

## SEED SYSTEM ASSESSMENT (SSA) IN THE MIDDLE SHEBELLE REGION, SOMALIA

AUGUST 2022

the required standard seed production, processing, and certification systems.



### Rationale of the study

The increasing agricultural productivity of the country's crop producers requires a well-functioning seed system. A *well-functioning seed system is one that uses the appropriate combination of formal and informal channels to efficiently meet farmers' demands for quality seeds of suitable crop varieties*. Recurrent droughts and floods, as well as crop failures, particularly in the last few years in the country, are claimed to have affected the formal and informal seed industries.

### INTRODUCTION

Agriculture is the mainstay of the economy of Somalia, contributing more than 65% of the national GDP from domestic distribution and exports. More than 80% of the livelihoods of the population depend directly or indirectly on agriculture. Somalia's agriculture consists of both riverine and rainfed areas, with the latter being dependent on the bimodal rainfall in most parts of the country. It's predominantly small-scale farming, with less ability to produce enough supplies of agricultural products for the country.

Basically, the informal seed systems, which account for more than 95% of the entire seed business sector, are what local farmers in Somalia rely on in addition to the rudimentary formal seed system. New private enterprises that serve the formal seed sectors have just recently entered the market, and their capacity is very limited to meet the demands of the farmers in the agricultural sector as well as to

Although the liberalization of the seed industry only happened over the past three decades, particularly following the fall of the Central government in 1991, the few extant and dysfunctional seed enterprises, particularly in the grain production sector, including Filsan, CSET Darussalam, Horn Agro, etc only started to exist around five years ago. Due to the rudimentary governmental processes in the country, access to better seeds and planting materials by farmers by the current weak legislative and regulatory framework in the seed sector has remained a big challenge. Efforts by humanitarian actors, including Mercy Corps (MC), to improve the availability and access to quality seed of locally adopted crop varieties by marginal farming households have been focusing on providing seed mainly cereals like maize and other crops such as sorghum and cowpeas.

Even though this is well acknowledged, relatively little work has been done to investigate how various types of stress, such as

drought and flooding, may affect farmers' access to seeds in their agricultural areas of the country, Somalia. This makes it imperative to assess the dynamics of seed security to inform current and future program

### **Study objectives:**

The main objective of the assessment was to assess the current seed security situation among farming households within the target area based on the elements of the seed security conceptual framework (SSCF): availability, access, varietal suitability, and seed quality; and to provide a comprehensive information base (report) from which to design appropriate seed system support interventions in Somalia aimed at promoting agricultural growth and seed security.

### **Methodology:**

This seed security assessment (SSA) used a combination of primary and secondary data collection techniques in the two districts. A total of 12 villages were purposively selected to represent the whole region of the Middle Shebelle, which has been receiving seed aid over the years. A total of 39 households/farmers and 7 agro-input dealers were interviewed (KII).

Additionally, two focus group discussions (FGD) including seed input suppliers, farmers and village local authorities were held with members of the communities, comprising 189 individuals. Data relating to households (HH or farmers) and local agro-dealers was collected using structured questionnaires which were pre-installed in ODKs (Open Data Kits) and distributed to the Mercy Corps staff. This was done only after the respective staff in the different study zones were intensively trained

regarding the input and manipulation of the data in the ODKs.

The key informants were composed basically of farmers (HH) who practically grow food crops, mainly maize, sorghum, cowpeas, and rice, as well as agro-dealers, particularly seed traders, who are in the business hub of the crop seeds in the target areas.

### **Study Findings**

- ❖ Out of the respondents interviewed, 60.3% were males and 39.7% females.
- ❖ Majority of the respondent interviewed 86% are household heads 43% being females and 57% being males.
- ❖ 85% of the farmers interviewed own atleast two hectares of farm land.
- ❖ Maize, Sorghum and Cowpeas were the commonly grown crops with half 51% of the farmers stating that they produced a good yield of maize with a range of 7–20 quintals per hectare. This is mainly it is the most crop used by the community, drought and disease resistant.
- ❖ Few farmers 23% compared to 77% reported to have used inorganic fertilizers for farming.
- ❖ Only 31% of farmers used pesticides on their crops during the previous season.
- ❖ On average, 3 different crops were planted by farmers in the previous season.

- ❖ Drought and floods are reported as the major Constraints to agricultural production- last five years

## PART I. SEED SOURCES FOR CROPS GROWN LAST MAJOR SEASON: (April-June 2022)

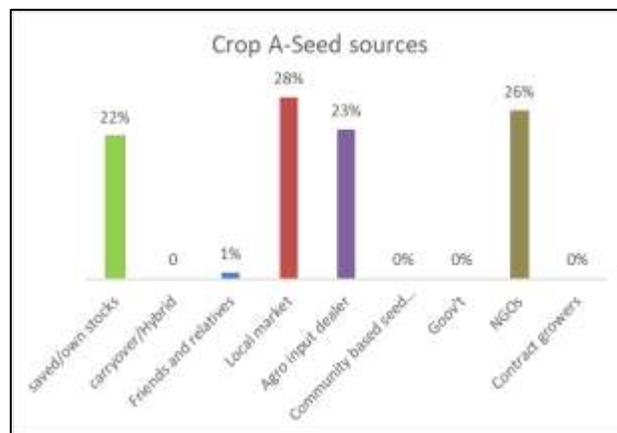
### Most important crops planted by farmers

When asked to rank the most planted type of crops by farmers, maize, Sorghum and Cowpeas was indicated as their first, second and third most important crop respectively.

### A: Sources of first/ most important seeds planted

The main seed source for crop A (Maize) indicated by farmers includes purchase from the local market (28%), free distribution by NGOs (26%) and agro input dealers (23%). Additionally, 22% of the farmers indicated to have used their own saved stock from the previous harvest. The analysis indicated that no farmer accessed any seeds from government, contract growers or community-based seed groups. most predominant seed varieties preferred by farmers includes; Maize-(*red-cob maize* and *white-cob maize*), sorghum-(*red sorghum* and *white sorghum*) and Cowpea-(*Vigna unguiculata*).

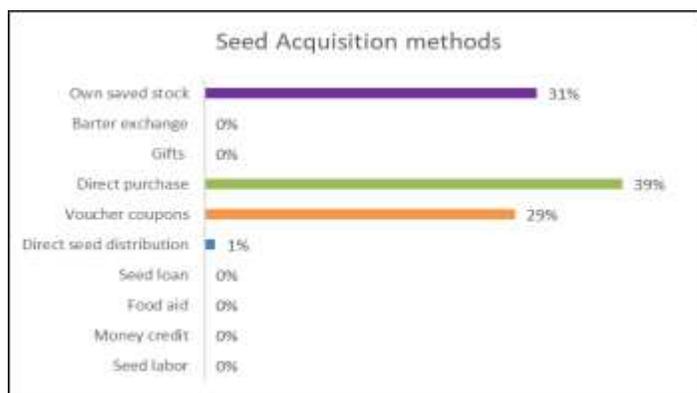
**Fig 1. Sources of crop A seeds**



### How crop A seeds were acquired by farmers

The analysis further indicated that an average of 18Kilograms were planted by farmers with minimum of 1Kilogram and maximum of 50Kilograms planted. When probed regarding the quantity of seeds they normally plant in such a season, the farmers indicated an average of 23Kg with minimum of 2kilograms and maximum of 52kilograms as per fig 2 below.

**Fig 2. Acquisition of crop A seeds**



### Quality of crop A seeds received/planted

In general, seed from agro-input dealers and seed aid were regarded as clean and having good germination by roughly half of the farmers 51%, while seed from the local market and

farmers' own saved seed were regarded as clean by only 49% of the farmers.

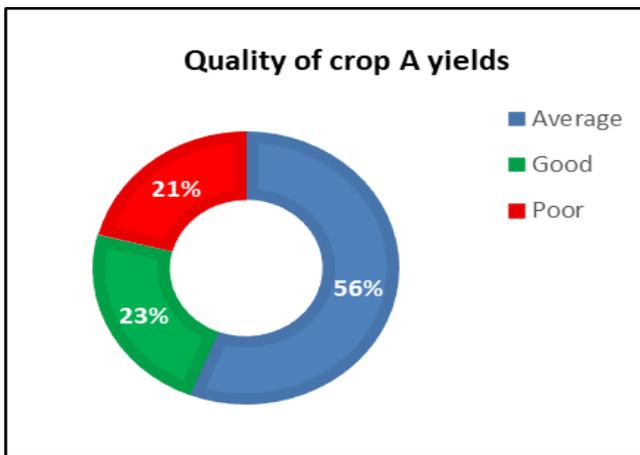
The agro-dealers and seed-aid agencies favor procuring treated and conditioned seeds from private seed companies that are registered in the local governmental system.

The seed companies provide a well-built warehouse appropriate for seed storage. In contrast to this, the farmers, and those small-businesses in the local (not agro-dealers) keep their seeds in inappropriate conditions, which favor insect pests, molds, and rodents, which destroy the seeds, affecting the quality.

### Quality of Crop A Seed yields

When asked about the yields from the different seeds planted, 56% indicated that yields were average and 23% indicated that it was good. However, 21% still indicated that the yields were poor.

**Fig 3: Quality of seed yields**



### B. Sources of second most important seeds planted (CROP B)

The main source of second crop includes local market 27%, NGOs 26%, Own stock 24% and Agro inputs 22%. Very few farmers indicated their social networks -friend and family 1% with govern, carry overs, and contract growers not being an option.

### How crop B seeds were acquired by farmers

Most of the farmers assessed indicated that they acquired their second most seeds through purchase from the market 40%, saved own stock 33% and voucher coupons 25%, with small percentage 2% indicating that they acquired their second most seeds from direct distribution.

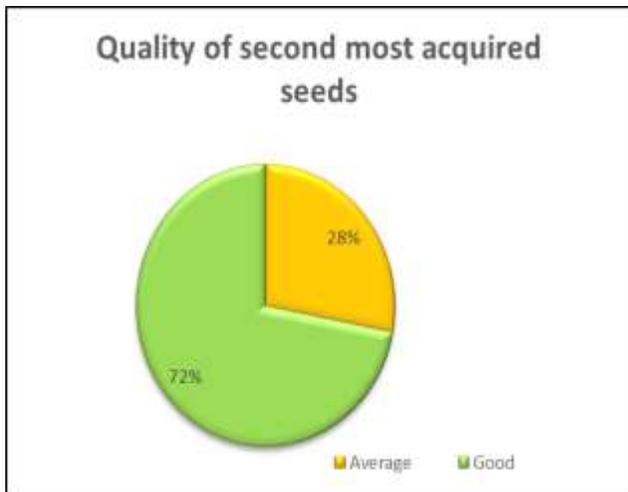
### Quality of crop B seeds received/planted

The assessment findings indicate a reduction in the minimum quantity of the second most crop planted by farmers from 1 in first crop to zero while the maximum quantity remained at 50 kilograms.

### Quality of second most crop (Crop B) planted

More farmers 72% indicated that the quality of the second most crop seeds acquired was good while 28% indicated that it was average.

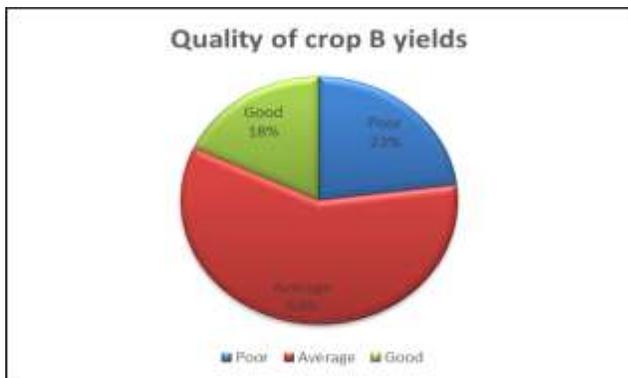
**Fig 4: Quality of second most seeds acquired**



### Quality of planted Crop B yields

Most farmers 59% indicated that the quality of crop B yields was average, 23% poor with only 18% indicating that the quality of the crop yield is good.

**Fig 5: Quality of seed yields**



## Part II: SEED SOURCES NEXT MAJOR SEASON (2022-2023)

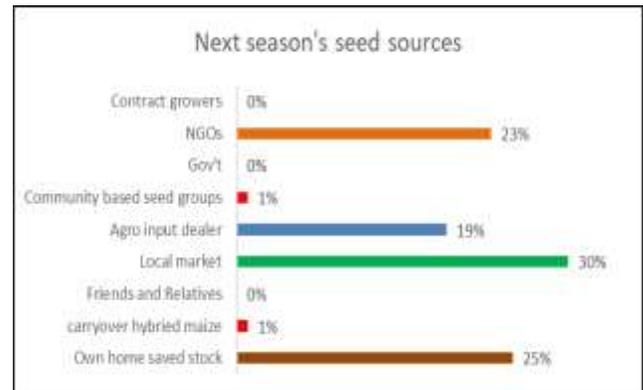
### Planned seeds for next season

Farmers were asked to state their seed plan for the following season in order of their importance. More farmers 51% indicated that they will plan Maize, Cow peas and Sorghum,

with few 3% indicating that they plan to plant maize only.

The major sources of next year's seeds includes local market 30%, own save stock 25%, NGOs 23% and agro-input dealers 19%. Friends and relative, government and contract growers account for less that 2% of the seed sources for the following season as indicated in the figure below.

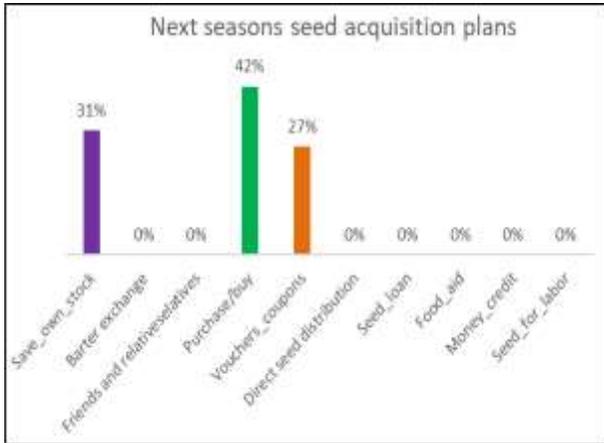
**Fig 6: Next season's seed sources.**



### Next seasons seed acquisition plans

The sampled participants were asked to state how they will acquire their seed for next season. The main option indicated include direct purchase 42%, own stock 31% and voucher coupons 27% while friends and relatives, barter exchange, direct distribution, seed loan, money credit and seeds for labor were all not part of the farmers plans, as indicated in the figure below.

**Fig 7. Next seasons seed acquisition plans**



On average, farmer’s plans to plant 26Kgs of their seeds next season with the highest and lowest being 2Kgs and 65kgs respectively. The seed plans for next season are not any different from the usual or normal quantities planted by farmers in the previous seasons. This demonstrates the resilience the farmers have amidst the ongoing droughts.

### PART III: INPUT USE – FERTILIZER, MANURE/ COMPOST, AND STORAGE CHEMICALS

#### Use of mineral fertilizers and Composts.

Fertilizer use last season was below average. Few farmers 23% reportedly used fertilizers with the majority 77% indicating that they didn’t use any fertilizer in their gardens the last season. When probed on why they never used fertilizers last season, the top ranked reasons include not available in the market 45%, high costs 19% and lack of proper equipment’s like sprayers 14%. Other reasons include not being necessary for them 12%, toxic to the soils 8% and use of IPM at 2%.

**Fig 8: Use of mineral fertilizers last season.**



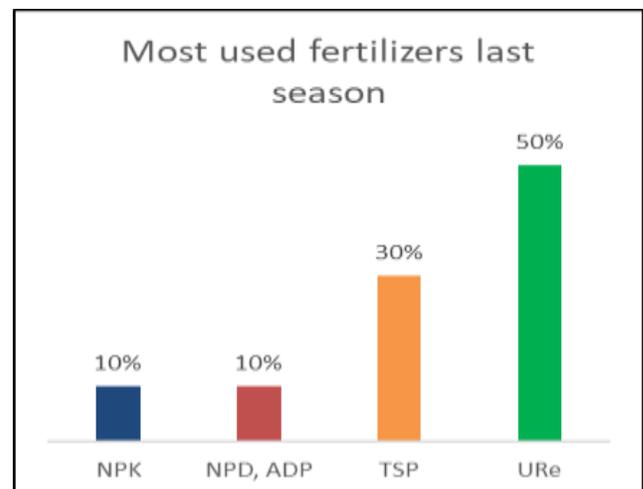
#### Priority crops for fertilizer use

The major crops to which farmers prioritized fertilizer use includes maize, sorghum and cowpeas 67%, with 20% stating that they applied fertilizers to all crops (Maize, Sorghum, cowpeas, rice etc.).

#### Types of fertilizers used last season

The main fertilizer used by farmers last season includes URe 50% and TSP 30% with both NPK, NDP/ADP ranked lowest at 10% as shown in the figure above.

**Fig 9: Most used fertilizers last season**

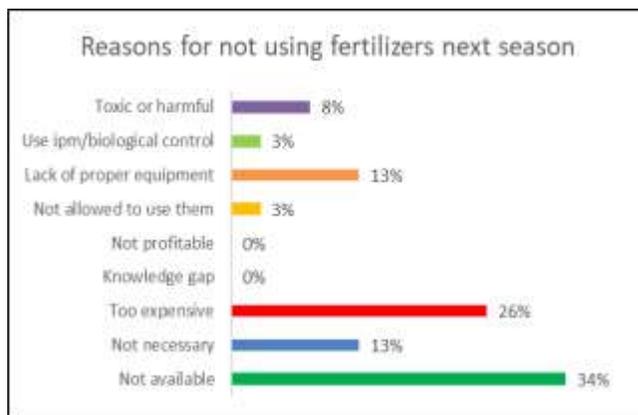


## Farmers plans for fertilizers next season

When asked of their plans next season, only 44% farmers that they plan to use fertilizers with more farmers 56% having no plans to use fertilizers next season. The main priority crops farmers will apply fertilizers to includes maize, sorghum and cowpeas ranked at 63%, and all the crops at 19%.

The main reasons for not using fertilizers next season includes, not available 34%, too expensive 26%, lack of proper equipment and not necessary at 13% respectively as indicated in the figure below.

**Fig 10: Reasons for not using fertilizers next season**

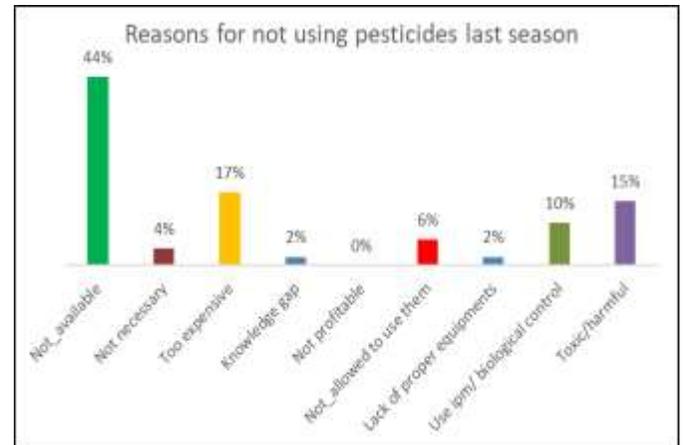


## Use of Pesticides:

Pesticides are critical component in preventing crop infestation by pests and diseases, hence maximizing yields. When farmers were asked if they used pesticides during the last planting season, only 31% indicated to have used pesticides compared to 69%, and was applied to maize, sorghum, cowpeas and rice.

The main reasons for limited uptake of pesticides last planting season by farmers includes unavailability 44%, too expensive 17%, toxic or harmful 15% and use of biological control 10% as indicated in the figure below,

**Fig 11: Reasons for not using pesticides last planting season.**

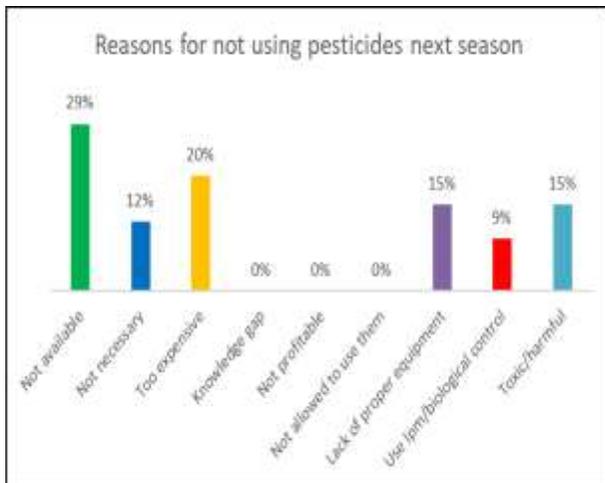


## Next seasons plans for pesticides

The assessment findings indicate that only 46% of the farmers have plans of using pesticides next planting season compared to 54% who indicated having no plans to use the chemical.

The main reasons highlighted by most farmers includes, for not utilizing pesticides next season includes not available 29%, very expensive 20% lack of equipment and toxic at 15% and not necessary at 12%. Use of biological control was among the least mentioned at less than 10% as per the figure below.

**Fig 12: Reasons for not using Pesticides nest season**



### Use of composite manure

The majority 65% compared to 35% reported to have used composite manure last season, with less than half 39% indicating plans to use the same next season. The major reason for low utilization by farmers includes not available 58%, not necessary and biological control use at 15% respectively. Lack of proper equipment, knowledge gap and high costs accounted for 4% respectively.

The main type of compost manure used by majority farmers includes compost from small animals 56%, and large animal 38%, with very few 8% reporting to have used crop field residue.

### Use of storage chemicals

The assessment indicated that only 3% of the farmers used storage chemicals to preserve their harvest during the last season. The main reasons for the low uptake of storage chemicals by farmers includes not available 51%, toxic/harmful 23%. High costs 8% and lack of proper equipment's were raked at 8% with the chemical not being necessary 6% and use of

biological methods 4% were equally indicated being contributing factors to the low uptake.

### Seed storage loss

When farmers were asked if they had lost their seeds between January and July 2022, a total of 26% indicated that they lost part of their seeds while 74% indicated that they never lost their seeds in the above period. This mainly applies to all crops (Maize, Sorghum, Cowpeas and Rice), with an average loss of 45% of the farmer's stock.

## PART IV. ACCESS TO NEW VARIETIES

In the last 5 years, 67% of the farmers reportedly received new varieties with an average of two (2) varieties per farmer. The seed varieties received by farmers includes cucumber, maize, Sorghum, cowpeas, hot paper, Okra etc.

The main three sources of these seed varieties includes, agro-input dealers 45%, NGOs 35%, and local market 12%. Notably, over 70% of the farmers indicated that they are still sowing the above seeds. When asked how they acquired their new seed varieties, 56% indicated that they purchased directly and 46% indicated that they used voucher coupons.

## PART V. SEED AID

In the last five years, 93% of the farmers reported to have received food aid from NGOs/FAO with an average of two times per farmer delivered mainly through two channels between 2017 and 2022. Of the famers who received food aid, majority reported to have obtained them through Vouchers and fairs 97%, and free or direct distribution 3% .

## CONCLUSION AND RECOMMENDATION

The Seed System Assessment conducted by Mercy Corps in the Middle Shebelle region reveals that the farmers have multiple sources of seeds, with the major ones being their own saved seeds, local markets, seed aid by humanitarian agencies, agro-input dealers, and private seed companies.

Although the private companies have few or no branches spread across the assessment localities, it's undoubtedly believed that their establishment will change the trend of the traditional seed system from informal to formal. treated seeds of better quality and distribute them to the farmers.

Much as the study indicated that only the local low-yielding varieties of maize, sorghum and cowpea are grown by the local farmers, producing novel adaptable maize hybrids is a remarkable step towards the development of the seed sector, and this has the potential to transform the agricultural production in Somalia.

Strengthening existing farmer groups or cooperatives as seed out growers is an advanced step towards the inclusion of local farmers in the seed system and hence developing the local formal seed system.

Therefore, it is prudent to advised that the following measures be taken to enhance farmers' access to seeds and improve the formal seed system in the area:

- Mobilize and organize farmers in groups/cooperatives and supported to produce high quality early maturing but drought resistant seed varieties capable of attracting high prices.
- Build farmers capacity on best agricultural production techniques or practices like early planting, post-harvest techniques, packaging, and storage to maximize production and supply of quality agricultural products.
- Identify and map existing financial institutions and link farmers for financial services like crop/agricultural insurance, credit and savings to increase on their participation in the market economy.
- Support farmers with subsidies in terms of agro inputs, canal rehabilitation, and other irrigation infrastructure to minimize over dependency on rain fed agriculture and minimize the adverse effects of droughts.
- Support the existing extension frameworks and structures around agriculture for sustainability of seed systems.

### Contact:

**OGARO, Lugard Kaunda**

Director of Programs

Mercy Corps - Somalia CO

Email: [logaro@mercycorps.org](mailto:logaro@mercycorps.org)

Skype: lugard.kaunda.ogaro

Tel. Somalia: +252 613646938

Kenya: +254 712 655 04

