled (free milling), gift from rural homes	Small shops with credits, wholesalers/retailers, posho mills (free milling) grounded maize meal, gift from rural homes (in kind)	Big wholesaler (sifted maize), Retailer with variety, Medium wholesaler/retailers, supermarkets	Big wholesaler (sifted maize), Retailer with variety, Medium wholesaler/retailers, supermarkets
<b>WATER</b>				
Volume accessed (Jerricans)	1 - 2 Jerry cans	2 – 3 Jerry cans	3 – 5 Jerry cans	5 Jerry cans
Volume accessed (Litres)	4- 8 L/P/D	8 – 12 L/P/D	12- 20 L/P/D	20 L/P/D
Source of water accessed	Borehole/ wells	Borehole/ wells	Vendors/ Kiosks	Vendors, kiosks, carts
Quality of water accessed	Poor	Poor	Fair	Fair
Water treatment at Household level	None	Boil	Boil & Chemical treatment	Boil & Chemical treatment
Storage capacity at household level	0	0	50 Litres	50 Litres
Access to credit from water vendors	No	No	3-7 days	Monthly
<b>CREDIT</b>				
Access to formal credit	No	No	Yes	Yes
Access to in kind credit	Yes, sometimes have access to food credit from the poor worth Ksh 50-100 at zero percent	Yes, access food credit worth Ksh 300 at zero % interest rate from the	- Do not need subsistence/ survival credit - Provide food credit to the poor	-Do not need subsistence/ survival credit - Big traders within this category provide

	interest rate. Rarely they also access water credit	medium poor Gives food credit within their own wealth group and to the very poor		in kind (for stock) credit to medium poor, petty traders from the poor category at zero percent interest rate. They also provide food credit to the poor at zero percent interest rate and a maximum of Ksh 300
Access to informal sources of cash credit	No cash credit available to this group from the informal mechanism Very small cash credit from church Ksh 100-200 with zero percent interest rate	Yes have access to group saving and lending schemes. Receive credit from Medium poor and the Big traders. Sometimes also receive small cash credit from the Church	Yes, receive credit from group saving and lending, big traders and money lenders at an interest rate of 15-20%	- Yes, Big traders and medium traders can access credit from money lenders within their wealth group. They are also part of group saving and lending scheme and avail credit from it. - Money lenders from within this group provide credit to the same wealth category people at a rate of interest of 25-30%
Access to formal sources of credit	No	No	Yes from micro finance institutions, SACCOs	Yes from commercial Banks, Micro finance institutions,

Seasonal calendar for Maize: seasonal calendar below describes the key times in the year in relation to harvest and high food prices and demonstrates that in 2011 the maize shortage at the beginning of the year, led to high prices, which continued to be raised despite the imports of maize from April (unofficially) and June (officially).

	J	F	M	A	M	J	J	A	S	O	N	D
Planting Maize			■	■					■	■		
Harvest		■	■					■	■			
High Prices (2013)	■	■	■			■	■			■	■	■
High Prices (2011)				■	■	■	■	■	■	■	■	■
Maize Shortage (2013)						■	■	■				
Maize Shortage (2011)	■	■	■	■	■	■	■	■	■	■	■	■
School Fees	■	■			■				■			
Key Holidays												■
Aflatoxin peaks				■	■					■	■	
Rains (Rain basket region)	■	■					■	■	■	■	■	■
Imports maize (2013)						■	■					
Imports maize (2011)						■	■	■	■	■	■	■
Farming inputs high cost (2013)		■	■					■	■			
Migration up country (2013)												■
Migration into Nairobi (2011)				■	■	■	■	■	■			

As far as access to water is concerned, both groups face numerous challenges. The most notable one is the quantity and quality of water accessed per person per day. The very poor and poor will access water from the boreholes even though the water is saline. This is because the price of water at the borehole is cheaper than at the water vending stations. Water at the BH sells at KES 3/ 20 litres while the same volume is between KES 5 – 10/ 20 litres at the water vendors.

Storage at the household level is a challenge for the very poor and poor. Storage available in the households is limited to the number of jerricans available. Majority of the poor and very poor households will have a 1 – 2 jerricans. This jerricans are used for both fetching water as well as storage. So even if more water was to be availed to the households, access would be a problem because of lack of separate storage containers. This becomes a bigger challenge during emergency response.

### Seasonality of Water

Activity :	When	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Water Trucking</b>	<b>B</b>	DRY SPELL		LONG RAINS			DRY SPELL			PARTIAL RAINS	SHORT RAINS		DRY
	<b>E</b>	DRY SPELL		PARTIAL RAINS		DRY SPELL					SHORT RAINS		DRY
<b>BOREHOLE</b>	<b>B</b>	ENHANCED USAGE		PARTIAL USAGE							PARTIAL USAGE		ENHANCED
	<b>E</b>	ENHANCED USAGE, TOTAL DISRUPTION OF NWSC WATER SUPPLY											
<b>NWSC</b>	<b>B</b>	PARTIAL SUPPLY		RELIABLE SUPPLY			PARTIAL SUPPLY				RELIABLE SUPPLY		PARTIAL SUPPLY
	<b>E</b>	PARTIAL SUPPLY					TOTAL DISRUPTION OF SUPPLY			PARTIAL SUPPLY			
<b>COST</b>	<b>B</b>	HIGH		LOW			HIGH				LOW		HIGH
	<b>E</b>	HIGH					VERY VERY HIGH			HIGH			
<b>CARTS</b>	<b>B</b>	NOT AVAILABLE FOR HHs ONLY SERVING BUSINESSES											
	<b>E</b>	LIMITED NUMBER					NUMBER INCREASES SUPPLY WATER TO HHs			LIMITED NUMBER			
<b>AVAILABILITY (VOLUME)</b>	<b>B</b>	LOW		MORE WATER AVAILABLE			LOW						
	<b>E</b>	LOW					VERY VERY LOW			LOW			
<b>QUALITY (ACCESSED)</b>	<b>B</b>	SALINE WATER (BH)		'CLEAN' WATER)			SALINE WATER (BH)						'CLEAN' WATER
	<b>E</b>	SALINE WATER (BH)											

Though the team did not come across any of the few shallow wells available, the poor and very poor will access water from this shallow wells. Given the fact the shallow wells are in the midst of the settlement and without proper drainage within the settlement, the water quality is compromised. The very and poor will not treat their water at the household due to cost implication. The medium poor and the better-off will either boil their water or chlorinate if using aqua tabs or water guard.



## **Section 4: Critical Markets**

One of the key activities for any market assessment is the selection of critical market systems that will be analysed. A critical market system is defined as a market system that plays, played or could play a major role in ensuring survival, and /or protecting livelihoods of the target population. In doing so it also takes cognizance of what other agencies and government are doing in the market systems, whether the market systems have scope for feasible response options and critical issues in terms of timing and seasonality.

On the basis of agreed criteria, the participants listed an initial list of market systems relevant for the target population. Through a ranking process, they shortlisted three critical market systems a) market systems that relate to survival needs (maize and water) but also b) markets that relate to protecting and promoting livelihoods (credit) and they are as follows.

4. The maize and maize flour market system
5. The water market system
6. Credit market system

Maize is an obvious critical market that was identified by all of the groups because it is a key staple food in Kenya. Maize is relied upon in normal times, but more significantly it becomes predominant part of the diet during crises, and very poor and poor households will take majority of their kilocalories from maize. Water similarly is not only vital for survival but is a commodity that people purchase in the informal settlements. Any change in the prices or availability affects the target population. Moreover there are many from within the informal settlements who earn their livelihoods (income) from the water markets. A known fact is that the target population generally do not have access to credit services, though it is important to understand that access to credit is critical to the target population for meeting their survival and livelihood protection and promotion needs.

From amongst the participants three teams were created to look into the three critical markets. The teams then developed the key analytical questions that they thought essential to find response for in order to understand the market system and design a response analysis and option.

### ***The maize market identified the following key analytical questions***

- What are the key parameters affecting maize meal price changes?
- What are the different factors which affect households from meeting their minimum maize needs?
- Who are the key actors and what are their behaviour /motivation during food price crisis?
- What support would be appropriate to enable very poor households to access maize from small / medium / large wholesalers and retailers before and during a food price crisis?

### ***The water market's key analytical questions were***

- What determines the price and availability of water?
- What constraints do consumers face in accessing water and how do they cope?
- How could an Oxfam/partner respond best to improve access to water for the urban poor?
- What knowledge do the urban poor have on water policies and governing structures?

### ***The credit market sought to find responses to the following key analytical questions***

- Who are the actors in credit services and what are their roles?
- What are the capacities of the informal and formal credit systems to respond to crisis?
- What is people's preference for accessing credit?
- What can we do to support them?

In the following section, each market system has been described in its entirety – market mapping, analysis, key findings, response option and recommendation

## **Section 5: Maize Market System**

### **A. Maize Market Mapping**

Maize is widely produced in the western parts of Kenya, and across the highlands across the rift valley. In the High-Potential Maize Zone districts such as Trans Nzioa, Uasin Gishu, Nakuru, Bomet, and the upper elevation divisions of Kakamega around 70% of households sell maize with mean household sales in the range of 3 tonnes. Maize production is dominated by rain-fed agriculture.

The main maize growing season is from March to August, during the 'long rains'. This is also the time when prices tend to rise as carry-over stocks from previous years become depleted. From August onwards availability within Kenya begins to rise with the commencement of harvests which last until December. During the short rains (November – December) maize is planted for harvesting in February / March.

Production is highly varied across Kenya. While rains this year were later than usual in the western parts of Kenya, fair production levels were being reported by September in the western districts. The situation is different in the lowlands where long rains have failed for successive seasons in the south-eastern and coastal marginal agricultural lowlands. In 2010-11 almost 80 percent of the long rains crop — which contributes about 30% of output in the lowlands failed.

Across Kenya, maize prices and availability are affected by a range of internal as well as external factors. These include trade barriers, policy restrictions, physical (e.g. infrastructure) constraints, poor market information, poor production planning, and lack of adequate finance mechanisms. International oil prices as well as country specific fuel policies affect transportation costs adversely, while fiscal policies impacting on exchange rates, inflation, and distribution of funds within countries also contribute to localised shortages and food price surges<sup>4</sup>.

In 2011 maize prices increased both in Tanzania and South Africa due to a contraction in production, which was significant to Kenya as these are the usual import sources. In late 2010 and early 2011 Tanzania banned exports to protect their local food stocks. Uganda was the only local source of maize production that produced surpluses available for export in 2011.

Despite its ambition to be self sufficient in maize production, consumption has exceeded domestic production since 2006/7. In 2009/10 Kenya's shortfall for maize production was 1,179,450 tonnes (approximately 40% of the national maize production during the year), which combined with low stock levels required needs to be met through imports in 2011. By Nov 2011 Kenya had imported 2,030 MT, and still had a shortfall of 240 MT from an overall consumption requirement of 5,742 MT. At the same time fuel prices rose in April / May 2011 by up to 15%, and inflation averaged 15% during the same year. Although maize prices were more stable markets were more integrated in urban areas, the slums still saw significant price rises. This high price volatility exposed poor and vulnerable households to greater food insecurity, as they have little or no financial buffer to protect them, and were seen to resort to negative coping mechanisms. At the same time access to affordable credit reduced significantly, and small and medium-sized businesses were unable to sustain themselves, with around 50% going out of business.

***In short, Kenyan maize prices rose by over 100%, due to all of the following factors:***

#### **Impact of the emergency on different traders and homeowners**

- Limited availability of food from regional sources and subsequent increased

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<sup>4</sup> HECA food market analysis, Feasibility and appropriateness of cash transfer within the Horn of Africa emergency drought response, 2011, Oxfam GB

- reliance on international imports. (Main factor).
- International price increase for commodities.
- International and national price increase for fuel, transport.
- NCPB purchasing policy (see details below)

The maize market in Kenya is very large and complex dealing in production of maize grain, as well as importing legally, and illicitly across open borders, as well as the large-scale milling of meal. As with any such big business there are political and economic connotations, and this time made access to information at the national level difficult to triangulate. National level actors were very suspicious of our intentions and although we received some information from them we were not granted open and free access. Therefore our findings need further verification. We believe that we have captured an accurate trend in information but that we lack some detail in transaction costs between importers, the government, big Millers and NCPB. The narrative below refers to the national picture between the levels of importers and NCPB, but once we go to the medium wholesalers and wholesale retailers this refers to the picture at Kwa Njenga village level within Mukuru slum. We believe this to be accurate for procuring and surrounding slums, but it would need further investigation and verification in order to state this level of accuracy for Nairobi wide slums.

**Importers:** In June 2011 the government gave permission to 2 to 3 named importers, who subsequently imported maize from South Africa, Malawi, Uganda and Tanzania.. This was in addition to the illicit trade which had been coming across the porous borders of Tanzania. These importers were embroiled in political scandals as they were allegedly financed by leading politicians. In non-crisis times although importers exist, they play a less significant role because they are only importing a small proportion of maize, and competing with national maize production which ensures a fairly integrated market. During the emergency because of the initial holding of maize in late 2010 and early 2011 by NCPB, and then a surplus of maize following the legislation to allow the new importers, the new importers were able to keep the maize prices high, which meant that prices rose in October 2010 and did not fall until March 2012. There are readily available official records of the large importers investors and subsequently was difficult for us to trace the head of companies for the 2011 importers in order to interview them.

**Brokers:** A new group of brokers evolved in 2011 to deal with the imports coming into Mombasa from southern Africa. These brokers were required to provide warehousing and transport to the big Millers in Nairobi. These were in addition to the more normal brokers who act as the go-betweens between large and small farmers, farmer's cooperatives, border sales and the big Millers. A smaller proportion of their trade also goes to the medium wholesalers and wholesale retailers. During the emergency in 2011 supplies of maize from farmers was significantly reduced and so traditional brokers dealt with brokers at the border posts to trade in illicit maize primarily from Tanzania. No large brokers were willing to speak to the assessment team because they feared that we were government inspectors, but smaller brokers confirmed the findings and the patterns of trade. A number of brokers directly manage their own transport in order to move the maize between supplier and purchaser.

**Big and small farmers:** Both large and small farmers believe that they do not have much control within the market, and a tribute NCPB's price setting as the most powerful element within the market chain. During 2011 when production was so low, in NCPB bought up all of the maize from large and small farmers and farm groups in order to hold stocks for shortages and for sale to WFP to meet food aid requirements in the ASAL region. In reality large farmers do have an element of control on pricing as they can sell directly to large Millers if they have the ability to produce high standard of maize, and store it appropriately. Storage is a key limitation in Kenya where rates of aflatoxin poisoning have risen in recent years due in part to unseasonal humidity, but also attributed to low investment for storage.

**Big Millers:** Big Millers in Kenya are considered to be the most powerful elements within the maize market chain. They purchase directly from large farmers, brokers and importers, and smaller actors believe that they control prices more than government legislation through and NCPB. During 2011 stocks of maize were low and although prices of maize were a little higher from importers, the significant increase in prices was to be had following the milling process from big Millers. Big Millers ultimately hold the power because they are able to test the quality of maize and purchases accordingly, and as they pay cash immediately to the brokers farmers they are more attractive to sell to than NCPB who often has significant delays in payment system. In 2011 there was a very significant mark-up between maize grain prior to milling which was 31 to 38 Kenyan shillings per kilogram, to 58 to 60 Kenyan shillings per kilogram once the meal had been milled. This mark up continues along the chain to a very high 70 Kenyan shillings per kilogram for purchase at household level, which in non-crisis times would be 60 Kenyan shillings per kilogram. In non crisis times maize meal Again it was difficult to elicit interviews with big Millers who will vary of our motives, but one Miller did provide facts to confirm some of our findings.

**NCPB:** NCPB are accused of being outdated, and ineffectually applying common government policies. They were unwilling to speak to us will give us data from 2011, probably because of multiple accusations about the ineffectual nature of their organisation. In 2011 they stocked amazed that had been produced thereby directly or indirectly impacting on maize price rises during the emergency. We were informed that they are undergoing a reform in 2013. Again they were unwilling to speak to us in an interview, but they did confirm some of the questions that we raised to them

**Medium wholesalers and wholesaler retailers:** Medium wholesalers in the wholesale retailers purchase directly from the big Millers, the brokers that deal with importers (both legal and illegal), the brokers that deal with farmers and from large farmers. This both spread their risk and upholds the level of competition their mark ups for milled and unbilled maize are modest, as there are a large number of medium wholesalers and wholesaler retailers in normal times, although a very significant number Gaza business during crisis times because they do not have the capital to meet alternative sources of supply (four example brokers dealing with illicit border trading of maize, and the transport, broker and storage costs that accompany these transactions). During 2011 until April there was a shortage of maize, and wholesalers and wholesale retailers were purchasing from farmers and across the border. Once the official importers have been identified and were importing maize from southern Africa, there was again sufficient maize available, but prices remained high. Demand from maize was constant and so prices rose to reflect the shortages, and those wholesalers and wholesale retailers that were able to maintain a business increased their volume of trade from around 18 metric tons per month to hundred and 54 metric tons per month. This gave them some very significant profits and many of them we invested in the business or created subsidiary companies in transport or milling. Medium wholesalers and wholesale retailers tend to offer Posho milling as part of their service. Posho Mills are small generator operated Mills which allow households to purchase and mill their own maize freshly, or bring the maize that they are going to do wholesaler for milling. If they mill the maize they have purchased then this is inclusive of the cost of the purchase in order to attract buyers. Wholesalers and wholesale retailers might give credit for one day to trusted large customers, but they prefer not to deal in credit.

**Small retailers:** These are small shops which vary in size and purchased directly from the medium wholesalers and wholesale retailers as well as from the big Millers and sometimes from farmers they deal in both milled and unbilled maize of different quality. This includes loose maize meal and grain and 2 kg packed bags of high-grade milled maize. Their customers are householders and street vendors including petty traders who cook fresh food on the side of the road. These bulk purchases are afforded access to credit if they are well known by the shop owner but households cannot access credit from these small shops.

During 2011 number of shops went out of business (135 down to 20) but for those who survived their trade multiplied from 75-135 kg / day to 20-400 kg / day, and they were able to add a significant mark up from 60 Kenyan shillings / kg to 70 Kenyan shillings / kg for milled maize and from 40 Kenyan shillings / kg to 72 Kenyan shillings / kg for maize grain. This afforded small shop owners very significant profits, as householders continued to have a high demand for maize meal and grain.

**Posho Mills:** The small pushing Mills are rarely owner operated, but instead have a manager who will mill the maize that householders bring to the mill, as well as selling around 90 – 180 kg of maize per day for milling purposes. Maize is purchased and it is milled for free, otherwise there is a small cost. Again the number of Posho mills halved during 2011 when maize was not readily available and costs were very high.

**Very small informal shops (often run from shop owner's house):** These very small household level traders purchase directly from the small shops and trade with poor and very poor households who buy from them because of their access to informal credit based on knowledge of the households and distance to the shop for chronically ill and elderly household members. No one is completely sure about the number of these very small household level shops because they are run on a very informal basis; however it is clear they provide an essential community access to informal credit. In 2011 a majority of these informal shopkeepers went out of business, as they were unable to sustain their sales of around 5 kg of maize meal per day.

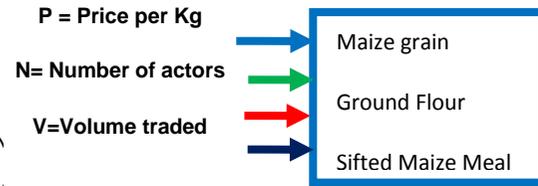
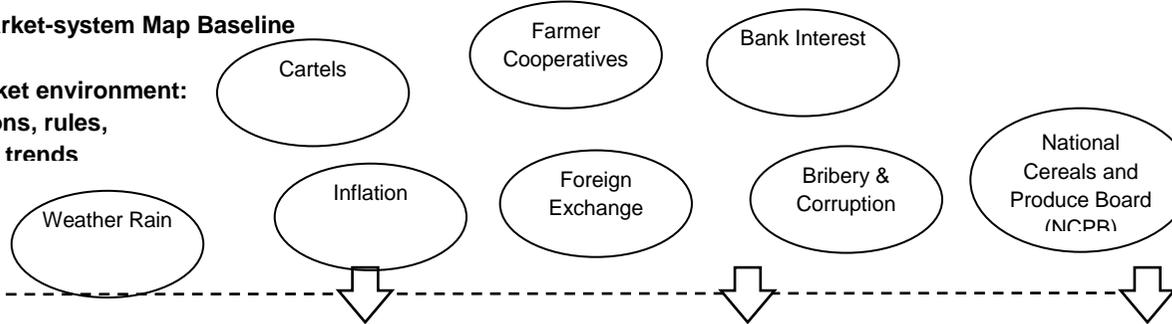
**Street food vendors:** Times there are high number of Street food vendors who cook approximately 50 to 60 meals per day for passing customers. These meals are made up of a combination of maize, vegetables and beans, and when times are hard it can be cheaper to purchase one hot meal per day, than to cook maize meal and separate ingredients if the cost of kerosene or charcoal is high. Parents will often purchase one street meal to share between the children to ensure that they have a minimum food intake. During 2011 around half (35 down to 20) of the Street food vendors went out of business because they were unable to purchase the maize and fuel at a rate that was affordable for customers who had a reduced income. However for those remaining, their utilisation of maize, and their subsequent sales increased from around 5 kg of maize per day to around 22 kg per day. This was clearly a coping mechanism for the families that could still afford to eat Street food, and the Street vendors provide an essential service for the very poor and poor households in relation to meeting their immediate kilocalories needs.

**Household profile for Very Poor and Poor households:** Poor households consume around 100 g per person per day in normal times, as they have a slightly more varied diet than the very poor households, and are able to afford other staples such as rice, and street foods. During 2011 the consumption of maize meal increased to 200 g per person per day as their dietary diversity reduced and it became more reliant on maize. Prices of maize at household level increased significantly in 2011 rising from 40 Kenyan shillings / kg to 76 Kenyan shillings / kg for ground maize meal, and 55 Kenyan shillings / kg to 72 Kenyan shillings / kg for maize flour. This of course has an impact on total dietary intake at household level because of the increases in cost.

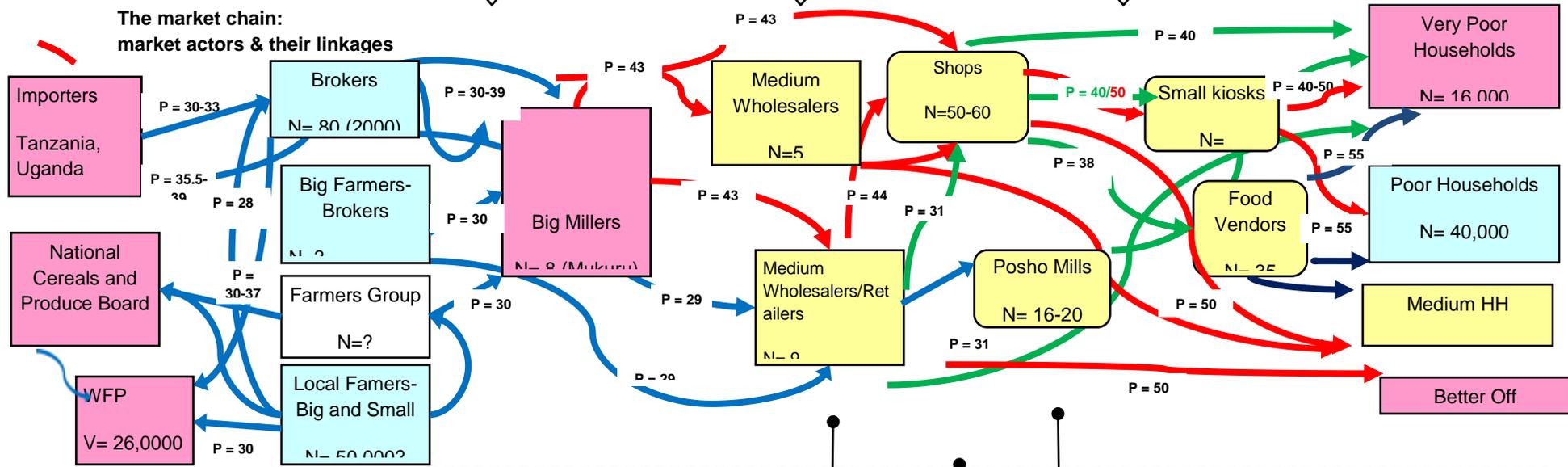
Very poor household members normally consume around 300 g per person per day, to 100 g per person per day. As the staple food is the major dietary constituent the kilocalories provided by this 100 g is wholly inadequate to meet the energy, protein and fat needs of individuals within the household. It was at this time that there were significant increases in admissions to treatment centres for acute malnutrition for children and pregnant and lactating mothers.

### Maize Market-system Map Baseline

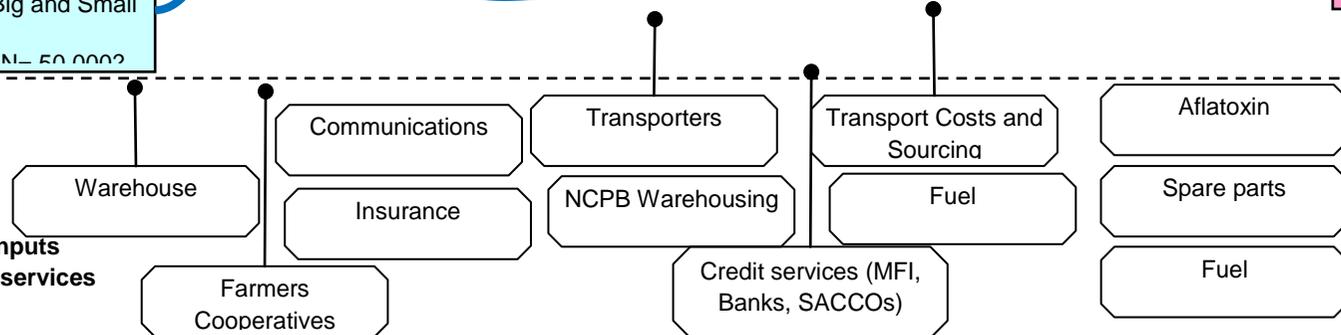
The market environment:  
institutions, rules,  
norms & trends



The market chain:  
market actors & their linkages

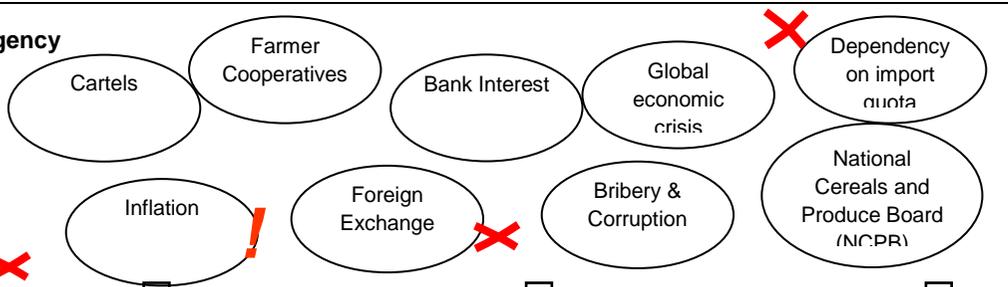


Key infrastructure, inputs  
and market-support services

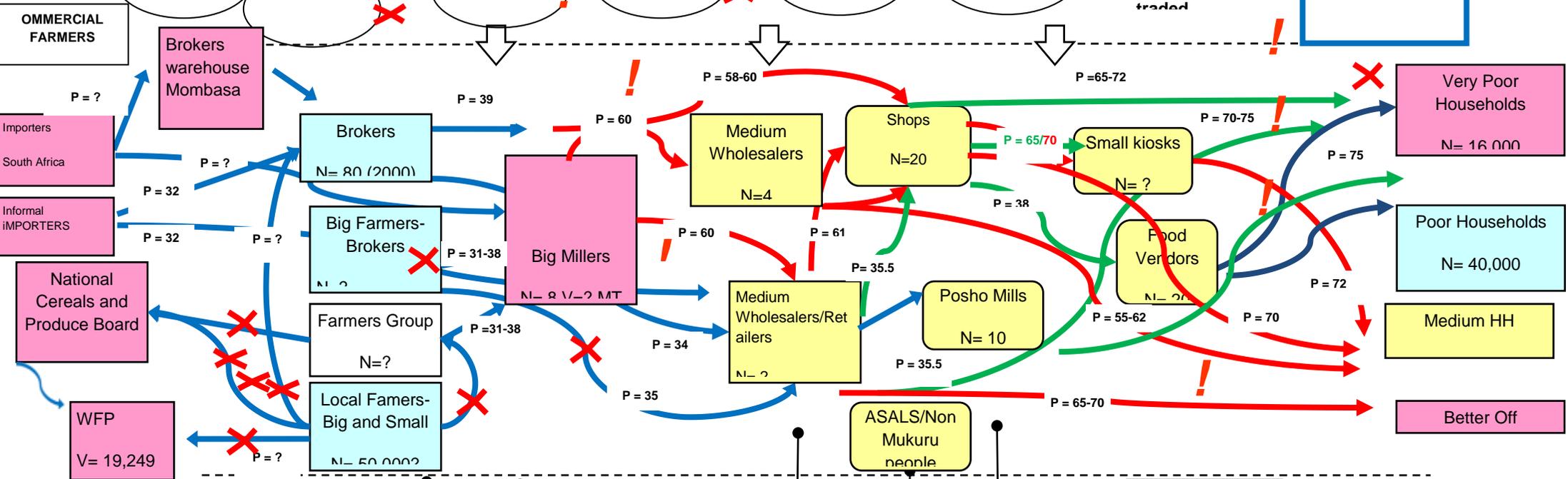
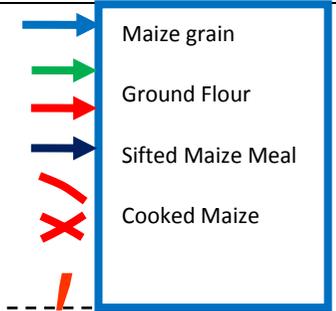


# Maize Market-system Map Emergency

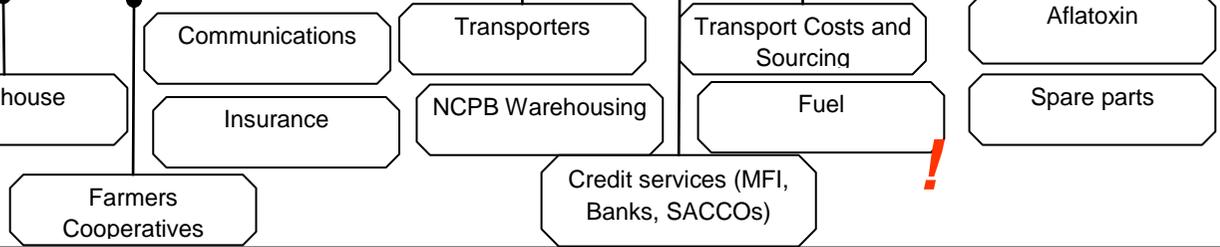
**The market environment:  
institutions, rules,  
norms & trends**



**P = Price per Kg**  
**N= Number of actors**  
**V- Volume traded**



**Key infrastructure, inputs  
and market-support services**



## **B. Key findings of Maize Market System**

### **Gap analysis**

In summary the maize market in Kenya has much more scope to expand, but low technology production, poor storage facilities, corruption, political control, and poor implementation of legislation and policy impacts upon the integration of market and its ability to cope during the drought or food price crisis. Integration in normal times is fairly good and continues to provide effective competition for prices, however during 2011, hoarding of maize, monopolies over the imports, and overall maize shortages led to significant price hikes which had significant impacts on households' ability to purchase adequate maize. Please note that data collection for all of the market actors above the medium-size wholesalers and wholesale retailers, was seriously hampered by fears that we were government inspectors, and therefore data collected is limited in its scope and accuracy

<b>Key actors</b>	<b>Findings</b>	<b>Implications for Oxfam's and others response</b>
Importers	Politicians hold disproportionate power during the maize shortage and were subsequently able to control the imports through subsidiary companies which they had allegedly created in order to import maize during the shortages in 2011. These importers controlled the normal chain of transporters and brokers were able to maintain higher prices than normal which were passed on to the big Millers and subsequently households.	Advocate for clearer transparency and maize policy legislation around imports, in order to reduce the chances of a monopoly during subsequent food price crisis.
	Embargoes on cross-border trade between Tanzania and Kenya meant that the majority of the formal imports came from Southern Africa. However informal cross border trade in maize continued and provided a small buffer of supply to medium-sized wholesalers and retailers, as well as bigger Millers. Brokers, informal traders and transporters or made significant profits during the first six months of 2011, and these prices were passed on to consumers	Advocate for clear cross-border trade legislation which discourages high maize price hikes during maize shortages. Formalised cross-border trade could have smoothed the impact of the maize price hikes
Brokers	Brokers who deal with medium and large scale farmers were seriously affected by the maize hoarding by in NCPB as there was significantly less means to trading in 2011. Subsequently a number of them went out of business, or diversified the trade to cross-border informal trade with Uganda and Tanzania.	Advocate for renewed maize utilisation policies at a national level to reduce the impact of maize hoarding and the subsequent effect on maize prices
Big and small farmers	NCPB's hoarding of maize from the big and small farmers during 2011, as well as the big Millers, and medium wholesalers direct purchasing, meant that the farmers were able to both hoard and then sell maize at a higher price. However as most of the smaller producers were obliged to sell to NCPB they make less profit than if they were able to sell directly to the big Millers. The advantage of selling to the Millers is that they are paid in cash immediately, whereas the NCPB often takes six weeks to test and pay for the maize which impacts on the farmer's cash flow.	Advocates of a review of NCPB purchasing, and payment processes in order to improve utilisation and turnover of maize.
	Farmers unable to meet the big Millers quality control standards were forced to sell their maize at a lower price to NCPB or medium wholesalers	Improved investment in storage of maize would reduce quality control issues.
Big Millers	Big Millers retain a very large proportion of control within the Kenyan maize market, and are able to retain power because demand for high-quality milled maize is so high. They are able to control prices, and accept only the highest quality maize for purchase. During 2011 price mark ups were significant post milling and this continued along they	Advocate for clearer transparency over competition policies and explore subsidisation of costs during food price crisis

Key actors	Findings	Implications for Oxfam's and others response
	market chain. This resulted in households paying 10 shillings more kilo of maize	
NCPB	During normal times in NCPB purchases maize from big and small farmers at a set price. Their quality control is not a strict as for the big Millers, but their payments are often delayed by 1-2 months which can have an impact on the cash flow and investment opportunities for farmers. In late 2010 when the maize crops failed NCPB started to purchase all available maize and held stocks or sold them to the big Millers. The impact of this was to reduce further maize availability, and resulted in a steep price rises in early 2011. These prices remained high despite increased availability of maize following imports in June and July 2011, as NCPB allegedly set prices to remain at a higher than average level.	There are a number of NCPB policies which are currently being reviewed. Oxfam could play an effective role in influencing the updating of these policies.
Medium wholesale and wholesale retailers	In normal times there are multiple wholesalers (5) and wholesale retailers (9) in the Kwa Njenga, Mukuru, who trade in between 18-360 MT / month. They purchase from big and small farmers, brokers, and big Millers, at competitive rates with little seasonal variation. However during 2011, when maize availability was significantly reduced, farmers had less maize due to the reduced crop production, and NCPB hoarding, therefore medium wholesale/retailers were forced to extend the network of brokers and transporters in order to purchase informal maize across borders between Tanzania and Uganda. It wasn't until mid 2011 that these restrictions were raised and formal maize imports came via Mombasa from Southern Africa, as well as Tanzania and Uganda. These increased transaction costs, and reduced availability push the prices of maize up significantly from late 2010, and throughout 2011, into 2012. The number of wholesalers went from 5 to 4 and wholesale retailers from 9 to 2. Prices increased from 43 KS to 60 KS for sifted maize grain and from 29KS to 36 KS for whole maize grain. Trading reduced from 360 MT to 120 MT per month for wholesale retailers, and increased from 18 MT to 154 MT per month for wholesale retailers. This latter increase was very significant and partly explained by the reduced number of traders, but also the constant demand for maize. Wholesale retailers made a significant profit during 2011 and early 2012. They added a higher than normal mark-up for sifted maize (up to 60 KS rather than the normal 43 KS), ground (35.5 Ks rather than normal 31 KS) and grain (35.5 KS rather than normal 31 KS). It is uncommon for medium-sized retailers and wholesale retailers to provide credit to the smaller kiosks or Posho mills. If credit is offered to long-standing customers it must be repaid that day.	Working closely with traders during a maize shortage or food price hike could reduce the number of traders going out of business, and grants could help to smooth the price hikes so that the additional costs of brokers and transport for illegal cross border maize is not passed onto consumers. Working to identify traders before an emergency and coordinating with the slum village leader could enable the development of MOU's and minimal price rise discussions. Ideally Oxfam would not be involved in indirectly supporting illicit cross border trade so preparedness work should include advocating for improved cross border trade agreements in times of food shortage.
Small kiosks	The pattern for the small kiosks was very similar to the medium wholesale retailers. The number of small retailers halved during 2011, from around 20 to 10 in Kwa Njenga, Mukuru, because householders had less income, and the volume of trade reduced. However for those who survived, volumes traded dropped from 70-135 kg / day in normal times to between 20-40 kg / day. However the shops that survived were able to make a significant profit because although they were purchasing grain and meal and higher prices from the medium wholesale and wholesale retailers,	If the number of small kiosks half then competition is reduced. Oxfam could work with small kiosks in a similar way to the medium wholesalers and wholesale retailers. If kiosks were identified prior to the food price rises, and maize shortages, a grant or loan which is coordinated and agreed upon

Key actors	Findings	Implications for Oxfam's and others response
	<p>and occasionally Millers and farmers; they were able to charge high prices for the maize due to the ongoing high demand. In normal times sifted maize meal is around 50 KS/ kg and ground flour is around 40 to 45 Ks / kg. However during 2011 sifted maize meal increased to 72 KS / kg and ground flour to between 70-75 KS / kg. This meant that the small shops made significant profits even after reduced volumes of trade. Typically small kiosks only provide credit for street lenders who are purchasing larger volumes of food on a daily basis from them. Sometimes this credit is good for up to a week, but often requires repayment on the same day.</p>	<p>with other traders in the slum, may help to reduce the significant price hikes which was seen in 2011. Support traders could include fuel grants the transport, and agreements with the medium retailers and retail wholesalers.</p>
Posho Mills	<p>Posho mills are small businesses often managed by a single man on behalf of the owner. In good times there are around 20 Posho Mills in Kwa Njenga, Mukuru trading around 90 kg of milled maize / day. Householders will either ring their own maize for milling, and pay a small fee, or purchase maize grain from the Posho mill for milling at no additional cost. During 2011, the number of Posho Mills reduced to 10, and as with other actors, the volume of grain traded and milled increased to up to 180 kg per day. Following the above trend, prices have also increased from 40-45 KS / kg to 50-55 KS / kg.</p>	<p>Rather than grants or loans to the Posho Mills the proposition is to provide households with cash transfers which incorporate the cost of milling maize. This sustained business will enable more Posho Mills to remain open, and sustaining the number of mills will help to sustain competition for milling. Posho mills are important for the very poorest households as they rarely have the financial means to purchase sifted maize meal, and rely instead on ground maize meal which is purchased in small volumes and ground ready for one days consumption.</p>
Very small kiosks	<p>Very small kiosks trade from their homes or a table outside their home, often purchasing stock daily, and trading in very small volumes of essential household items such as maize, tomatoes, spinach, oil, kerosene and soap. We were unable to establish the number of very small retailers in normal times or during 2011. They are both numerous, and transient in their nature, often using this trade as one of many sources of income, and coping. They will commonly be known to only the most local households, and the village elder was able to identify only those on his street. They do not hold formal government papers and so are reluctant to be identified. We can assume that the number of very small kiosks produced significantly in 2011, following the same pattern as the larger retailers. The very small kiosks provide an important service to their neighbours, as they are willing to provide small informal loans, or credit food which can be paid back within the week.</p>	<p>As very small kiosks act as a significant coping mechanism for the very poorest households by providing both small portions of food and credit, they are an important group to support during the maize shortage or food price crisis. As these households are also falling to the poor wealth ranking, alone would be inappropriate during an emergency, but a grant could have a positive knock-on effect for the local community. However this would mean identifying these households prior to an emergency, and working with them to establish good practice for credit, and if possible sustained sources of maize at reasonable prices from the medium wholesalers or small kiosks.</p>
Street food vendors	<p>Street food vendors act a little like the very small kiosks, providing hot cooked food in small portions to the very poor, poor and medium income households. In normal times this meal may be purchased and shared at household level, or to food schoolchildren and labourers during the day, when</p>	<p>In the event of a shortage of food price crisis, working with Street food vendors could ensure that the very poorest households have access to a</p>

Key actors	Findings	Implications for Oxfam's and others response
	<p>they are unable to get home food. The meals are varied and nutritious including beans, maize meal, rice, vegetables and salad. However the street vendors do not conform to hygiene regulations, and are often cooking next to open sewers. In Kwa Njenga, Mukuru, there are around 35 Street vendors, although in 2011 this dropped to around 20, because households had less disposable income, and the price of food and fuel prices increased significantly. A typical volume of food sold in normal times is around 5 kg per day but this increased to around 20 kg per day, and prices rose from 55 KS to 72 KS / kg. Households have reported that they were eating fewer meals per day, but where possible purchasing from Street vendors meant that they did not have to purchase fuel which was also expensive during this time. At times Street food vendors will also provide food on credit to households that they know, and occasionally gift food that is left over at the end of the day.</p>	<p>healthy and balanced meal at least once a day. Households could be provided with grants in order to allow them the purchasing power to purchase food and street food vendors, or the parents themselves. If regular food price monitoring includes the cost Street food then this will enable Oxfam to accurately calculate the cash grant required to meet these needs. Equally the Street food vendors would require a small cash grant during the food price crisis to enable them to sustain their business and meet their additional fuel and food costs.</p>

The table below summarises the consumption and credit behaviour of the different wealth groups in relation to maize consumption.

CHARACTERISTICS OF MAIZE								
	VERY POOR		POOR		MEDIUM		BETTER OFF	
	BASELINE	EMERGENCY	BASELINE	EMERGENCY	BASELINE	EMERGENCY	BASELINE	EMERGENCY
<b>MAIZE KG CONSUMED PER PERSON PER DAY</b>	0.3	0.1	0.1	0.2	0.4	0.6-0.7	>0.4	>0.4
<b>PREFRENCE OF SUPPLIES</b>	SMALL SHOPS WITH CREDIT	SMALL SHOPS WITH CREDIT	SMALL SHOPS WITH CREDITS	SMALL SHOPS CREDIT	BIG WHOLE (SIFTED MAIZE)	BIG WHOLE (SIFTED MAIZE)	BIG WHOLE (SIFTED MAIZE)	BIG WHOLE (SIFTED MAIZE)
	GROUND FLOUR (POSHO MILLED)	GRADE/ MAIZE MEAL AND GRAINS	WHOLERS/ RETAILERS	WHOLE SALE AND RETAILERS	RETAILER WITH VARIETY	RETAILER WITH VARIETY	RETAILER WITH VARIETY	RETAILER WITH VARIETY
	POSHO MILLED(FREE MILLING)	FOOD VENDOURS	POSHO MILLS(FREE MILLING)	POSHO MILLS	MEDIUM WS/ R	MEDIUM WS / R	MEDIUM WS/ R	MEDIUM WS / R
	GIFT FROM RURAL HOMES	POSHO MILLS	GROUND MAIZE MEAL	GIFTS(IN KIND)	SUPERMARKETS	SUPERMARKETS	SUPERMARKETS	SUPERMARKETS
		GIFTS (IN KINDS)	GIFT FROM RURAL HOMES(IN KINDS)					
<b>Food Purchase Frequency</b>	1-2 kg / day	1-2 kg every 3 days	2 kg / day	1-2 kg / day	5 kg / week	5 kg / week	> 5 kg / week	> 5 kg / week
<b>Preferred type of maize meal</b>	Ground maize meal (Posho milled)		Ground maize meal (Posho milled)		Sifted maize meal by Big Millers		Sifted maize meal by Big Millers	
<b>Credit access</b>	From small traders and vendors when they have cash / credit (from acquaintance)	From small traders and vendors when they have means (uncommon)	From small traders / vendors when they have income / acquaintance	From small traders / vendors when they have income / acquaintance	MFI's, money lenders, shops (medium traders). No food credit	MFI's, money lenders, shops (medium traders). No food credit	< 1 days credit from larger shops	< 1 days credit from larger shops

			If petty traders gets from a bigger shop need to repay credit in 1 day	If petty traders gets from a bigger shop need to repay credit in 1 day				
<b>Number of full meals</b>	Once every 3 days when means available	When means available	Daily	When means available	Every day	Every day	Every day	Every day

It is very likely that there will be another El Niño drought comparable to 2011, which in this current climate of high food and fuel prices could mean that we see a repeat of the maize shortages, and high maize prices that occurred in 2011. There will need to be some significant changes in government policy and management of imports and holding the stocks in order to better control prices and ensure continuation of market integration in relation to maize prices when there are maize production shortages.

While a number of limitations must be acknowledged (the time taken to conduct the assessment and the relative sensitivity at national level of the topic), the findings are believed to be a good representation of the maize market system.

## **Response Option**

<b>Options</b>	<b>Effects on markets</b>	<b>Risks and assumptions</b>	<b>Feasibility</b>	<b>Timing</b>	<b>Population</b>
Cash grant to small shops / posho mills (< KS 10,000 capital ) KS 10,000	<ul style="list-style-type: none"> <li>- Maintain competition</li> <li>- Credit available to V poor HH's</li> </ul>	<ul style="list-style-type: none"> <li>- MOU conditional grant</li> <li>- Multiplier effect</li> <li>- Supply of maize is available – monitoring is essential</li> <li>- Posho mills are functioning</li> <li>- Credit access in normal times</li> </ul>	Yes	Start food price crisis as prices start to rise	20 Shops  20 Posho shops
Cash grant or scale up with social protection to V poor HH KS 6,000 / hh / m (basic food and water needs)	<ul style="list-style-type: none"> <li>- Increased purchasing power</li> <li>- Improved competition</li> <li>- SP mechanism is extended to the urban poor by the Government</li> </ul>	<ul style="list-style-type: none"> <li>- Monitoring supply / inflation</li> <li>- Target effectively</li> <li>- Female headed HH</li> <li>- Ensure supply available</li> </ul>	Yes	Start food price crisis as prices start to rise	10,000 HH
Food vendors support KS 5,000 grant	<ul style="list-style-type: none"> <li>- Target HH with malnourished children / child HH household, chronically sick</li> <li>- More street vendors stay in business</li> </ul>	<ul style="list-style-type: none"> <li>- 100-200 vendors, multiplier effect</li> <li>- Hygiene training</li> <li>- Monitor hygiene</li> <li>- Shortage food</li> <li>-Works for HH without ID</li> </ul>	Yes	Start food price crisis as prices start to rise	100-200 vendors
Vouchers for vulnerable HH's	<ul style="list-style-type: none"> <li>-Vouchers for vulnerable HH's to purchase cooked food</li> <li>- Vouchers will ensure conditionality of street vendors food purchase</li> </ul>	<ul style="list-style-type: none"> <li>- V poor HH's meet their immediate food needs</li> <li>- Continued existence of street food vendors enables access to informal credit</li> <li>- IDPS / Refugees and the old are able to access food without ID</li> </ul>	Yes	Start food price crisis as prices start to rise	5,000 HH
Advocate social protection for urban poor to build upon existing work.	<ul style="list-style-type: none"> <li>- Increased purchasing power for urban poor</li> <li>- Multiplier effect</li> </ul>	<ul style="list-style-type: none"> <li>- If successful and an urban SP stream is mainstreamed by Gov, them more urban poor HH's will have the resilience to cope with shocks</li> </ul>	Yes	Ongoing	
In kind food assistance to v poor households	<ul style="list-style-type: none"> <li>- Increased maize available in the market will reduce demand and may impact on price reductions</li> </ul>	<ul style="list-style-type: none"> <li>- If shortage of maize then targeted V poor HHs should receive WFP food ration</li> </ul>	Yes	If maize shortages are recorded	5,000 HH v poor
Advocate to Gov for transparency with imports	<ul style="list-style-type: none"> <li>- Politically sensitive but could result in reduced 'holding of maize and sustained price inflation</li> </ul>	<ul style="list-style-type: none"> <li>- Government sensitive to messaging</li> </ul>	Yes	Ongoing	

Advocate quality control policy	- Less wastage of maize and therefore smaller shortages following changes in rainfall patterns	-Create case studies to demonstrate poor quantity / quality impact on urban HH -Result in less aflatoxin poisoning	Yes	Ongoing	
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### **C. Main recommendations and conclusions from Maize Market System**

- Cash grant to small shops / posho mills (< Ksh 10,000 capital) KS 10,000 (loan in recovery). Target 40 shops in total.
- Cash grant or scale up with social protection to V poor HH of KS 6,000 / HH / month to meet basic food and water needs. Target 10,000 HH.
- Target 150 Food vendors with support of Ksh 5,000 grant.
- Target 5,000 vulnerable HHs with vouchers to enable them purchase cooked food.
- Advocate social protection for urban poor to build upon existing work.
- In kind food assistance to v poor households in the event of a maize shortage.
- Advocate to Gov and NCPB for transparency with imports / hoarding / price setting

Note:

- Timely monitoring and reporting especially in relation to local market prices, food availability and potential conflicts at household level and within communities (see annex 3 for Maize market indicators for monitoring)
- Cash transfer payments should be made via M-PESA or an equivalent system which enables households to securely and with a level of confidentiality, withdraw cash, which were relevant can be targeted to the female within the household, or small traders and shopkeepers
- Where households do not have ID cards they are unable to access cash transfers via mobile phones and so more emphasis should be made on improving the coverage of ID cards and facilitating and supporting individuals through the time-consuming and sometimes expensive application for ID cards.
- Preparedness analysis and identification of potential beneficiaries could enable pre emergency training to happen (i.e. hygiene training) and speed up the effectiveness of the response.

## Section 6: Water Market Systems

### 1. Water Market Mapping

The Water Market system is in existence throughout the year as there is no free source of water apart from the rain water which is only available during the long and sort rains and is only limited to less than five months in a normal year.

The biggest influence on the water market system is the availability of water from Nairobi Water and Sewerage Company (NWSC). Water from the NWSC caters for more than 90% of all the water needs of the target population. The availability of water and reliability of the supply influences the amount and cost of water accessed by the households.

Three possible emergencies related to water access can occur in the formal settlement. This are:

1. Emergency resulting from acute water shortage thus NWSC rationing water hence influencing reliability of supply, volume accessed and cost of water. This mainly occurs during times of severe drought or prolonged dry spell. This last occurred in the months of June, July and August 2009.
2. Emergency resulting from diminishing purchasing power at the household level. This situation affects the amount of water accessed by the household regardless the reliability of the water supply. This was the situation in June 2011.
3. Emergency resulting from disease outbreak e.g. cholera outbreak. This was last experienced xxx 2011.

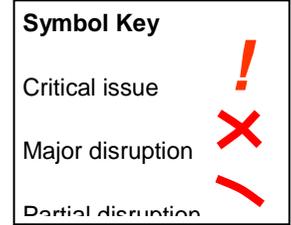
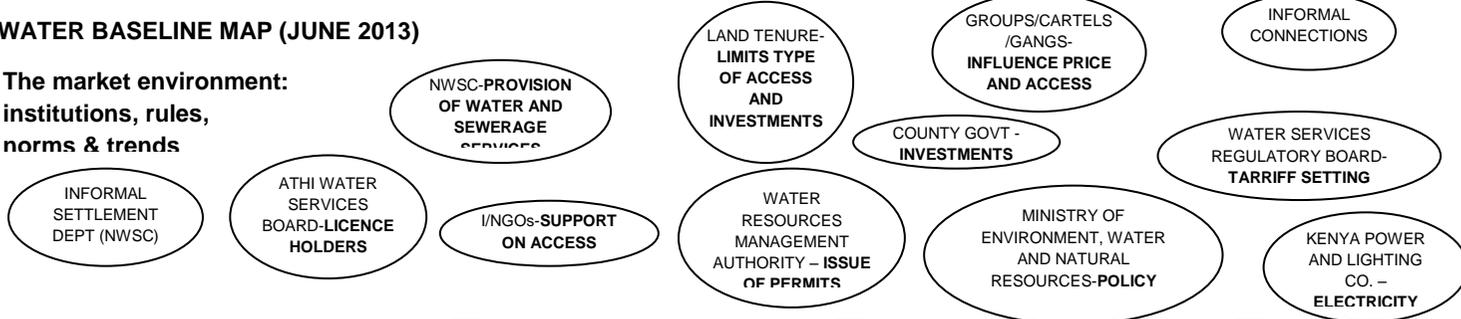
For the water market, the baseline and emergency years were selected as follows:

1. **The baseline year;** This is the year when the situation is normal. It helps compare the 'normal' and 'crisis-affected' situations. For the informal settlement, June 2013 was identified as the baseline year.
2. **The Emergency year;** the year when the situation was out of the normal i.e. during the crisis. June, July and August 2009 was identified as the Emergency year.

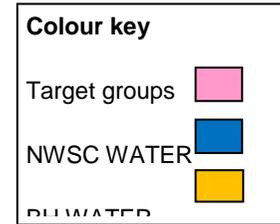
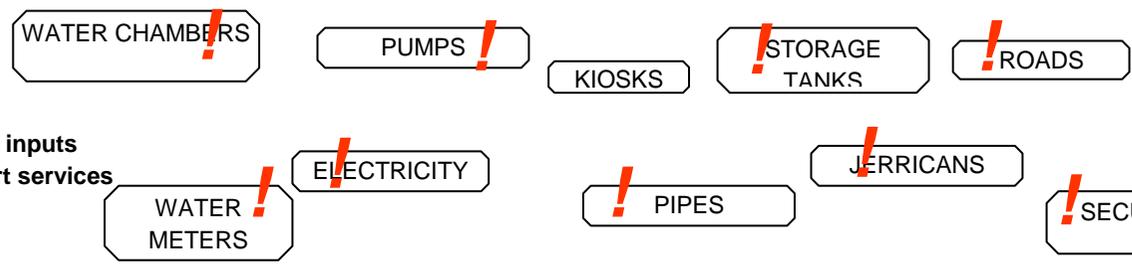
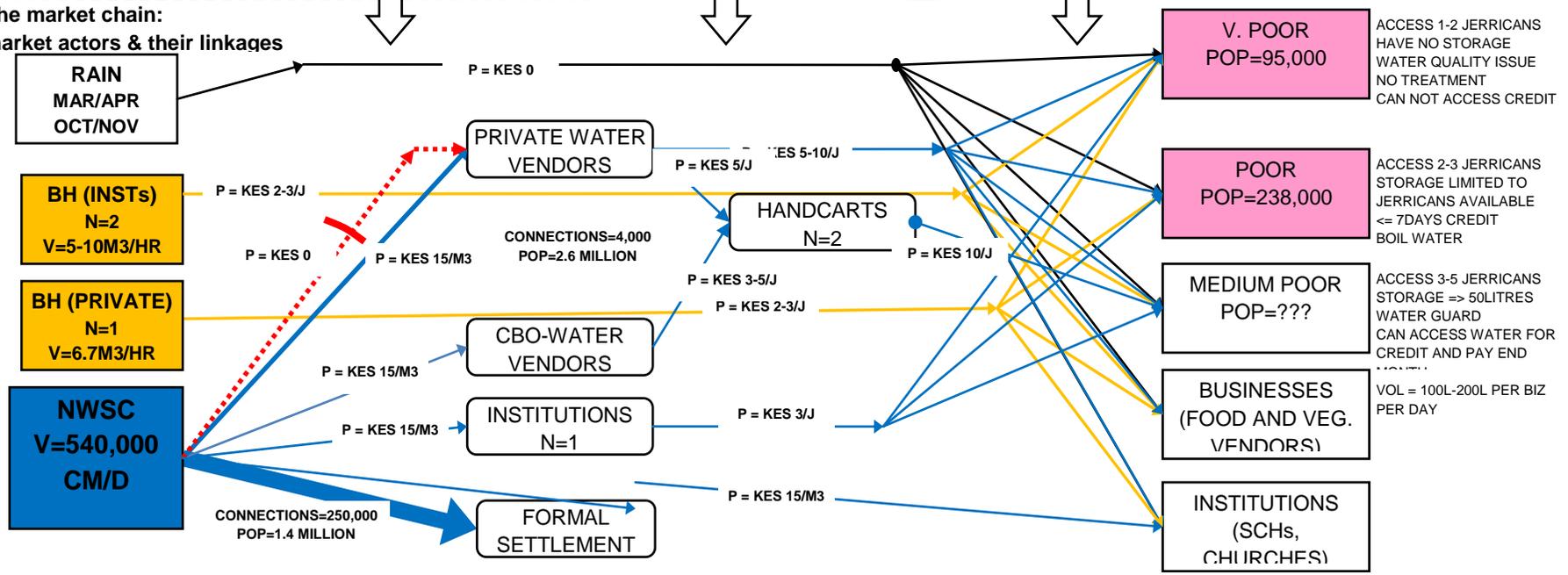
Two maps were developed and analysed. They are presented below.

# WATER BASELINE MAP (JUNE 2013)

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



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



## **The Baseline Water Market Map**

The baseline year was selected to be 2013. The month of June was selected to represent the month with normal water supply.

### **1. Water sources:**

In the normal year the sources of water for the informal settlement dwellers include;

**Rain;** The rain regime is divided into two. The long rains fall in the months of March, April and part of May while the short rains fall in the months of September, October and part of November. In a normal/good year, there is about 5-6 months of rain.

During this time, many people in the slum will harness water from the roofs for domestic use. The poor and very poor are still limited on the amount that can be fetched due to lack of storage at the household. The medium poor and the better-off will use the rain water for washing and other chores but will fetch a jerrycan or two from the water vendors for cooking and drinking. This is due to fact that the rain water is not necessarily clean due to the state of the roofs. Most of the roofs in the slum will have dust, household garbage thrown on the roofs or worse the 'flying' toilets.

Rain water is free. Rain supplements household water needs but due to lack of gutters and water storage constitutes a very small proportion of an average households need.

**Institutional Boreholes:** There are two boreholes within the vicinity of Mukuru Kwa Njenga settlement. They belong to the catholic parishes. The exact borehole yields could not be established accurately at the time of the field visit but from the interview with the operators, it is estimated to be between 5-10m<sup>3</sup>/hr.

Like many of the boreholes in Nairobi, the water is said to be saline and hence is not the main source for the majority of the slum dwellers. However, the poor and very poor would access water from the boreholes because it is cheaper than from the private water vendors. At the borehole the water is sold for KES 2-3/20 litres jerry can while at the private water vending kiosks the same amount goes for KES 5-10 depending on the reliability of the supply from NWSA. The price of water at the BHs will remain constant as it is not affected by the reliability of supply.

The medium poor and better-off that live closer to these boreholes will still fetch water for washing and cleaning but neither for drinking nor cooking. During acute water shortage, private water vendors with carts will buy water from the BHs and sell it at a profit to people in and outside the slums. There is no borehole in the vicinity of Mukuru Kwa Rueben settlement so people are totally dependent on NWSA.

**Private Boreholes:** There is one private borehole in Mukuru Kwa Njenga; it was less than 3 months old at the time of the study. Its yield is estimated to be 6.7m<sup>3</sup>/hr. Just like the institutional boreholes above, it is mainly accessed by the poor and the very poor. The price of water is KES 2-3/ 20 litres jerry can. The price of the water remains relatively constant. Since the Borehole is still new, it is yet to sell water to carts and water bowsers.

**Nairobi Water and Sewerage Company (NWSA):** NWSA is licensed by Athi Water Services Board to supply water in Nairobi County and thus it is mandated to supply water both in the formal and informal settlements. According to NWSA, the water demand for Nairobi is about 700,000 M<sup>3</sup>/day, but it is only able to supply 540,000 M<sup>3</sup>/day. The implication of this is that water is always being rationed. Because payment rates in the informal settlements are lower than other residential areas, resident here suffer disproportionately.

Because of land ownership issues in the informal settlement, NWSC is yet to carry out infrastructure development inside the informal settlement. Water is channelled using a 3" pipeline to water chambers located right at the edges of the informal settlement. It is from here that water is privately channelled into the slum.



**Water Chamber from where water is channelled to the informal settlement**

From the chamber, water is channelled to vending stations using a ½" – ¾" uPVC and PPR pipes. Depending on the distance that water is channelled and the water pressure at the chamber, most times water has to be pumped using small booster pumps. Due to unreliable water supply from NWSC, many of the water vendors have storage ranging from 2,500litres to 10,000 litres. The CBO water vending kiosks have relatively high storage capacities compared to the private water vendors. The CBO storage can be up to 30,000 litres.

Water from NWSC is sold at KES 15/M<sup>3</sup> to the water vendors who in turn sell at KES 5-10/20 litres jerrycan. According to NWSC, the recommended retail price of water should be KES 3/20litres. In reality this is not the case as the water vendors would want to recover the extra cost for channelling the water, investment in storage and the cost of pumping. This puts the cost of water at KES 5/ 20 litres or more depending on the reliability of the supply. On average, a household pays KES 300<sup>5</sup> per month to NWSC for water consumed in the formal settlements. This is about ten times below what an average family in the slums would pay for the same amount of water consumed.

Water from NWSC can be accessed through the following means:

- **Licensed Private Water Vendors:** This are the 'legal' water vendors that have water meters and supposedly pay water rates to NWSC. Their exact numbers is not known as far as Mukuru Kwa Njenga and Mukuru Kwa Rueben is concerned. For the whole of Nairobi County, NWSC has 250,000 licensed connections of which only 4,000 are in all the informal settlements. These connections serve 1.4 million people in the formal settlements and 2.6 million in the informal settlements respectively. As indicated by NWSC, only CBOs are supposed to be licensed to sell water. However the reality is very different and this study came across more individuals who held a meter and account with NWSC. For the purposes of this study both individuals and CBOs are considered to be legal/licensed suppliers.
- **Community Based Organisation (CBO) kiosks:** just like the private water vendors, there exact number could not be established. They are estimated to be about 30 in both the Mukurus. These are licensed water vendors but also registered as CBO and therefore they are legally recognised by NWSC. The arrangement for getting a water vending licence from NWSC is that water can only be sold by CBOs. This has not been the case as there more private water vending kiosks than the CBOs. Apart from selling water, the CBO could be involved in other activities depending on the composition of the CBO and its objectives.

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<sup>5</sup> It is assumed an average family of 5 persons in the formal settlement would consume about 10m<sup>3</sup> per month. At KES 15/m<sup>3</sup>, the cost of water is KES 150. If sewerage costs are included, this amounts to a total of KES 300. For the same amount of water in the slums, a family would pay about KES 2,500. This is 8 times more than what an average family in the formal settlement pays.

- **Unlicensed/ illegal water vendors:** like the licensed water vendors, their number is unknown and will never remain constant. The illegal water vendors may or may not have water meters. They access water from the chamber mostly during the night, though some can access water during the day. Just like the legal ones, they pump water to storage tanks and sell water at their vending stations.



A customer fetching water at one of the CBO Kiosks

In Mukuru Kwa Rueben, apart from the rain there is no any other source of water beyond the supply from NWSC. The NWSC water supply is more stable in Mukuru Kwa Rueben. This reliability of supply makes the cost of water constant. The price of water remains at KES 3/ 20 litre jerrican at the CBO kiosks and KES 5/ 20 litre jerrican at other water vending stations.

## 2. End Users

The end users have been categorised as follows:

- **Very poor:** they constitute 20% of the slum population translating to 95,600 persons or 19,120 households. They access 1-2 jerricans of water per day.
- **Poor:** constitute about 50% of the population translating to 238,000 persons or 47,600 households. The poor access 2-3 jerricans of water per day.
- **Medium poor:** they constitute about 20% of the population translating to 95,600 persons or 19,120 households. The medium poor access 3-5 jerricans of water per day.
- **Better-off:** they constitute about 10% of the population translating to 47,800 persons or 9,560 households. The better-off access more than 5 jerricans of water per day.
- **Businesses (Food and Vegetable Vendors):** there exact number could not be established. They consume between 100-200 litres per day each.
- **Institutions (churches and schools):** with numerous informal/unregistered schools within the slum area, there exact number could not be established. Just like the schools, the number of churches could not be established.

For the purpose of emergency response, **the very poor and poor** will be targeted in terms of water provision.

## 3. Actors

In the normal year, the numbers of actors are limited to the following:

- **Private water vendors**

They fall under two categories i.e. 'legal' and 'illegal' water vendors. It is very difficult to differentiate the two as they portray similar characteristics and operate under similar environment. They sell water at their tap stands. The private water vendors are persons who have been licensed by NWSC as 'individual connections' but have resorted into the selling of water. Their exact number is a challenge to establish.

The private water vendors have an informal association that is mandated with governing how the water vending business is conducted. The association is tasked with setting minimum tariff, location of tap stands within the slum, resolving disputes amongst the water vendors especially to do with damage of water pipes.

The private water vendors sell water between KES 5-10 per jerrican depending on the reliability of the water supply. The minimum agreed selling price amongst all the private water vendors is KES 5 per jerrican.

During the normal times, the water vendors reported having some challenges regarding their water vending business. These challenges are:

- a) Low water pressures at the chambers forcing them to pump water to their water vending stations
- b) Frequent pipe bursts
- c) Leaking pipes increasing the amount of unaccounted for water
- d) Vandalism of water meters at the chamber
- e) Limited storage
- f) Illegal connections tapping into their line

- **Community Based Organisation water vendors**

According to NWSC, these are the legally registered and recognised water vendors. They access support from NWSC to put more storage and also adequate and durable pipeline. They sell water at KES 3-5 per jerrican depending on how far they are located from the water chamber and also if they are incurring pumping costs.

Just like the private water vendors, their exact number could not be established in Mukuru Kwa Njenga. In Mukuru Kwa Rueben their number is approximated to be 20.

- **Institutions**

The Catholic Church at Mukuru Kwa Rueben buys water in bulk from the NWSC at KES 15/m<sup>3</sup>. Since it has bigger storage, it stores water and sells it to the slum dwellers at KES 3 per jerrican.

- **NWSC**

It becomes the major actor as more than 90% of water accessed in the informal settlement is directly supplied by NWSC. It also has the mandate to give water trading licences as well as setting the water tariff. Though the tariff set by NWSC through the Athi Water Services Board is at KES 3 per jerrican, the private water vendors sell at a minimum of KES 5 per jerrican.

NWSC dictates on the frequency and amount of water and that is supplied into the informal settlement. This in turn affects the fluctuation of prices. For instance Mukuru Kwa Rueben where the supply of water is more stable and predictable the price never goes above KES 5 per jerrican. In Mukuru Kwa Njenga where the supply is unreliable and the amount of water supplied is much less compared to Mukuru Kwa Rueben, the price of water fluctuates between KES 5 – 10 per jerrican at any given moment. The supply is not predictable.

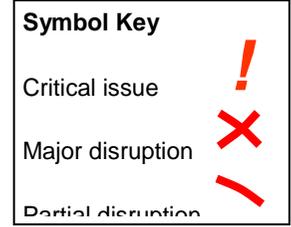
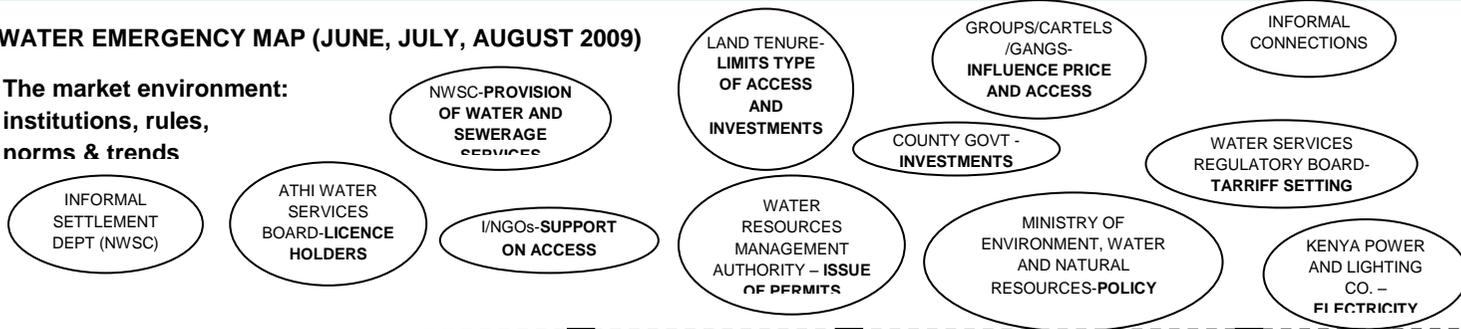
NWSC is mandated with infrastructure development as far as water and sewerage services are concerned for Nairobi County. However due to land ownership issues in the informal settlement, NWSC is yet to undertake development to improve water access in the informal settlements across the county. It has only supplied water up to the periphery of the informal settlement. From there, individual water vendors and CBOs have to incur costs of channelling this water to their respective water vending stations. Also due to unreliable water supply, many vendors are forced to put up storage tanks. Lastly, the water pressure at the chamber is very low for it to flow to the storage at the vending stations. This forces the vendors to incur extra cost for supplying the water. This cost is eventually passed on to the end users who include the poor and very poor.

The following requirements have to be met for one to get a water vending licence in the informal Settlement:

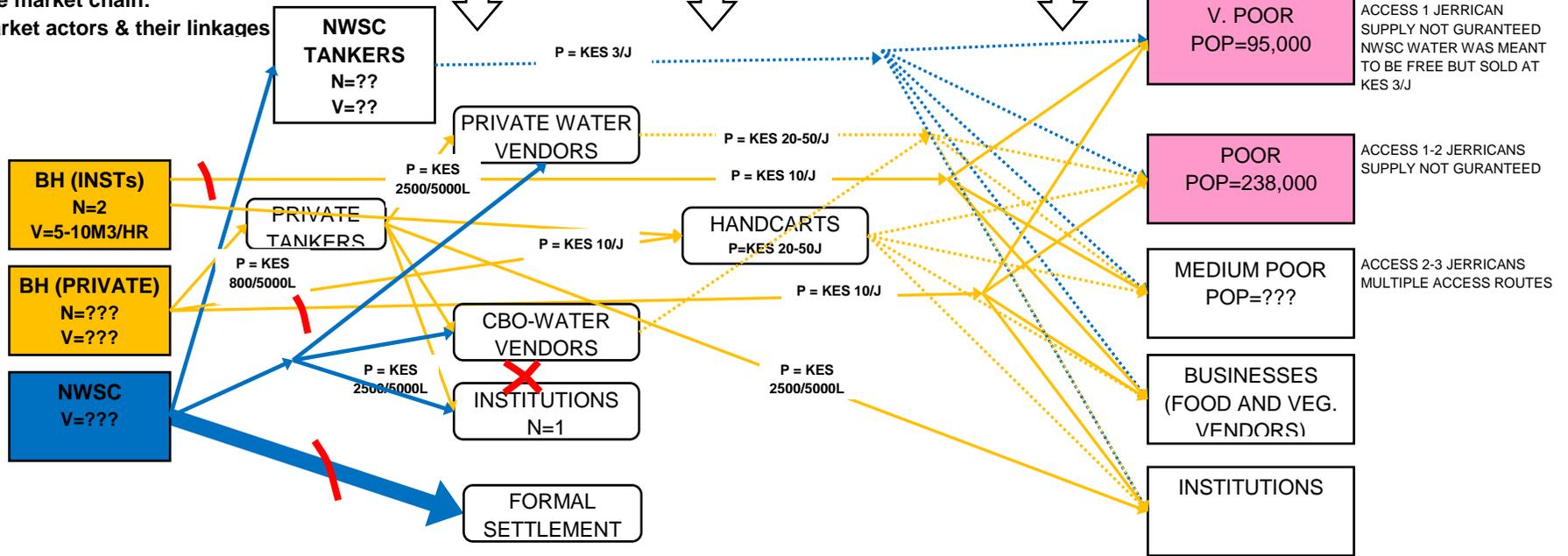
- Be a registered Community Based Organisation (although in reality as noted this is not always followed).
- Pay registration fee of KES 7,500
- Install a water meter

# WATER EMERGENCY MAP (JUNE, JULY, AUGUST 2009)

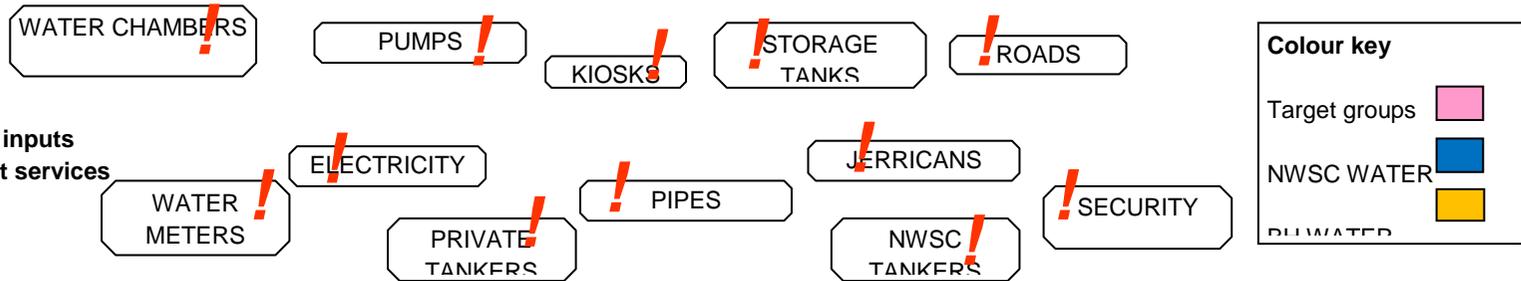
The market environment:  
institutions, rules,  
norms & trends



The market chain:  
market actors & their linkages



Key infrastructure, inputs  
and market-support services



## **The Emergency Water Market Map:**

### **1. Water Sources**

During the emergency year of 2009, two rainfall seasons had failed leading to acute water rationing by NWSC. The normal water supply by NWSC into the informal settlements was completely shut-off. With failed rainfall seasons, water from roof catchments was not available. Hence water access in the informal settlement was limited to the following sources:

**Institutional Boreholes:** These are the two boreholes that belong to the catholic parishes. With water supply from NWSC cut-off, they saw an influx of people and carts at their water vending stations. Water was sold at KES 10/ 20 litres up from the usual KES 3 for the same amount.

These boreholes reported pumping more hours at the time than normal. Water bowser also accessed water from the boreholes.

**Private Boreholes:** At the time, there were no private boreholes in Mukuru Kwa Njenga. However, cart and water bowser could access water from private boreholes outside the Mukurus. At that time, these were the main source of water for the slum dwellers.

The private boreholes would sell water at KES 800 per 5,000 litre capacity water bowser. The cart owners bought water at KES 10/ 20 litres. The exact number of private boreholes is unknown. Some of the private boreholes are not licensed.

**NWSC:** though the normal water supply from NWSC was completely cut-off; this is a deliberate decision by NWSC to save water that would get spilled from the broken pipes. Using its own or hired water bowser, NWSC supplied water in the informal settlement. It targeted to supply water for free for the poor households however that were not the case; water was sold at KES 3/ 20 litres.

Most households reported only receiving 1 jerrican a day and often had to walk long distances to access this water. The NWSC bowser supplied water was not reliable and as such was not guaranteed.

### **2. End users**

2009 saw acute water rationing by NWSC. At the time, all dwellers in the slum regardless of their social-economic status were affected. Apart from those who could access water from the institutional boreholes, many bought water between KES 20 – 50/ 20 litres.

The volume accessed per household went down tremendously due to the limited availability of water and also the price per jerrican. The table below shows amount of water accessed by the different wealth groups in the slum.

<b>Characteristics</b>	<b>Very Poor</b>	<b>Poor</b>	<b>Medium</b>	<b>Better-off</b>
Volume accessed (Emergency)	4 LPD	4 LPD	8 LPD	➤ 12 LPD

### **3. Actors**

In the emergency year, different actors come into action.

#### **I. Nairobi Water and Sewerage Company**

NWSC is mandated to provide water and sewerage services in Nairobi County. As such it is the biggest actor as far as water access is concerned in the informal settlement. Directly it influences what amount of water can be accessed and at what cost.

In the emergency year, due to acute water shortage, the NWSC rationed water in the city. The supply to the informal settlements was completely cut-off. This drastically affected the quantity of water accessed per household and the cost of water.

To bridge the gap for the very poor, the NWSC resorted into availing water in both the informal settlements and formal settlements that had been affected. Using its own water bowsers and also hired bowsers, water was transported to the cut-off areas. NWSC aimed to provide water for free to the targeted households. However water was sold at KES 3/ 20 litres. The amount accessed by the households at the time was only 1 jerrican per household. Often people had to walk longer distances following the NWSC bowsers from one estate to the next.

#### **II. Private Water Tankers**

These are opportunistic traders, who will notice a gap in the market and quickly come in to make a kill by trying to bridge the gap. They easily convert their own water bowsers or quickly turn their Lorries to water bowsers. They usually have between 5m<sup>3</sup> to 10m<sup>3</sup> capacity bowsers.

The private water tankers will buy water from the private boreholes that are located away from the informal settlement at an average price of KES 800/5,000 litres. To cover their costs and also profit, they will in turn sell the same amount of water at KES 2,500 to both private and CBO water vendors. Outside the informal settlement, they also sell to individual households that have storage capacity.

The number of private water vendors operating at that time could not be established. They only operate during the emergencies.

#### **III. Handcarts**

Just like private water tankers, they take advantage of the situation. They come in large numbers, mostly are handcarts that used to transport goods that are turned into mobile water vendors. One handcart can carry up to 25 jerricans. They buy water from private boreholes at KES 10/ 20 litres and sell at KES 20-50/ 20 litres. The selling price is a function of:

- Distance from borehole to water vending point
- Demand

#### **IV. Private Water Vendors**

Since they depend on the water supply from NWSC, during the emergency when the water is completely cut-off, their numbers reduce drastically. However a few are able to buy water from the private water tankers. They will buy water at KES 2,500/ 5,000 litres and sell at KES 20 – 50/ litres. The selling price is regulated by demand versus supply.

#### **V. CBO water vendors**

They operate under similar circumstances like the private water vendors. Their bigger storage capacities give them an upper hand over the private water vendors.

## **2. Water Market System Key Findings**

### **Gap Analysis**

One of the key findings is that even during the normal times; the households still access water quantities that are way below the minimum set standard. Hence access to water is a chronic problem that becomes exuberated during times of extreme drought that leads to water rationing.

In emergency response, only the poor and very poor will be targeted. 40 litres of water per household will be targeted. This volume was selected so that at least what the poor and very poor access during the normal times is not exceeded.

Assuming a typical rationing session will last three months i.e. the length of the dry spell, then water trucking will be done for 90 days. It is assumed that the market will be able to provide the number of trucks required at that time. The table below shows the household gap that will have to meet through water trucking during the emergency.

<b>Characteristics</b>	<b>Very Poor</b>	<b>Poor</b>	<b>Medium</b>	<b>Better-off</b>
Volume accessed (Normal)	4-8 LPD	8-12 LPD	12-20 LPD	➤ 20 LPD
Volume accessed (Emergency)	4 LPD	4 LPD	8 LPD	➤ 12 LPD
Volume to provide (Emergency)	8 LPD	8 LPD		
Gap Duration (Days)	90	90		
Population	95,206	238,015		
Total volume to provide per day	762 m <sup>3</sup>	1,905m <sup>3</sup>		
Number of 8m <sup>3</sup> Bowsers	96	239		

### **Critical Issues**

#### **1. Household income**

It greatly affects the amount of water accessed by each household. It also affects the sources of water that are accessed. For instance, in the normal times, the very poor will go for cheaper sources which are boreholes. The borehole water is reported to be saline. The medium poor and the better-off will treat their water before consuming it.

In the emergency of 2011, a reduction of water consumed at household level was reported even when there was no interruption in supply. This was attributed to the general reduction of disposable household income which in turn led to a reduction on food and water consumption.

In general even at normal times, the amount of water accessed by the poor in the informal settlement is way below what is recommended by both the GoK and Sphere standard.

The reliability of water supply will determine the price at which water is sold. When the supply is reliable, water is sold at KES 3 and KES 5/ 20 litres at the private water vending station and CBO kiosk respectively. When the supply is cut in one section/zone in the informal settlement, water in the sections that have water will see the price of water go up as people

from the zones without water start fetching water from zones with water. The price of water will shoot to KES 10/ 20 litres.

In Mukuru Kwa Rueben where the supply is reported to be more stable and reliable, the price of water remains constant at KES 5/ 20 litres throughout the day and throughout the week. If the supply can be made more reliable, the price of water can be below KES 5/ 20 litres.

## **2. Quality of Water at vending stations**

Water is accessed at the chambers where there about 40-50 connections at each chamber. Depending on the location of the water vending stations, the water vendors will have to do water pipelines of 200m – 1.5km. These lines often run along open sewer drains as that is the only available space to place them.

These pipelines are mainly made of ½”- 3/4” uPVC pipes of inferior class. When exposed to direct heating from the sun, they become weak and are susceptible to bursts. This occurs when water has to be pumped from the chamber. The pipe bursts compromise the water quality that eventually reaches the water vending stations.

Extra cost is incurred at the household level for treating the water. The very poor are not able to meet this cost and will take the water ‘raw’. The poor will boil while the medium poor and the better-off will use chemicals for treating the water.

## **3. Storage at household level**

The unreliable water supply entails that water be stored at the household to improve on water security. However with limited household income, only the medium poor and better-off have some means of storing water. The very poor and poor are the ones affected most by the unreliable supply as they are only limited to the 1 or 2 containers that they use to collect water as the means of storage.

In designing a response option for the times of emergencies, extra cost will be incurred for provision of water storage containers for the poor and very poor.

## **4. Cartels**

The water vending business is a very lucrative business in the informal settlements. How water is accessed at the chamber, location of a tap stand and the minimum tariff is set by a cartel of private water vendors. This cartel is an informal association of water vendors.

NWSC has set the price of a 20 litres jerrican at KES 3; the water vendors have set the minimum price for the same volume at KES 5. If they are paying the rates at KES 15/M<sup>3</sup>, then they are making KES 250/M<sup>3</sup>. It is worth noting that even the recommended retail price from NWSC is still 10 times the price that Nairobi residents in formal settlement pay.

## **Market Analysis**

### **Supply side problem**

The price of water in the informal settlement is regulated by the informal associations ‘cartels’ who take advantage of unreliable supply. The lack of investment by the NWSC on infrastructure development has made the cost of availing water to the inhabitants of the slum a challenge. Low volumes of water supplied couple with low pressure makes the investment and operation costs incurred by water vendors escalate. These costs are in turn transferred to the consumers.

If the supply from NWSC could be reliable, the cost of water can come down and hence the amount accessed per household would go up. With proper infrastructure development, the

quality of water reaching the water vending station will not be compromised hence eliminating the need to treat at household level.

There is need to regulate the cartels as they also regulate the price of water by taking advantage of the unreliable supply. The NWSC rules and regulations as far water supply is concerned in the slum are not enforced. This negatively affects the access to water to many of the slum dwellers.

Overall, NWSC is able to meet less than 80% of Nairobi's demand. With 250,000 connections in Nairobi, only 4,000 are in the informal settlements. During acute water shortages, the supply to the informal settlements is completely disrupted.

### **Response Options**

<b>Response Options</b>	<b>Risks and Assumptions</b>	<b>Effects</b>	<b>Feasibility</b>	<b>Timing</b>
<b>Baseline response options</b>				
1. Increase water supply <ul style="list-style-type: none"> <li>• Drilling boreholes within Mukuru</li> <li>• Utilizing the existing boreholes (private and institutions)</li> <li>• Supporting the infrastructure (storage, pipelines) to ensure supply from the Boreholes to the vendors</li> <li>• NWSC to allocate more water to informal settlements</li> <li>• Bring chambers closer to the people</li> <li>• Promote rain water harvesting</li> </ul>	<ul style="list-style-type: none"> <li>- Cost implications – funding availability</li> <li>- People will accept this water although it is not their preferred source of water due to its salinity</li> <li>- Concentration of boreholes in the area</li> <li>- It will not be a problem with land owners</li> <li>- Willingness of landlords and house agents to cooperate</li> </ul>	Increase water supply	Low Medium  Low  Low Low	3 months to long term
2. Advocacy for NWSC to increase supply	<ul style="list-style-type: none"> <li>- Political interference</li> <li>- Willingness of NWSC and government to invest in the required infrastructure</li> </ul>	Increase water supply	Low	Long term
3. Improve storage at household level ≥ 50 Litres	<ul style="list-style-type: none"> <li>- People have enough space in their houses to accommodate extra water storage</li> </ul>	Increase water availability at the household level	High	3 months
4. Improve quality at household level <ul style="list-style-type: none"> <li>• Create awareness</li> <li>• Advocate to bring water chambers closer to the people</li> <li>• Promote water treatment at HH level</li> </ul>	<ul style="list-style-type: none"> <li>- That people will be willing to change their practises on water handling</li> <li>- Cooperation of NWSC</li> <li>- Cost implication</li> </ul>	Reduced diarrhoeal diseases	Medium	3 months to long term
5. Improving purchasing power at the household level <ul style="list-style-type: none"> <li>• Safety nets</li> </ul>	<ul style="list-style-type: none"> <li>- Localised inflation within Mukuru slums</li> </ul>	Increase water access at the household level	High	3 months

6. Formalize the informal groups (Cartels) into CBO's to link to NWSC for further support	- Willingness of private water vendors to formalise their informal groups into CBO's	Stabilisation of water prices	Low	Long term
7. NWSC to enforce its rules and regulations	- Cooperation on NWSC	Stabilisation of water prices Improved supply of water	Medium	Long term
<b>Emergency response Options</b>				
5. Increasing purchasing power • Cash grants • Vouchers	- There is no control on prices - Risk of prices going up	Increased access to water at the household level	High	3 Months
6. Construct pipeline from the Boreholes to both private and CBO water vendors	- Willingness of borehole owners - No control on prices	Increased supply of water	High	3 Months
7. Water tankering	- Cost implications	Increased supply of water	Medium	3 Months
8. Provision of water treatment options at HHs and vending levels using aqua tabs or water guard.	- Sustainability after emergency	Provision of clean safe water	High	3 Months

### **3. Water Market Systems Main Recommendations and Conclusions**

During the baseline time, Oxfam with its partner should strive to ensuring increased availability and accessibility of water

1. Increase water supply
  - Drilling boreholes within Mukuru
  - Utilizing the existing boreholes (private and institutions)
  - Supporting infrastructure (storage, pipelines) to ensure supply from Boreholes to vendors
  - NWSC to allocate more water to informal settlements
  - Bring chambers closer to the people
  - Promote rain water harvesting
2. Advocacy for NWSC to increase supply
3. Improve storage at household level  $\geq$  50 Litres
4. Improve quality at household level
  - Create awareness
  - Advocate to bring water chambers closer to the people
  - Promote water treatment at HH level
5. Improving purchasing power at the household level by advocating for safety nets
6. Formalize the informal groups (Cartels) into CBO's to link to NWSC for further support
7. NWSC to enforce its rules and regulations

During emergency times, the key recommendations are as follows

1. Increasing purchasing power through cash grants and vouchers
2. Construct pipeline from the Boreholes to both private and CBO water vendors
3. Water tinkering
4. Provision of water treatment options at HHs and vending levels using aqua tabs or water guard.

## **Section 7: Credit Market Systems**

### **A. Credit Market Mapping**

#### **Actors in the Credit Market**

The actors in the credit market system have been compartmentalised into two distinct groups- formal and informal. Actors in the formal credit market system are those that are registered and have the legitimacy to operate in the business of credit. Whereas the informal credit market are not registered bodies and conduct their business 'illegally' but are the main source of credit to the target population. Some of the actors in the informal credit systems do imitate the rigorous documentation process as in the formal lending system but are essentially not recognised by the law as credit service providers.

#### **FORMAL CREDIT MARKET**

**Commercial Banks:** These are the mainstream banks like the Central Bank of Kenya, Kenya Commercial Bank, Barclays Bank, Standard Chartered Bank etc that are regulated by the law. This group of actors have stringent lending policies and practices favour the rich and people who can afford securities. The commercial bank lending procedures require National ID card, proof of house address either of ownership or through rental contracts/agreements, or through telephone bill, electricity bill or water bill. These are documentations that the target population do not have and hence they cannot access credit from these banks either during normal or emergency times.

**Micro Finance Institutions:** In comparison to the commercial banks, micro finance institutions are more accessible to the people living in the informal settlements as they do not need rigorous documentation process and also with bare minimal collaterals (mostly a saving account with Ksh 300), yet they remain out of reach because of the lending rates especially for the target population in the urban informal settlement. The only requirement for the micro finance institution to be able to lend is possession of a National ID card and of course one has to start saving with the institution. The current lending rates of micro finance institutions rank at 24%. Depending on the payback time, micro finance institutions reduce their lending rates if the borrower pays back in one quarter or in six months period. The lending terms and conditions are decided by the Association for Micro Finance Institutions (AMFI) and is often derived from the lending rates decided by the Central Bank of Kenya. A number of micro finance exits and do business in the informal settlements namely Equity Bank, Opportunity Kenya, Faulu, Musoni, Kenya Women Finance Trust (KWFT) and Jamii Bora. These MFIs have different interest rates for different types of credit need.

**Saving And Credit Cooperative (SACCO):** There are a couple of SACCOs in Mukuru. The law states that people engaged in transport business/ services should register themselves under SACCOs. Many of the transport owners reside outside the informal settlement though people working in those services residing in Mukuru are part of the same. These SACCOs are obviously restrictive as they provide access to credit only to people in transport service and who are member of the SACCO. There is another SACCO called Mukuru Housing Co-Operative Society Ltd which was established to help promote decent and affordable shelter for the slum dwellers. Even though that objective is yet to be actualised, this SACCO provides for credit at an interest rate of 2% to its members. Anyone interested to be a member of the SACCO can register with a membership fee of Ksh 500 and then make a monthly saving of Ksh 300. One can get credit after saving at least for three months and only when the saving amount is Ksh 3000. Then the person can get a credit worth Ksh 10,000 which is to be repaid back within a period of one year. If one is taking an amount more than Ksh 50,000 then the payable time is two years to maximum three years. Each person taking a loan should present three guarantors who are members of the Society and they should not

be guaranteeing for more than three loans. The saving of the guarantors and the person requesting for the loan should together be more than the loan requested for. The SACCO also seeks to get a copy of the National ID card and in case of default the guarantors have the right to sell all the assets of the household.

The SACCOs are not easily accessible to the target population a) many of them do not have national ID cards, b) they do not have enough to pay for the membership fees and make a monthly saving of Ksh 300. Even households, who can save a little especially the middle poor wealth group, prefer not to take loans from the SACCO because of the stringent laws even though the rate of interest is affordable and cheapest amongst the available options.

*The behaviour pattern of the formal lending system is not affected by any **emergency**. The lending rates are reviewed annually by the CBK and the AMFI. It is in rare cases when there is a serious impact on the country's economy that the lending rates are reviewed in between.*

## **INFORMAL CREDIT MARKET**

### **Wealth Group 1: Rich**

**Big Traders:** On an average 4-5 big traders cater to a population of 250,000 in the informal settlements. These are traders with an estimated stock of Ksh400,000 and make a net profit of Ksh20,000 per day. The bigger traders access credit individually or in groups from Micro-Finance Institutions like Equity Bank and Commercial Banks. Depending upon their credit worthiness they could access any amount starting from Ksh50,000 upwards at an interest rate of 25%.

These individual big traders on an average in a month provide credit to 15 medium traders with proven income source and their working capital ranging from Ksh30,000 and above. The credit is payable in 24 hours but is staggered (meaning that medium traders pay what they have to maintain their credit worthiness with the big traders) and is mainly in kind covering saleable goods which the medium trader sell and remit the capital while keeping the profits. Each big trader also provides credit to approximately 15 petty traders per month worth Ksh1500 per person charging an interest rate of 0-20% per month per each Ksh1500 loaned. The payment periods for the loans vary from 1-4 weeks. In addition to the cash loans, big traders also provide food credit of less than 300KES worth of food credit to 5 poor households monthly at zero interest rates.

During **emergencies** they decrease their rate of interest and use their capacity to increase lending in kind to people they know. These are people who during the normal times would have purchased in cash. Thus during emergency the big traders expand their outreach with regards to the number of people who they provide credit with to keep their customers intact. Though this does not interpret in similar trends with regards to volume of credit, as, they reduce their lending volume to their regular debtors given their capacity to pay back. By adopting this strategy, it results in relatively improved sales although challenges of repayment do affect their ability to lend more money.

**Medium Traders:** Approximately there are 25 medium traders in a population of 250000. The stock value is in between Ksh70,000 to Ksh300,000. They mainly access credit from Savings and Credit groups, SACCOs and other MFIs like Opportunity Kenya where they save money for six months before they are allowed to take loan. The interviewed traders had obtained 150,000KES from Opportunity Kenya payable in 1.5 years at 30% interest. The medium traders also receive credit from Money Lenders who give them about Ksh10000-20,000 per person per month with a rate of interest of 25% and repay period of 4 weeks although in some cases the repayment period can be negotiated.

The medium traders provide credit of between Ksh2000-3000 to small traders only for business expansion purpose at an interest rate of 25-30% per month. The medium traders provide credit to only those small traders whom they know who have regular income and stay close to their shop.

**Money lenders:** In a population of 250,000, there are about 5 money lenders. This actor's main occupation is money lending though in most cases they also have another business such as water vending, housing facility etc, income from which supports in the investment into money lending business. Actors new into this business obviously operate at a lower scale but an established money lender at any given time has a capital of about Ksh 300,000 – 500,000 in circulation in the market. Each month the money lenders reach out to 15-20 employed people and about 8-10 business people. They conduct their business, though illegal, in a formalised way by signing agreements between the debtor and the creditor with a third party witness. They give credit even outside their locality and apply different terms and conditions for different category of people.

For employed people who are seeking credit, they provide credit ranging from Ksh 1000-10,000 at one go. The rate of interest applicable to employed persons is 15-20%. The payment duration is defined as 3 (three) weeks plus 1 (one) week. The one week is a grace period. The money lenders do not want to specify the duration in months as they feel that it might run the risk of people delaying the payment. Some money lenders would like to keep the ATM card of the loaner as a security, but most would want to keep some form of security such as television set, radio, mobile phone etc. The assets that are kept with the money lender should be at least twice the worth of the credit that the loaner is requesting for.

For business people seeking credit from money lenders, they can negotiate on the duration of payment. The rate of interest charged by the money lenders is between 25-30%. They are also expected to provide a security in terms of an asset. The money lenders before signing an agreement do make a formal visit to the shop and carry out their assessment of the stock and depending on that decide on the loan amount.

During **emergencies** the money lenders reduce their rate of interest by 5% on an average. They believe that given the lack of paying capacities of the people, many refrain from seeking credit. Thus even though the need is high the real demand for credit is low and hence the money lenders by reducing the rate of interest not only try making the credit accessible to people but more importantly want to be in business and generate income by keeping their money in circulation.

## **Wealth Group 2: Middle poor**

**Small Traders:** Generally double income household, one of the earning members has source of regular income from wage employment and the other (mostly the wife) is a small trader with a stock size of Ksh 10,000-20,000. The households generally have assets such as television, sofa set, bed, phone etc. They stay in a better (hygienic) conditions. The income and expenditure of this group are commensurate to one another, i.e almost all expenditures of these household groups are/will be/ covered from their income sources. This group is also able to save in multiple merry go round groups, savings and lending groups and in SACCOs. This group needs credit only in specific circumstances such as health emergencies. They never take credit from relatives for reasons of dignity as traditionally taking credit from relatives is considered as dependent/beggar/ parasite. Prefer to lend from bigger traders or money lenders for easy access and flexibility. Take credit at an interest rate of 20% per month. This group aspires for business expansion credit from Ksh 50,000 upwards. Currently has borrowing relationships with medium sized traders, money lenders (if one of the HH member has a permanent job), SACCOs, saving and lending groups.

This group also provides credit to similar wealth group or even to the households poorer than them. They usually provide food credit ranging from Ksh 200-300 per person at any given time but depending on households previous performance they could lend (food credit) up to 1000-1500 Ksh without any rate of interest. The criteria for lending by this group

- Knowing the households who ask credit
- Live close by /neighbours
- The household has a regular income source

The food credit is facilitated by the regular income and the weekly investment of Ksh 4000-5000 by the small trader. The small traders cater to about 30-50 households in a month through their business but service only about 5-10 people with food credit.

During **emergency**, this is the group that is at a very high risk of falling into the poor wealth group category. The slightest of shock imbalances their incomes and expenditure and many would lose out on businesses. Given that their capacity to cope would be fragile hence their capacities to provide credit to the target population of the poor and the very poor would also be negatively impacted.

### **Wealth Group 3**

**Poor:** This group generally depends upon casual jobs and petty trade for their source of income. The petty traders engage in trading of readymade food, vegetables, fruits, charcoal, and few packets of cigarette etc. with a capital of not more than Ksh10000. The people on casual jobs have a very volatile income. Some casuals may be assured of some work for the week or for few days in a week. To cater for all the household needs majority of this population access credit either in kind- food from the shop or cash from merry go round (chama). They can access credit from shops ranging from Ksh300 to 1000. Majority rely on survival credit, to ensure they have food for the day and have also get their stock on credit.

The poor have access to some informal sources of lending from the big traders and small traders which is mostly credit in kind and sometimes cash. Key criteria for accessing formal credit is a regular source of income, and in order to access formal credit, they would require an identity card and an asset for security/guarantee, which most of the poor people don't have. Therefore it's a challenge for the poor to access the variety of credits available in the market. The poor lend in kind to the very poor and many times actually do some food donations.

During **emergencies** the poor do not give credit to the very poor and during the hunger period each year the poor cut down on the number of meals per day and also cut down on other expenses such as education, health and water and sanitation. During these times they generally try and adopt many livelihood strategies to increase their income to meet their survival needs. Due to their low scale of operation in their businesses during emergencies they run the risk of falling into the very poor wealth category.

### **Wealth Group 4**

**Very Poor:** This category of people lack access to credit because in order to access credit, whether in kind or cash, the lender requires to have some form of assurance that the loaner has capacity to repay back- mainly through guarantee of some opportunity to earn an income within the period. Most of the people in this category have fallen into 'very poor' from the poor category since they have at some point held a casual job or engaged in some petty trade which at least would guarantee them a daily meal. Some of the causes of falling back include incapacitation to access casual jobs mainly caused by illness, or having small babies to care for. Some persons within this category occasionally perform hustling (wide range of activities within a day) jobs for a fee. This is however on a very irregular basis, earning about Ksh. 450- 600 every week. The persons who are trustworthy and are known to some small shop owners can access in kind food credit but with a limit of between Ksh 50-100 per week.

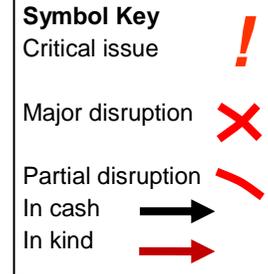
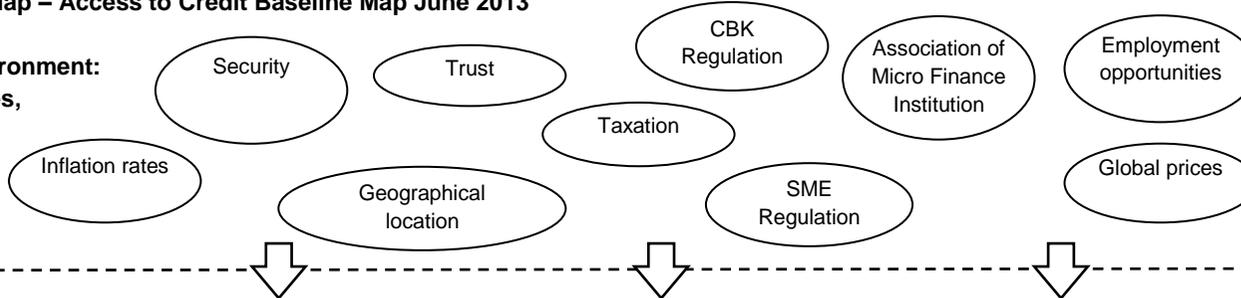
Occasionally they also receive cash credit from religious institutions of between Ksh. 100-200, at 0% interest rate.

This group does not have any regular source of income and mostly depends on gifts and donations from neighbours and friends. They cannot access credit from local small shops because they are known to lack capacity to pay. The local shops occasionally donate in kind either through giving them some food, water, or even allowing them to access toilet facilities without pay. The landlords to this group often are forced to bear with their situation and allow them to defer rent for several months, before eventually evicting them out of the houses. This group will also occasionally receive food aid from the local administration and religious institutions, if introduced by local health /social workers.

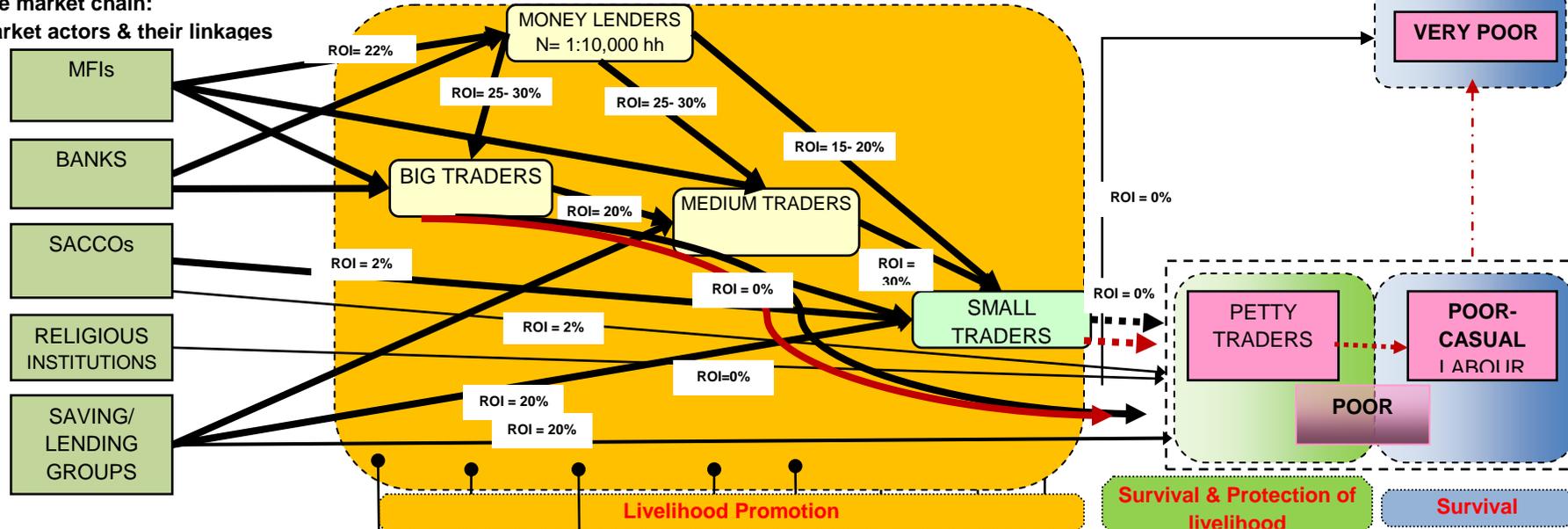
During **emergency**, this group's access to in-kind credit from the poor ceases and the only credit available to them is from the religious institutions which offer very small scale cash credit of Ksh100.

**Market-system Map – Access to Credit Baseline Map June 2013**

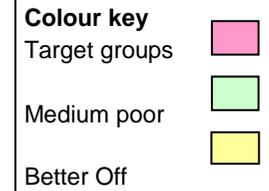
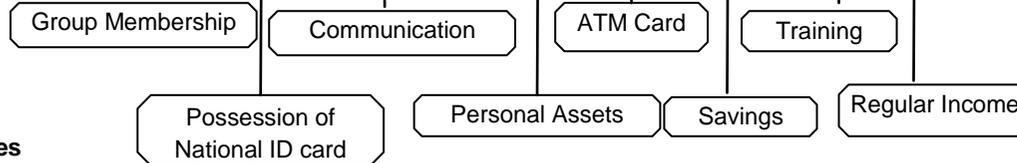
**The market environment:  
institutions, rules,  
norms & trends**



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

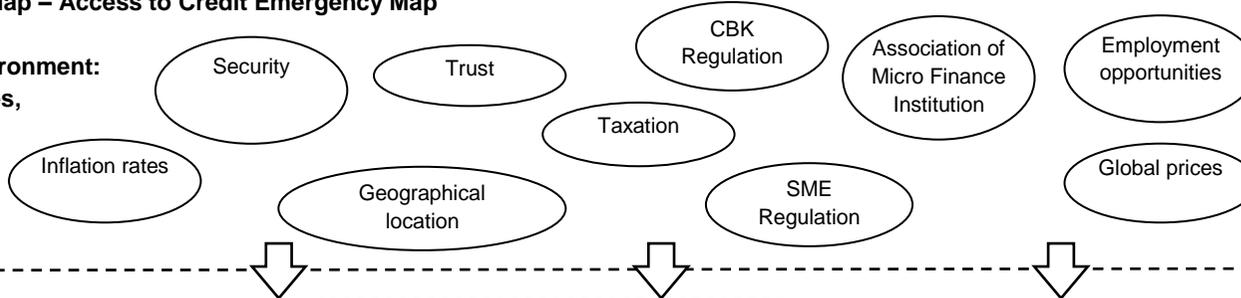


**Key infrastructure, inputs  
and market-support services**

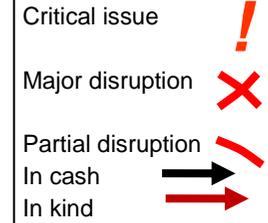


# Market-system Map – Access to Credit Emergency Map

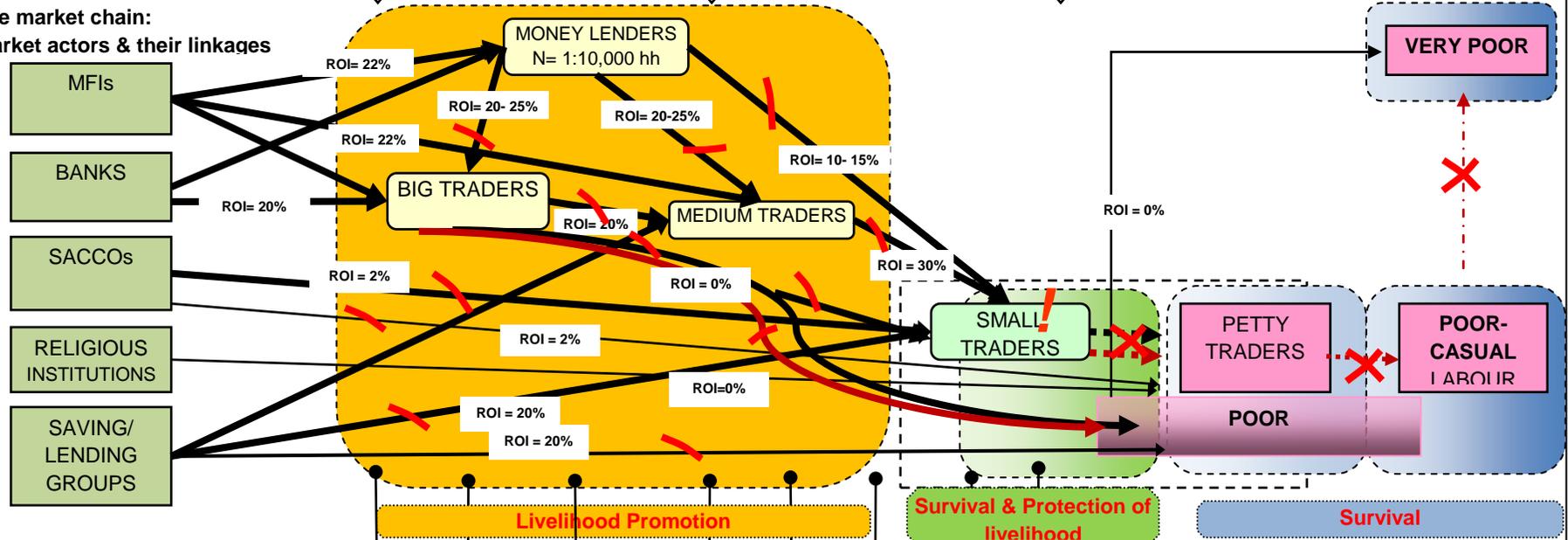
**The market environment:  
institutions, rules,  
norms & trends**



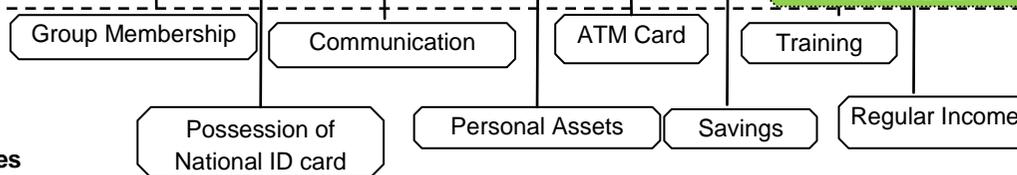
## Symbol Key



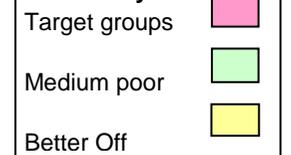
**The market chain:  
market actors & their linkages**



**Key infrastructure, inputs  
and market-support services**



## Colour key



## B. Credit Market System Key Findings

### Gap Analysis

Target group	HH in need	HH shortfall/ month	Other Aid	Total gap/ month	Likely gap duration	Preference for help
Very poor	30,000	Baseline survival (Chronic): 4000 E survival: 4000 E livelihood: : 4000+8000=12000 E Protect: ? E Prom: ?	Nil	Chronic need: 120,000,000 E Normal: 120,000,000 E Survival: 360,000,000	Baseline- 12 months Emergency - 5 crisis months	Commodity and cash
Poor	75,000	Baseline (Chronic): 5000 E Survival:5000 E Livelihood: 5000+4000=9000 E Protect: 12,000 E Prom: 17,000	Nil	Chronic need: 300,000,000 E Survival:300,000,000 E Livelihood: 675,000,000 E Protect: 900,000,000 E Prom: 1,275,000,000	Baseline: 12 months Emergency : 5 months	Cash

In order to meet the calorific requirement of Kcal 2100, a poor family of five would need Ksh 10,629 (as per August 2012 prices) per month to be able to buy an essential food basket. But in normal times what they are able to spend is Ksh 5686, which shows a chronic gap of approximately Ksh 5000 per month. This gap is reflective only of the survival need i.e food, water and cooking fuel. In order to meet the livelihood needs which includes rent, school fees, essential health services, the household would need another additional Ksh 4000. Hence the total chronic gap for meeting household survival threshold is Ksh 5000 and for meeting survival and livelihood threshold is Ksh 9000. Therefore, it clearly shows that there is a need to intervene in longer term livelihood programmes, safety nets so as to enable household's capacity to meet the basic needs. But there is clearly a gap in meeting the credit needs of the target population for livelihood promotion activities. In emergency, the immediate gap is obviously the chronic gap but also it would be articulated in terms of the price of the commodity at the time of a response.

### Market analysis

The markets have the potential to meet the gaps, but for credit market the bottleneck is more with the target population a) many do not have National ID cards, or b) do not have any assets to pledge security, c) mostly not part of any group, and d) do not have regular income sources. Thus most of the times even if there is a need they do not approach lenders as they know that they do not have the requisite documentation or the paying capacity thereby making it a demand side problem.

Due to the stringent requirements, the target population are most of the time excluded from any formal lending systems and even with the informal lending system, their access is to very small sized food or in kind credit thus making the credit market segmented.

In relation to the power and control over the credit market, it lies with the Central Bank of Kenya (CBK) that decides the lending rates and the terms and conditions. Association of Micro Finance Institutions then depending on those rates set by CBK decide their lending rates to their clients which does have an influence in terms of the lending rates decided upon by the local money lenders.

During emergency situation, the small traders are likely to be more affected in the market system. In a chronic scenario this group is just able to manage their expenditure with the income. In an emergency this group is likely to move to the wealth group lower than its current status. This is also a group that lends in kind and food credit to the target population. Thus if this group moves to the lower wealth group then the credit links will be affected severely for the target population. Reaching out to this group with a response mechanism will help to keep the credit links live and will also help in reducing the number of target population to be reached in the next crisis.

In conclusion, there are a wide range of actors already existing in the credit market system and have an existing relationship among the various actors. The actors have the capacity to expand their services both in terms of accessing and lending credit. Therefore the credit market system has the capacity to meet the needs of the target population in chronic times BUT only if the target population met the requirement. In emergency times too, the market system can cover the gaps and a market response can be designed to meet the target population's gap/needs.

### **Response Options**

<b>Response Option</b>	<b>Key Risks and assumptions</b>	<b>Timing</b>	<b>Likely effect on market system and target group</b>	<b>Indicators</b>
<b>Baseline</b>				
Advocacy with Government to implement safety nets for the very poor and poor	Government willingness and capacity to do safety net programmes	2-3 years	-Reduction in chronic poverty -Increased demand for credit and also increased purchasing power and hence need for supply system to be strengthened further to meet demands -Likely increased in number of petty traders	- No. Of poor HHs enrolled in safety net programmes -% reduction in levels of poverty -% increase in income sources and levels for poor HHs
Advocacy & lobbying with government and communities for I. D. registration	Corruption might be a deterrent for ID seekers	2-3 years	-Increased access to credit for poor and very poor HHs	- No. Of poor people with IDs - No. Of people access formal credit
Providing grants for the poor (individual and groups)	Grants misuse/fraud	1-2 years	- Reduction in poverty - Increase in capacity - Diversification of livelihoods	- No of businesses run from grants
Promotion of Group Savings and Lending for the poor HHs	GSL will lead to improved access to credit	1-2 years	- Increased access to credit - More demand for goods and services	- No. of GSL operational - %increase in repayment
Skills training for poor HHs	HHs will be interested in using skills to access/ start job opportunities Poor households would uptake skills training	1-2 years	- Increase in skilled labour - More demand for jobs - Diversification of livelihood	- % increase in skilled labour

<b>Emergency</b>				
Cash injection to the poor HHs and very poor HHs	The target HHs shall use the cash for the purpose Inflation Insecurity Market can absorb cash injection	3-6 months	- Market stimulation Increased purchasing power - Increased access to credit for the poor and the very poor HHs	- % increase in purchasing power - % reduction in poverty
Cash grants for Protection of livelihoods for small traders	Small traders are most affected Benefits for the small traders will have a ripple effect to the poor and very poor	3 months Mostly one off but with additional support on business management if need be	- Increased access to credit - Increased inter and intra household sharing	- % of small traders who maintain livelihood - No. Of poor and very poor HH accessing credit from the small traders

### **C. Credit Market Systems Main Recommendations and Conclusions**

There is a great demand for credit by the target population and the supply side has the capacity to meet the demand. One of the main reasons for the supply side not able to meet the demand is the regulations and the requirements for servicing credit. Hence to facilitate target populations access to credit, it is essential to have longer term development programmes in enabling the environment. Some of the key recommendations that the programmes should pursue during normal times are

- Advocacy with Government to implement safety nets for the very poor and poor
- Advocacy & lobbying with government and communities for I. D. registration
- Linking with institutions that could provision grants for the poor (individual and groups)
- Promotion of Group Savings and Lending for the poor HHs and very poor households
- Skills training for poor HHs

In slow on set emergencies, following response intervention is recommended

- Cash injection to the poor HHs
- Cash grants for Protection of livelihoods for small traders

## **Annex1**

### **Kenya Urban EMMA Terms of Reference**

**Assessment dates:** 3-13 June 2013

**Host agency:** Oxfam in Kenya

**Participating agencies:** Concern Worldwide, Intermon, Save the Children, Mukuru Slums Development Agency, Umande Trust, Oxfam

**Budget:** 18000 Euros

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#### **EMMA Objectives:**

- To identify through a rapid market analysis appropriate responses (cash/ in-kind/ market support/ advocacy) to meet emergency and early livelihood recovery needs.
- Strengthen Oxfam GB's national capacity in market analysis and in its use in response analysis and design as well as DRR, preparedness and contingency planning;
- To build Oxfam understands on existing coping mechanisms and to inform programming on ways of reinforcing these mechanisms.

Given that one of the key objectives is to build national capacity, Oxfam's local implementing partners MSDP, Umande Trust, Oxfam's WASH, EFSL, and support staff will take part in the response analysis and recommendations formulation, in order to ensure integration where possible.

#### **Outcomes**

- Recognise the importance of market analysis as an essential input to response analysis and be able to apply the analysis to preparedness, contingency planning and project design (CTP and /or in-kind), including DRR
- Design and carry out baseline and emergency market analysis to inform an appropriate response design for any slow onset emergency in Nairobi informal settlements as well as preparedness, contingency planning and DRR (where possible)
- Propose innovative programming combining different types of direct and indirect interventions as appropriate depending on the specific preparedness, emergency and recovery contexts, throughout the project cycle
- Identify relevant parameters to be monitored to update baseline market systems information and analysis in case of emergency to inform response design

#### **EMMA outputs**

EMMA Report with Market Maps of selected critical markets, key findings and recommendations

Key findings and recommendations will be presented on 24 January 2013 to the Country Management Team and other external stakeholders from the Urban Vulnerability Forum/Nairobi Contingency Hub.

The final report (with complete analysis and recommendations) shall be completed by Sumananjali Mohanty. Support on the write-up of any technical sections of the report shall be provided by Team Leaders/members of the EMMA assessment team.

#### **Geographical Area**

1 main geographical area of work – Mukuru informal settlement with travel to in and around Nairobi for mapping the market players

#### **Potential Critical Markets for Analysis**

Tentatively the following critical markets have been identified for potential analysis. A final decision of markets to analyse will be made on the first day of the EMMA.

- Food
- WASH
- Financial Services

## Teams

Approx 15-18 participants, with approximately 8 expatriate staffs.

All participants must be able to communicate in English and all local staffs speak Swahili.

Facilitation/training will be primarily in English.

## Duration of the assessment and working hours

- From 3rd -13th June 2013. Please see schedule below.
- Participants should be prepared for working long hours
- All participants should agree to work the length of the assessment, and without a break if necessary to ensure the work is completed on time, and to the required detail and quality. Please inform us if this is likely to be difficult or if there are any outstanding issues that need addressing

## Methodology

The assessment will use the methodology in the EMMA tool kit, comprising ten steps.

1. <i>Essential Preparation</i>	Background research; arrival; consultation with colleagues; agency mandate, target population needs & profiles
2. <i>Select Markets</i>	Selection of critical market-systems; and identification of key analytical questions for each system
3. <i>Preliminary Analysis</i>	Production of initial profiles, seasonal calendars, maps of the market-system; identification of key informants or leads.
4. <i>Fieldwork Preparation</i>	Setting the fieldwork agenda; devising interview structures & questionnaires; data-sheets and recording formats
5. <i>Fieldwork Activities</i>	Conducting the fieldwork activities – who, where, when. Section includes guidance on interview methods and tips.
6. <i>Mapping the Market</i>	Finalising baseline & emergency maps, seasonal calendars; description of key features, bottlenecks, constraints
7. <i>Gap Analysis</i>	Comparison of household economic profiles, analysis of priority needs, access and gaps
8. <i>Market Analysis</i>	Analysing impact on availability, conduct, performance, supply and demand, capacity of market-system to react
9. <i>Response Analysis</i>	Exploration of response options, cash and other intervention feasibility; response recommendations and their logic
10. <i>Communicate Results</i>	Consultation with colleagues; presenting conclusions to wider audiences (donors, agencies)

## Communications

- Most staffs have local mobile phones and these shall be used. The international staff visiting for the purpose of the EMMA, will seek the necessary local SIM cards.
- At the start of the field work, participant mobile numbers shall be collected and shared.

## Administration and resources required

The Nairobi office will need to provide the EMMA team with the necessary logistics support for the likes of renting vehicles and drivers, stationery etc.

- Office space and access to printers and photocopier
- Flip charts and stationery
- Data projector and laptop for presentation
- Refreshments during analysis and feedback sessions
- Vehicle rental
- Accommodation in Nairobi

## EMMA Report

After data collection and presentations on the final day, Sumananjali Mohanty will write the report on the EMMA conducted in Mukuru and share by August 10<sup>th</sup> 2013 (dependent on the Team Leaders contribution/input being made on time).

## Assessment Schedule

Day	Agenda	Who
Jun 3	EMMA Training	EMMA Team
Jun 4	EMMA Training	EMMA Team
Jun 5	EMMA Training	EMMA Team
Jun 6	Fieldwork	EMMA Team
Jun 7	Fieldwork	EMMA Team
Jun 8	Rest	
Jun 9	Rest	
Jun 10	Fieldwork	EMMA Team
Jun 11	Wrap-up fieldwork	EMMA Team
Jun 12	<ul style="list-style-type: none"><li>• Develop Response Options Matrix</li><li>• <i>Review Response Analysis Logic</i></li></ul>	EMMA Team
Jun 13	Develop Response Recommendations	EMMA Team
	Finalize Recommendations Report and presentation to the Country Management Team and the External Stakeholders	EMMA Team Leaders

## Participants

	Name & contact details	Organization	Position	Expat/ Local	Language
1	Laura Phelps	Oxfam GB	Global Emergency Food Security and Livelihoods Advisor and Urban Lead	Expat	English
2	Sumananjali Mohanty	Oxfam GB	Social Protection Advisor	Expat	English
3	Brian McSorley	Oxfam GB	Humanitarian Coordinator	Expat	English
4	Simeon Ogamba	Oxfam GB	WASH Advisor, ECHO consortium	Expat	English
5	Clemence Nyamandi	Oxfam GB	MEAL Coordinator	Expat	English
6	Elizabeth Gikonyo	Oxfam GB	Urban Programme Coordinator	National	English and Swahili
7	Lilyanne Ndinda	Oxfam GB	Markets and Livelihoods Officer	National	English and Swahili
8	Alice Kibisu	Oxfam GB	Logs and Admin Manager	National	English and Swahili
9	Michael Mwaura	Oxfam GB	Programme Accountant	National	English and Swahili
10	Anne Muthoni	MSDP	Programme Coordinator	National	English and Swahili
11	Aidah Binale	Umande Trust	Programme Officer	National	English and Swahili
12	Felix Maina	Youth Initiatives in Kenya	Programme Officer	National	English and Swahili
13	Bessie Nikhozi	Concern Worldwide	Asst. Programme Manager, Food Income and Markets-Nairobi	National	English and Swahili
14	Hassan Issac	Concern Worldwide	Project Officer- Livelihoods	National	English and Swahili
15	Henry Narangui	Save the Children		National	English and Swahili
16	Solomon Medhane	Intermon	FSL Coordinator	Expat	English
17	Mary Karanja	Oxfam GB	Regional EFSL Team	National	English
18	Emily Henderson (Facilitator for the Training and the Analysis Sessions)	Oxfam GB	Market Advisor- Global EFSL	Expat	English
19	Carol Brady	Oxfam GB	Communications Officer		

## Annex 2 Maize Meal Questions

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### Oral Consent

Thank you very much for your willingness to participate in our study. The goal of this study is to understand issues around livelihoods, markets and relief during periods of food insecurity in this community. We are talking to traders to see how markets are affected and respond to emergencies. Your answers will help us understand how markets impact food insecurity in this community and help us to develop better programs for poor and ultra-poor households. We are specifically interested in learning about:

- Your career as a food trader and the conditions of markets where you operate
- Your business operating costs
- Whether you think you can increase your trade in food, if there was additional demand

### Key questions:

- **What are the key parameters affecting maize meal price changes?**
- **What are the different factors which affect households from meeting their minimum maize needs?**
- **Who are the key actors and what is their behaviour / motivation?**
- **What support would small / medium / large traders and wholesalers benefit from before and during a food price crisis?**

**HH Information:** (take notes on assets (seats, TV, small gas cooker, sofa, table), electricity access)

1. Name
2. Household size
3. Number of income earners in the household
4. Are you a single headed household? M / F
5. Village
6. How long have you lived there?
7. What is your household rent?
8. What are the sources of HH income?
9. What is the total monthly income?
  - (roughly how many days do you work in a week or month –
  - how much roughly do you earn per day).
  - Roughly do you spend a day to meet your needs?
  - Are there other regular expenditures (rent etc)

### June 2013

1. Where do you currently buy maize meal from?
2. Is it white or yellow maize? (% of each if it is both, and time of year eaten)
3. What % of your meal comes from petty traders / kiosks / shops / gift / market / assemblers / brokers / small farmers / medium traders / mobile traders? (Do a proportional piling exercise if necessary)
4. Which traders do you use? (get contact telephone number and location)
5. How frequently do you currently buy maize meal (daily, weekly or monthly)?
6. How many kg do you buy at a time? (convert to kg / HH / month) How long does the amount last your household?
7. How much does the maize you buy cost? (convert to s/ kg equivalent) How does price of maize meal in your area compare to other market centers and settlements?
8. Does the price of maize increase if you buy it on credit rather than pay cash?
9. Which factors currently affect quantity, price and general access of maize meal? How do you cope with above mentioned factors?
10. What do you (and other household members) do to get income to enable you purchase maize meal and other basic household needs? (convert to monthly income)



### Questions for medium wholesalers

**Name:**

**Telephone number:**

**Location:**

1. How many medium wholesalers engage in the maize (both grains and maize meal) trade? How many of these traders supply specifically Mukuru slum small scale traders/dwellers with maize (grains and maize meal)?
2. In which space do the medium wholesalers operate within the Maize market (can be the Nairobi market, Mukuru slum market)?
3. Where does the power lie in the market chain? Is it with the millers or brokers?
4. Who decides upon the price?
5. Where do you source your maize (grains and maize meal) from? At what price do you get (1kg maize grains/90kg bag of grains; 1kg parcel/24 kg bale maize meal)? How much do you sell at? Is the price constant throughout the year or is there seasonality in price changes? If yes, what do you think causes the price changes in seasonality?
6. Who are your main customers? What is the estimated volume of sale for maize (grains and maize meal) per month (taking the year 2012 and 2011 separately)? Is there seasonality to the volumes of sales per month? If yes, what do you think causes this change?
7. Who are your main (1<sup>st</sup> choice, 2<sup>nd</sup> choice, 3<sup>rd</sup> choice- each with supply price for maize- grains and maize meal) suppliers? If the demand increased could you increase your supply?
8. What mode of transport do you use to get supplies? What mode of transport do you use to deliver supplies to customers? Where do you store your supplies?
9. Do you sell on credit/cash? Do you get supplies on credit or cash?
10. What is your main source of credit? Do you have insurance cover for the maize (grains and maize meal) trade?
11. What are some of the factors that influence the price at which you sell maize (grains/maize meal)?
12. What are some of the key challenges you face in the maize (grains and maize meal trade) regarding the (Nairobi/Mukuru slums market)?

### Maize millers

**Name:**

**Telephone number:**

**Location:**

1. How many Maize Millers are there who directly supply maize meal to Mukuru slums?
2. Where do you source supplies (grains) from? What is the daily/monthly/annual production capacity of maize meal? (Any statistics for the past 3 years)? At what price do you source maize (90 kg bag)?
3. Who are your main customers? Is there an estimated number of your direct customers (medium wholesalers, small scale traders, any other)? What is the price of 24 kg bale of maize meal? Does price change depending on amount/bulk bought? If the demand increased could you increase your supply?
4. Is there any policy regulating production of maize meal? Regulating minimum/maximum prices?
5. What mode of transport do you use to get supplies? What mode of transport is used for delivering supplies? What storage space do you use?
6. What are some of the key challenges you face in the maize (grains and maize meal trade)?

### QUESTIONS TO ASK FARMERS (LOCAL TRADERS)

**Name:**

**Telephone number:**

**Location:**

1. How is your business doing? How do crises affect your business?
2. How much are you selling the maize for since the crises began and how much was it initially before the crises?
3. Who are your customers? What are their characteristics? how much do they consume per week?
4. How many customers do you have?
5. How many sales did you have at a similar time of the year before the crises?
6. How has the crises affected the customers demand for the maize?
7. Before the crises, did you give any of your customers any credit?
8. What are the major costs that incur in your business apart from purchasing supplies?

9. What impact has the crisis had on this costs?
10. Which other traders are selling maize in the same local area as you? Who are your competitors?
11. What do you estimate to be your share of the total market in the area that you serve?
12. Are there areas that are not getting regular market supplies? If so, why?
13. Do laws, formal rules or regulations have any influence on maize distribution?
14. Are there any restrictions on where you can sell your goods? e.g. market regulations
15. What do you think can be done to create a sustainable solution for these problems especially in times of crises?
16. Describe for us how this maize product gets to the market?
17. What functions do this people or companies perform in the chain?
18. Are there any important services provided by donors or government to make the market chain feasible?
19. Which months have the highest demand and the lowest demand in a normal year and what are the prices?
20. Are there any point in the supply that other actors eg (NCPB ) are able to dominate or control your supplies and thus set the price of the goods?
21. Do the seasonal prices affect other areas?
22. Are there particular market actors that are affected in times of crises?
23. Are there any business cost that have incurred in times of crises?(eg fuel, storage, goods, labour)
24. How have you learnt to overcome the challenges in times of crises?
25. Are there customers that would be difficult to supply during crises due to weak infrastructure, poor roads?
26. Where would you source extra supplies if necessary?
27. If greater demand in the emergency zones were guaranteed, to what extent would you be able to increase supplies in the affected area?

**NCPB / Brokers:**

1. Who are the main suppliers? Who else is supplied by these suppliers?
2. Do they supply enough volumes? Volumes moved seasonally?
3. The main customers? Who else supplies them?
4. Are the supplies sufficient?
5. Does this change with seasons?
6. Does this change during times of shortage?
7. Links in and out of the warehouses?
8. Does the warehousing process outlined above apply/work in the same way in times of shortage?(Questions asked for normal times and times of shortage reference to 2011)
9. Where are the main markets for maize in Nairobi?
10. Is NCPB the only distributor in their depos?
11. Maize price regulations and policies in place?
12. What are the Network bottlenecks?

### Annex 3: Water Market Questionnaires

INTERVIEWER.....INTERVIEWEE.....CONTACT OF  
 INTERVIEWEE.....

#### **WATER VENDOR (PRIVATE KIOSK, CBO KIOSK, CART)**

1. Name of Kiosk .....GPS coordinates.....
2. Ownership (Private, CBO, leased, other).....
3. Source of water to the kiosk.....Price at the source (KES).....
4. Are there conditions regarding accessing water at the source? (credit/cash/licence) .....
5. Is the kiosk licensed (Y/S) .....if yes by whom.....
6. Number of kiosks within the locality (village).....
7. Is there an association that registers water vendors (Y/N).....?
8. If 7 above is yes, what is the name of the association.....how many members does it have.....and what does it entail to be a member of the association (e.g. licence, registration fee, connection to NWSC).....
9. Are there rule and regulations governing water vendors?.....
10. Average number of consumers supplied per day.....Total volume sold (litres) .....
11. Price of water per 20litre jerrican (KES) Normal.....Emergency/Crisis.....
12. Who fixes the prices.....
13. Average revenue collected per day (KES) Normal.....Emergency/Crisis.....
14. On average, what do spend per month/day (KES).....and on what.....
15. Reliability of water supply: How many days per week/month do you have water?.....
16. What affects supply of water.....
17. Type of storage available (PVC tanks, elevated steel tanks, stone masonry tanks etc).....
18. Total available storage at the Kiosks (Litres).....
19. How would you rank a majority of your customers (poor, very poor, rich.....). this can be subjective?.....How is the quality of your water?.....
20. Do you supply water on credit? (Y/N) if yes under what terms.....How much credit do you have at the moment (KES).....No. of people.....Credit seasonality.....
21. Are there HHs or customers who are discounted or who receive water for free? (Y/N) if yes how many?.....and why.....
22. Do you face any constraints in your job?.....and how do you cope.....  
 .....  
 .....  
 .....  
 (probe on expandability, also ask about illegal connections)
23. How often do you engage with officers from NWSC/WRMA/MoWI.....and what support do you receive from these bodies?.....
24. Are you receiving support from any other agency apart from the ones mentioned above?.....
25. Are you aware of the Water Act and the different roles of different water agencies?.....
26. What improvements would you recommend for your water supply system?.....  
 .....  
 .....

**Household Questionnaire**

**Name of respondent:**

**Telephone number:**

**Rent amount:**

**Assets: (tick) sofa:**

**TV:**

**Cooking equipment:**

**Electricity:**

- How many members are you in this household? Male \_\_\_\_\_ Female \_\_\_\_\_
- How much water do you buy per day?

Use of water	Amount used
1. Cooking	
2. Washing	
3. Drinking	
4. Others	

- Is this water sufficient? please explain \_\_\_\_\_  
\_\_\_\_\_

- Who has the responsibility of collecting water in your household? \_\_\_\_\_
- How many water points do you have access to? please indicate name and distance
  - Water point 1 \_\_\_\_\_
  - Water point 2 \_\_\_\_\_
  - Water point 3 \_\_\_\_\_
  - Other \_\_\_\_\_
- Which water source do you prefer and why? \_\_\_\_\_

- How much time do you spend collecting water each day in normal times? \_\_\_\_\_  
\_\_\_\_\_ in crisis/emergency? \_\_\_\_\_
- From when to when do you use each of the water sources mentioned during a normal year 2013? (FILL TABLE BELOW)

Normal Year 2013	J	F	M	A	M	J	J	A	S	O	N	D
Source of water 1: _____												
Source of water 2: _____												
Source of water 3: _____												
Source of water 4: _____												

- What are the different sources of water per season used during 2011 when food prices were high? (FILL TABLE BELOW)

Emergency Year (2011)	J	F	M	A	M	J	J	A	S	O	N	D
Source 1: _____												
Source 2: _____												
Source 3: _____												
Source 4: _____												

- Is water available at all times of the year? (seasonal factors) Please explain \_\_\_\_\_  
\_\_\_\_\_

- How much do you pay for a 20 litre jerry can of water? Please indicate cost from different sources

Source	Normal	Crisis/emergency
Source 1 _____		
Source 2 _____		
Source 3 _____		

12. What determines the price of water? \_\_\_\_\_
13. How do you pay for the water? Cash or on credit? please explain the terms of the credit  
\_\_\_\_\_
14. What is your average household (male/female) income per day?  
\_\_\_\_\_
15. What is your average daily household expenditure? (food, water, fuel, other)  
\_\_\_\_\_
16. What challenges do you face in accessing water and how do you cope with them? \_\_\_\_\_  
\_\_\_\_\_
17. Do you think your water is of good quality? Normal \_\_\_\_\_Emergency \_\_\_\_\_
18. In the last 2 weeks has anyone in your household been sick from diarrhoea? If yes how many people? \_\_\_\_\_
19. Do you do anything to the water to improve its quality? Please explain \_\_\_\_\_  
\_\_\_\_\_
20. Are you receiving any support currently? Please explain type of support, from whom and for how long. \_\_\_\_\_  
\_\_\_\_\_
21. Do you have any knowledge on water policy and regulations? please explain \_\_\_\_\_  
\_\_\_\_\_
22. What do you think should be done to improve access to water (quantity and quality)?  
\_\_\_\_\_  
\_\_\_\_\_

### **Questions for the water truckers**

1. How long have you been in the water trucking business?
  - How many trucks do you own?
  - What is the capacity of your truck(s)?
  - What did you use them for throughout the year?
  - Did you use them for water trucking outside Kwa Rueben/Kwa Njenga.
2. Who are your water customers during the:
  - a. Normal season June 2013 and how many?
  - b. Emergency period of July 2009 and how many?
3. How much water did you deliver per day?
  - Normal Season June 2013
  - Emergency July 2009
4. Where did you get this water from?
  - Normal Season June 2013
  - Emergency July 2009
5.
  - a) What is the maximum capacity that you could scale up to?
  - b) What factors limited your capacity to scale up if the extra demand exists?
    - Normal Season June 2013
    - Emergency June 2009
6.
  - a) How much did you charge for water and on what basis?
    - Normal Season June 2013
    - Emergency Season July 2009
  - b) What affects that price? (road, fuel, NGOs)
7. Who are the customers that buy big volumes and how much did you charge?
  - a. Normal Season July 2013
  - b. Emergency July 2009
8.
  - a) Are you aware of other ways of organizing payment for water e.g. through the provision of water vouchers to consumers? (May need to explain the concept of voucher system). Do you think you could work with this kind of system?
  - c) What do you see as the advantages and disadvantages of this type of a system (for yourself and the community)?
9.
  - a) What's the furthest distance that you go to deliver water?
    - Normal Season June 2013
    - Emergency July 2009
  - b) Are there any areas that you can't or won't go to?
    - Normal Season June 2013
    - Emergency July 2009
10. How did the emergency affect your business (price, costs, volumes etc)?
11.
  - a) Who are your other competitors in the water trucking market (individuals, groups or NGOs or Govt)?
    - Normal Season June 2013
    - Emergency July 2009
  - b) How did you compete or collaborate with them?
    - Normal Season June 2013
    - Emergency July 2009
12. What are the main problems you faced in your business?
  - a. Normal Season June 2013
  - b. Emergency July 2009
13. What motivates you to stay in water trucking business?
14. Are there any laws or regulations that affect your business, if yes how did they affect you?
  - a. Normal Season June 2013
  - b. Emergency July 2009

### **NWSC Interview**

1. Number of customers/connections for entire of Nairobi County
2. Number of customers/connections in the informal settlement
3. Volume of water supplied per day for Nairobi County (is the water enough to meet all demands?), if not what is the deficit?
4. Volume of water supplied per day for informal settlement
5. What are the requirements for one to have an Individual Connection
6. What are the requirements to set-up a water kiosk
7. What is the price of water KES/M3 to individual connections? Water kiosks?
8. What is the number of legal/licensed water vendors in the informal settlement? How many are currently functioning? (we can ask this on Mukuru Kwa Njenga, Kwa Ruben, Lunga Lunga)
9. Pressure and volume of water reaching the informal settlement is very low forcing water vendors to incur extra cost on pumping water to their tanks. These contributes to the cost of water, are there plans to solve this problem?
10. What is the volume of the unaccounted for water per day/week/month/year?
11. What percentage of the unaccounted for water is attributed to the informal settlement? What are you doing to minimize this?
12. In the informal settlement, the water quality reaching the kiosks is compromised, are there any plans to improve on that? What are these plans?
13. What challenges are you facing in supplying water in the informal settlement
14. During the emergency (July, August 2009) your organization trucked water to various estates within Nairobi County, how was water accessed by the different groups? How did you do your targeting, what was the source of your water then, how did you ensure quality of water supplied was not compromised, how many trucks were dedicated to the informal settlement? What volume was supplied to the informal settlement, what volume was accessed per HHs, what was the cost of water? ETC

## Annex 4: Credit Data collection tools

### Retailers/Traders Questionnaire

1. Name
2. Village
3. Telephone
4. Type of trade
5. Family size
6. Monthly income
7. Monthly expenditure
8. Who are the target clients? And why do they choose them
9. Who else approach them that they do not give credit to and why?
10. How many people/institutions are you serving? How many people abide /default each month?
11. What happens when people default?
12. What is the scale (volume) of lending (monthly)?
13. What are the terms and conditions at which you lend?
  - a. Security/mortgage
  - b. Documentation
  - c. Payment rate
  - d. Methods- kind/cash
  - e. Duration
  - f. Credit limit pegged on what
  - g. others
14. Which are the peak lending seasons?
15. Are the lending rates different in those months? If yes what
16. What are the risks involved in lending to target community? What are the risks to work with others beyond the target group?
17. What are the sources of your lending funds?
18. How many more people in your locality provide similar credit facility to the target community that you service?
19. Do you also borrow or take credit from other sources? If yes, who are they? What are their terms and conditions? What is the credit that you owe as of this month?
20. What affects your ability to access credit? and give credit?
  - a. Regulations
  - b. Social norms/ cultural practices/religious belief
  - c. Infrastructure
21. What happens in an emergency for eg in 2011 food price rise, did more people approach you for credit? If yes how many more?
22. What was their individual need and purpose?
23. Were you able to support them with the credit?
24. How many more people were you able to support and with what quantity?
25. What were the terms and conditions that you would lend at in an emergency period?
26. Does any factor affect your ability to access credit during the emergency time? If so what?
27. What would be your ideal capacity to lend (cash/ kind)?
28. What would be your expansion capacity?

## Household Questionnaire

### HH Information:

1. Name
2. Household size
3. Number of income earners in the household
4. Village
5. How long have you lived there?
6. What are the sources of HH income?
7. What is the total monthly income?
  - a. (roughly how many days do you work in a week or month –
  - b. how much roughly do you earn per day).
8. Monthly expenditure
  - a. Roughly do you spend a day to meet your needs?
  - b. Are there other regular expenditures (rent etc)

Now	Emergency – food price increases like June 2011	Ideal times

### Note to interviewer - Calculate difference between Income and expenditure

#### Access to Credit

1. Point gap out and ask – how do you meet the additional expenditure? Do you take loans or get credit? How much?
2. Do you receive credit in cash or in kind or both?
3. Who gives you the credit and for what purposes? What are the terms and conditions? What happens if you don't repay? Over the years has the number of people that you can approach to get credit increased or decreased and why?
4. Are you able to access enough credit to meet your needs? Why/why not?
5. What other sources of credit are available to you? What are their terms and conditions and for what purposes? These include:
  - a. Bigger retailers?
  - b. Smaller retailers
  - c. Water vendors
  - d. Vegetable vendor
  - e. Fuel
  - f. Waste
  - g. electricity
6. Would you approach these sources to get credit? Why/why not?
7. What is the best available source of credit to you? Why?
  - a. Flexibility
  - b. Rates
  - c. What constraints
  - d. Gender issues
  - e. Socio-cultural and religious issues
8. What terms and conditions are particularly good?
9. Are there other sources of credit that aren't available to you? Why/why not?
10. When are the times that you need credit most? Is it available to you? Is it available at good rates?
11. Are there times when the lending rates go higher? Why?
12. Who in the HH can most easily access credit (man/woman)?

Now	Emergency – food price increases like June 2011	Ideal times

**Questionnaire for final day of market assessment**

**Questions for giving credit**

1. Number of people you lend to (number of actors = N)
2. How much do you lend to each person on average – and for what purpose (Volume = V)
3. What is your rate of interest (for different purposes, for different groups) (ROI and include terms and conditions)
4. What is the payback time? Do your rates change?
5. How many more people like you are there in this area? Ask for specifics – village, smaller location (ask for rough estimate of households)
6. Do you access credit? If so answer below

**Questions for accessing credit**

1. Where do you access credit? Ask for each source if more than one
2. How many actors like this are in the area? Ask for each source if more than one
3. How much do you borrow?
4. What are the terms and conditions? Rate of interest, payback time
5. What is your preferred source of credit

**Ask each question for baseline and emergency times. Record the quantitative data on the map – on each arrow, showing the relationship, i.e.**

