A Rapid Analysis of Impacts of the COVID-19 Pandemic on Selected Food Value Chains in Uganda

AGRA REGIONAL FOOD TRADE AND RESILIENCE PROGRAM

JULY 2020

The opinions expressed in this report are those of the authors and do not reflect the official policy or position of the Alliance for a Green Revolution in Africa (AGRA), its employees, partners or its affiliates in any way. While AGRA has made every effort to ensure the accuracy and completeness of the information entered in this report, we assume no responsibility for any errors, inaccuracies, omissions or inconsistencies included herein. The mention of specific companies, manufacturers or their products, whether or not they have been patented, does not imply endorsement or recommendation or approval by AGRA, its employees, partners or their affiliates in preference to others of a similar nature that are not mentioned. The descriptions, charts and maps used do not imply the expression of any opinion whatsoever on the part of AGRA concerning the development, legal or constitutional status of any country.

The report is based on a study commissioned by AGRA’s Regional Food Trade and Resilience Unit and written by Kilimo Trust, Kampala, Uganda in consultation with a team from the AGRA Regional Food Trade and Resilience (RFTR) Unit under the supervision of Dr Apollos Nwafor, Vice President, Policy and State Capability. The AGRA RFTR team comprised of Protase Echessah, Charles Nhemachena, Daniel Njiwa, Kurauone Murwisi, Sunil Dahiya and Alice Gachuki.

Publication Design: AGRA Communications Unit, Eugene Mumia.
# Contents

**Executive Summary**........................................................................................................................................... viii

- Introduction and Background .......................................................................................................................... viii
- Study Methodology ........................................................................................................................................ viii
- Market Systems Analyses for Rice, Maize, and Beans .................................................................................... viii
- Effects of COVID-19 Pandemic on the Rice, Beans, and Maize Value Chains ................................................. x
- Key Instruments and Mechanism for Food Security ....................................................................................... xi
- Conclusions and Recommendations ................................................................................................................ xi

1. **Background and Context** ............................................................................................................................. 1

2. **Approach and Methods** .............................................................................................................................. 2

- Limitations to The Study ................................................................................................................................ 3

3. **Empirical Findings** ....................................................................................................................................... 3

  3.1 Food Crops/Products Value Chain Analysis ............................................................................................. 3
  3.2 Food Market Systems Analysis for the Identified Food Crops/Products ..................................................... 5
  3.3 Key Instruments and Mechanism for Food Security .................................................................................. 8
  3.4 COVID-19 Pandemic Impacts on Agricultural Market Systems .............................................................. 12

4. **Conclusions and Recommendations** ......................................................................................................... 42

**References** .......................................................................................................................................................... 45

**Appendix 1: Additional Data Tables** ............................................................................................................. 51

**Appendix 2: Grain Storage in Uganda** .......................................................................................................... 60
List of Tables

Table 4-1: Summary of government COVID-19 measures ......................................................... 12
Table 4-2: Potential impact of selected government measures on cross-border ......................... 18
Table 4-4: Summary of interventions by development partners ........................................ 23
Table A-1: Major public actors supporting the maize, rice and beans value chains ............. 51
Table A-2: Major private actors supporting the maize, rice and beans value chains ............. 53
Table A-3: Major non-state actors/development partners supporting the maize ................. 56
Table A-4: Other actors supporting the maize, rice and beans value chains ..................... 57
Table A-5: Situational analysis on availability, access to and use of inputs in Uganda .......... 59

List of Figures

Figure 3-4: Formal exports of maize and mawoze products from Uganda (2018) ............. 11
Figure 4-1: Change in domestic demand (% of businesses) ......................................................... 26
Figure 4-2: Overall change in the workforce ........................................................................ 28
Figure 4-3: Change in salaries of employees ........................................................................... 28
Figure 4-4: Change in access to inputs (percentage of firms) by sector and firm size ....... 31
Figure 4-5: Increase in expenses due to COVID-19 measures (Percentage of respondents)... 38
# List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAGR</td>
<td>Annual Average Growth Rate</td>
</tr>
<tr>
<td>AATF</td>
<td>African Agricultural Technology Foundation</td>
</tr>
<tr>
<td>aBi</td>
<td>Agribusiness Initiative</td>
</tr>
<tr>
<td>ACDP</td>
<td>Agriculture Cluster Development Project</td>
</tr>
<tr>
<td>ACE</td>
<td>Area Cooperative Enterprise</td>
</tr>
<tr>
<td>ACF</td>
<td>Agricultural Credit Facility</td>
</tr>
<tr>
<td>ACORD</td>
<td>Agency for Cooperation and Research in Development</td>
</tr>
<tr>
<td>AEATREC</td>
<td>Agricultural Engineering and Appropriate Technology Research Centre</td>
</tr>
<tr>
<td>AFAP</td>
<td>African Fertilizer and Agribusiness Partnership</td>
</tr>
<tr>
<td>AGRA</td>
<td>Alliance for a Green Revolution in Africa</td>
</tr>
<tr>
<td>APHIS</td>
<td>The African Postharvest Losses Information System</td>
</tr>
<tr>
<td>ASARECA</td>
<td>Association for Strengthening Agricultural Research in East and Central Africa</td>
</tr>
<tr>
<td>ASSP</td>
<td>Agriculture Sector Strategic Plan</td>
</tr>
<tr>
<td>BCIL</td>
<td>Bukoola Chemical Industries Limited</td>
</tr>
<tr>
<td>BGL</td>
<td>Bongomin Group Limited</td>
</tr>
<tr>
<td>BoU</td>
<td>Bank of Uganda</td>
</tr>
<tr>
<td>BRAC</td>
<td>Building Resources Across Communities</td>
</tr>
<tr>
<td>Bn</td>
<td>Billion</td>
</tr>
<tr>
<td>BUBU</td>
<td>Buy Ugandan Build Uganda</td>
</tr>
<tr>
<td>CARI-EA</td>
<td>Competitive African Rice Initiative East Africa</td>
</tr>
<tr>
<td>CEDO VIP</td>
<td>Centre for Domestic Violence Prevention</td>
</tr>
<tr>
<td>CBR</td>
<td>Central Bank Rate</td>
</tr>
<tr>
<td>CCHF</td>
<td>Crimean Congo Haemorrhagic Fever</td>
</tr>
<tr>
<td>CEDO</td>
<td>Community Enterprise Development Organisation</td>
</tr>
<tr>
<td>CET</td>
<td>Common External Tariff</td>
</tr>
<tr>
<td>CoFTA</td>
<td>Continental Free Trade Area</td>
</tr>
<tr>
<td>COMESA</td>
<td>Common Market for Eastern and Southern Africa</td>
</tr>
<tr>
<td>COVID-19</td>
<td>Corona Virus Disease-2019</td>
</tr>
<tr>
<td>DCIC</td>
<td>Department of Crop Inspection and Certification</td>
</tr>
<tr>
<td>DGL</td>
<td>Diners Group Limited</td>
</tr>
<tr>
<td>DRC</td>
<td>Democratic Republic of Congo</td>
</tr>
<tr>
<td>EABW</td>
<td>East African Business Week</td>
</tr>
<tr>
<td>EAC</td>
<td>East African Community</td>
</tr>
<tr>
<td>EAGC</td>
<td>Eastern Africa Grain Council</td>
</tr>
<tr>
<td>EPRC</td>
<td>Economic Policy Research Centre</td>
</tr>
<tr>
<td>ESL</td>
<td>Equator Seeds Limited</td>
</tr>
<tr>
<td>FBS</td>
<td>Food Balance Sheet</td>
</tr>
<tr>
<td>GIEWS</td>
<td>Global Information and Early Warning System</td>
</tr>
<tr>
<td>Acronym</td>
<td>Full Form</td>
</tr>
<tr>
<td>---------</td>
<td>-----------</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization</td>
</tr>
<tr>
<td>FAOSTAT</td>
<td>Food and Agriculture Organization Corporate Statistical Database</td>
</tr>
<tr>
<td>FBS</td>
<td>Food Balance Sheet</td>
</tr>
<tr>
<td>FEWS NET</td>
<td>Famine Early Warning Systems Network</td>
</tr>
<tr>
<td>FY</td>
<td>Financial Year</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GoU</td>
<td>Government of Uganda</td>
</tr>
<tr>
<td>Ha</td>
<td>Hectare</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and communications technology</td>
</tr>
<tr>
<td>IDSR</td>
<td>Integrated Disease Surveillance and Response</td>
</tr>
<tr>
<td>IGAD</td>
<td>Intergovernmental Authority on Development</td>
</tr>
<tr>
<td>IFDC</td>
<td>International Fertilizer Development Centre</td>
</tr>
<tr>
<td>IITA</td>
<td>International Institute of Tropical Agriculture</td>
</tr>
<tr>
<td>ILO</td>
<td>International Labour Organization</td>
</tr>
<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
</tr>
<tr>
<td>ITC</td>
<td>International Trade Centre</td>
</tr>
<tr>
<td>JICA</td>
<td>Japan International Cooperation Agency</td>
</tr>
<tr>
<td>KACITA</td>
<td>Kampala City Traders Association</td>
</tr>
<tr>
<td>KCCA</td>
<td>Kampala Capital City Authority</td>
</tr>
<tr>
<td>LDU</td>
<td>Local Defence Unit</td>
</tr>
<tr>
<td>LTD</td>
<td>Limited</td>
</tr>
<tr>
<td>MAAIF</td>
<td>Ministry of Agriculture, Animal Industry and Fisheries</td>
</tr>
<tr>
<td>MDAs</td>
<td>Ministries, Departments and Agencies</td>
</tr>
<tr>
<td>MDIs</td>
<td>Microfinance Deposit Taking Institutions</td>
</tr>
<tr>
<td>MoFPED</td>
<td>Ministry of Finance, Planning and Economic Development</td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>MSMEs</td>
<td>Micro, Small &amp; Medium Enterprises</td>
</tr>
<tr>
<td>MT</td>
<td>Metric Tonne</td>
</tr>
<tr>
<td>MTIC</td>
<td>Ministry of Trade, Industry and Cooperatives</td>
</tr>
<tr>
<td>MTN</td>
<td>Mobile Telephone Network</td>
</tr>
<tr>
<td>NAADS</td>
<td>National Agriculture Advisory Services</td>
</tr>
<tr>
<td>NARO</td>
<td>National Agricultural Research Organisation</td>
</tr>
<tr>
<td>NARS</td>
<td>National Agricultural Research Systems</td>
</tr>
<tr>
<td>NGOs</td>
<td>Non-Governmental Organisations</td>
</tr>
<tr>
<td>NSSSF</td>
<td>National Social Security Fund</td>
</tr>
<tr>
<td>OPM</td>
<td>Office of the Prime Minister</td>
</tr>
<tr>
<td>OWC</td>
<td>Operation Wealth Creation</td>
</tr>
<tr>
<td>PARM</td>
<td>Platform for Agricultural Risk Management</td>
</tr>
<tr>
<td>PAYE</td>
<td>Pay As You Earn</td>
</tr>
<tr>
<td>PHH</td>
<td>Post-Harvest Handling</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>PPE</td>
<td>Personal Protective Equipment</td>
</tr>
<tr>
<td>QDS</td>
<td>Quality Declared Seed</td>
</tr>
<tr>
<td>RAU</td>
<td>Rice Association of Uganda</td>
</tr>
<tr>
<td>REACTs</td>
<td>Regional East African Community Trade in Staples</td>
</tr>
<tr>
<td>SACCO</td>
<td>Savings and credit Cooperative Societies</td>
</tr>
<tr>
<td>SFI</td>
<td>Supervised Financial Institution</td>
</tr>
<tr>
<td>SMEs</td>
<td>Small and Medium Enterprises</td>
</tr>
<tr>
<td>SOPs</td>
<td>Standard Operating Procedures</td>
</tr>
<tr>
<td>SPRING</td>
<td>Strengthening Partnerships, Results and Innovations in Nutrition Globally</td>
</tr>
<tr>
<td>START</td>
<td>Support to Agricultural Revitalisation and Transformation</td>
</tr>
<tr>
<td>STRYDE</td>
<td>Strengthening Rural Youth Development through Enterprise</td>
</tr>
<tr>
<td>TGCU</td>
<td>The Grain Council of Uganda</td>
</tr>
<tr>
<td>UBOS</td>
<td>Uganda Bureau of Standards</td>
</tr>
<tr>
<td>UDB</td>
<td>Uganda Development Bank</td>
</tr>
<tr>
<td>UDC</td>
<td>Uganda Development Corporation</td>
</tr>
<tr>
<td>UGX</td>
<td>Uganda Shillings</td>
</tr>
<tr>
<td>UIRI</td>
<td>Uganda Industrial Research Institute</td>
</tr>
<tr>
<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
</tr>
<tr>
<td>UNBS</td>
<td>Uganda National Bureau of Standards</td>
</tr>
<tr>
<td>UNCDF</td>
<td>United Nations Capital Development Fund</td>
</tr>
<tr>
<td>UNCE</td>
<td>Uganda National Commodity Exchange Limited</td>
</tr>
<tr>
<td>URA</td>
<td>Uganda Revenue Authority</td>
</tr>
<tr>
<td>USD</td>
<td>United States Dollar</td>
</tr>
<tr>
<td>USDA</td>
<td>United States Department of Agriculture</td>
</tr>
<tr>
<td>UWEP</td>
<td>Uganda Women Entrepreneurship Program</td>
</tr>
<tr>
<td>UWRSA</td>
<td>Uganda Warehouse Receipt System Authority</td>
</tr>
<tr>
<td>VSLAs</td>
<td>Village Savings and Loan Associations</td>
</tr>
<tr>
<td>WFP</td>
<td>World Food Program</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>YLP</td>
<td>Youth Livelihood Programme</td>
</tr>
<tr>
<td>ZAABTA</td>
<td>Zirobwe Agaliawamu Agri-business Training Association</td>
</tr>
</tbody>
</table>
Executive Summary

Introduction and Background

The COVID-19 pandemic has continued to spread globally, leaving behind a trail of health and economic strains, affecting the functioning of various supply chains. Agriculture being one of the worst hit mainly because it is the largest employer of the working population in Uganda (i.e. employing 64.3% thereof).

While no death related to COVID-19 has been reported in Uganda, the measures set by the Government to contain the spread of the virus have had severe implications on business and supply chain operations. This study was commissioned by AGRA to: (i) establish impacts of the COVID-19 pandemic and policy instruments on strategic agricultural value chains, and (ii) establish current interventions taken in response to the COVID-19 pandemic and towards recovery.

Study Methodology

To focus the study, three key value chains were selected, based on relevance to food security, employment, and imports. These included maize, beans, and rice.

The selection of these value chains was informed by the following:

- Maize ranks first among the key staples crucial to food security in Uganda, contributing 18.2% of the daily caloric intake per capita. It is also a key export earner and is the largest employer engaging close to 2 million farmers seasonally.
- The beans value chain was selected because it is the second largest employer (engaging about 1.6 million households seasonally). Beans are one of the most traded food commodities across Ugandan borders and they make up the most important protein source for the biggest proportion of the population.
- Rice is the second most important grain staple after maize with about 77% of the domestic demand, supplemented by imports that largely come from South Asia (62%). This illustrates the importance of international markets to the functioning of this value chain. Although rice comes second by value to wheat in terms of cereal/food staple imports in Uganda (ITC, 2020), it was selected because of the growth rate of the sub-sector and potential to impact different value chain actors in comparison to wheat.

The study was largely based on case studies of 37 value chain actors and 9 key informants e.g. TGCU, EAGC, MTIC, MAAIF, UWRSA, logistics companies, development partners, among others. This primary data was triangulated through a secondary data review. However, the study was limited to telephone and virtual interviews, and a case study approach was adopted given the budget for this assignment.

Market Systems Analyses for Rice, Maize, and Beans

The input node, infrastructure, and strategies are quite similar for major grains and pulses i.e. maize, beans and rice, with markets largely private sector led and the role of government limited primarily to regulation and certification, research and development through NARS, although periodically, distribution of subsidized or free inputs to farmers is undertaken. The role of development partners has been to support research and development, capacity building of seed producers, promotion of improved technologies and distributing subsidized inputs to producers.
Production in the three value chains is largely low input, with a high rain dependence and dominated by smallholder farmers (about 80%). Horizontal linkages, especially among farmers, have been established over time, largely through efforts of development partners. Aggregation is also quite similar in the maize, beans, and rice value chains, involving aggregators, traders and cooperatives that supply large traders, exporters, and processors. Important to aggregation are the storage facilities, whose dire state has continuously led to high postharvest losses (10%-40%). Standard storage facilities are owned privately, with the national grain storage capacity at over 750,000MT, concentrated in Eastern and Central regions, and at least 70% belonging to members of The Grain Council of Uganda.

Processing across the maize, rice and beans value chains is private sector led. Over 780 maize mills exist (77% are small scale), employing about 1,800 people (milling), 5,100 transporters and bulking agents with the major processed products being flour and bran. Although, blended flours, fortified flour and corn flakes are also produced to a limited extent. On the other hand, beans processing is still in its infancy, with very few established bean processors. Rice processing on the other hand engages over 800 small scale mills, about 15 medium scale mills and a few large-scale mills. Most of the processed rice products are milled rice, rice bran, rice flour (in composites), and broken rice.

The domestic market for grains and pulses is highly liberalized with minimal government intervention and is largely informal with limited product differentiation. The informal channels engage the highest number of actors marked by laxity on quality requirements, large significance of open-air markets and involvement of middlemen. While formal trade involves large traders, institutional buyers, processors, and exporters that exhibit more stringency on quality requirements. Although consumed throughout the country, the demand hubs for maize grain and paddy are concentrated around processing facilities, while that of beans and processed maize and rice are concentrated among the urban centres and border markets. Urban centres also have the largest blue worker and informal worker populations. Given that Uganda is a surplus market for maize and beans, the country exports maize products to mainly Kenya, Rwanda, Democratic Republic of Congo (DRC) and Sudan while bean products are largely exported to Kenya, Tanzania, Rwanda, and Burundi.

Informal trade accounts for over 60% of the cross-border trade in the three value chains. In 2019, 241,980MT of maize grain were exported informally, to Kenya (70%) and South Sudan (21%) while flour went to DRC and South Sudan. Formal maize exports, on the other hand are most significant for grain (80.8%) and flour (16%) reaching USD 107.8 million in 2018, with East African Community (EAC) markets (Burundi, Rwanda and Kenya for grain, Kenya and Rwanda for seed, Kenya, and Rwanda for bran) taking the largest portion (77.6%). In 2019, 224,000MT of dry beans were exported informally, with 65% going to Kenya while 218,432MT worth USD 85.5 million were formally exported (2018), 87% of which was destined to the EAC (Kenya took 75%) and 6.4% to Africa (excluding EAC). Uganda also exports some rice products albeit in a declining trend. In 2018, the country exported 5,189MT of milled rice, 13MT of paddy and 47,441MT of broken rice worth USD 27 million to Sudan and DRC. About 77,480 MT of rice were informally exported in 2019 to South Sudan and Kenya. The key players in the formal cross border trade include large traders/exporters and millers (for maize and rice) and large traders/exporters (for beans) while informal exports involves informal traders at the borders (mostly women and youths) making use of transport means such as “boda bodas”, wheelchairs, bicycles, carrying on heads).

---

1 Informal trade referring to that occurring through ungazetted corridors, is unregulated by defined standards and applicable levies and this holds for both markets and trader transactions.
Effects of COVID-19 Pandemic on the Rice, Beans, and Maize Value Chains

In response to the COVID-19 pandemic, the Government of Uganda in March and April introduced several measures and interventions i.e. (i) a nationwide curfew (1900 to 0630 hours which is still in place); (ii) suspension of all public passenger transport until 04th June 2020; (iii) closure of all non-essential services/businesses, with only stores selling food, agricultural and veterinary products, detergents and pharmaceuticals allowed to remain open; (iv) closure of all land borders except for cargo trucks; (v) closure of weekly, monthly village and open markets; (vi) Factories and construction sites were mandated to accommodate staff in proximity to the business premises until 4th May 2020; (vii) closure of all institutions of learning, places of worship and prohibition of public gatherings of more than five people; (viii) mandatory testing of truck drivers entering and exiting Uganda borders; (ix) food relief to 1.5 million urban poor; (x) economic recovery options e.g. Central Bank Rate (CBR) reduction, deferring tax payments, recapitalizing the Uganda Development Bank (UDB), Uganda Development Corporation (UDC), Youth Livelihood Program (YLP) and Uganda Women Entrepreneurship Program (UWEP).

The rice, maize and beans value chains have been significantly affected by the set measures. At the input supply node, the key observed effects included (i) at least 25% reduction in input sales, turnover and business activity due to logistical restrictions, reduced demand from farmers and the curfew. The curfew also reduced work hours up to 40% for some businesses; (ii) increase in operational costs by 30-50%, due to increased transport costs and cost of implementation of mandatory SOPs, which led to temporary closure and staff reductions of up to 60% especially for the casual staff working with input companies; (iii) shortage in stock (especially agrochemicals) due to export restrictions and closure of factories in source countries (Europe), and additional delays in clearing time at the borders of between 100 and 300% more than normal; (iv) increment in prices of inputs due to increased transport costs, with a UGX 10,000 increment in agrochemical prices per litre in some areas; (v) anticipated low and poor quality seed stock due to delays in inspection and certification of seed companies and multipliers by MAAIF.

In the production process the major effects include (i) at least 20% decrease in labour supply especially for medium scale farmers, while for households that use family labour, the closure of schools enhanced its availability; (ii) increased labour costs for the available labour with 100% increments reported in some areas. For instance in Ntungamo, labour costs increased from UGX 4,000 to 8,000 per person per day; (iii) difficulty in financing (especially production operations for farmers) due to drained cash base and/or reduced operations of some common sources of finance (i.e. SACCOs and VSLAs) as well as limited access to commercial banks; (iv) up to 50% drop in access to and use of inputs due to reduced financing base, transport restrictions and reduced stock of some inputs; (v) reduced access to output markets due to their closure which led to high postharvest losses, food waste and cash flow shortages.

Effects at aggregation and trade included (i) increased operational costs (30-50%), due to increased transport costs attributable to logistical restrictions; (ii) decline in business activity by close to half of capacity due to logistical challenges associated with aggregation, reduction in the number of working hours as well as reduced human resources, in a bid to observe social distancing; (iii) reduced trade flows due to closure of open markets crucial for assembly (for example the Busia border market); (iv) considering processors that use supermarkets as a channel for distribution, close to 50% decline in sales were registered during lockdown; (v) to a few large traders of maize and beans that received government contracts to distribute the relief food such as Afrokai (U) Ltd, Aponye (U) Ltd, an increase in returns was observed; (vi) reduced cross border trade of up to 80%, and lower trade volumes due to closing of border markets, mandatory testing of drivers that prolonged clearing, restriction on number of people per truck to three (and eventually one), border closures to humans except truck drivers, reduced international demand (e.g. South Asian markets for beans) by a factor of 26% to 50%. Informal trade also reduced with a 21% drop in bean exports observed in the first quarter of 2020, in comparison to
the same period last year; (vii) unique to the rice value chain that depends largely on imports, stock dwindled from major suppliers, including India and Vietnam (because of imposed export restrictions), leading to a sharp decline in the importation of brown rice into Uganda and affecting the operation of over 20 millers, who depend significantly on the imports of mainly brown rice. Reduced imports from South Asian markets opened up an opportunity for importation from Tanzania, resulting in a current influx of paddy from Tanzania; (viii) 20% reduction of value of maize exported to Kenya driven by the distribution of maize as relief to the Kenyan populace by government, which disincentivized exportation from Uganda.

Wholesalers and retailers have also been affected severely, with the most profound impacts being; (i) up to 50% decline in business activity, orders and sales due to the lockdown, reduced demand, closure of open markets and logistical restrictions; (ii) price fluctuation with a spike at onset of lockdown due to panic buying. For instance bean prices more than doubled from UGX 2,000/Kg to UGX 5500/kg, and declined thereafter; (iii) reduction in volumes traded heightened by reduced demand and fewer distributions due to logistical difficulties, and closure of some potential markets like schools and hotels; (iv) growth in digital (e-commerce) by 100-300%, and other innovative trading strategies to reach clientele, e.g. use of door to door delivery services; (v) increased liquidity challenges due to reduced cash flows and accumulation of outstanding payments.

At processing, the major effects included (i) stalling of operations due to stagnation and delays in exports from China, a crucial supply market for machinery and technologies in Ugandan agricultural value chains including rice, maize and beans; (ii) close to 50% reduction in business activity due to reduced raw material supply, reduced sales and demand attributed to closure of schools and food service centres that make up a crucial market for rice, maize and bean products; (iv) increased operational costs attributed to high cost of sourcing raw materials and implementing the mandatory SOPs especially accommodating staff at the premises. This, in turn, led to staff redundancies effecting salary reductions by 40-60%; (v) inability to provide support to farmers through the production season, due to logistical restrictions, leading to uncertainty for the next season’s supply.

Key Instruments and Mechanism for Food Security

While Uganda currently does not have an existing food balance sheet (FBS), there are on-going discussions led by the Eastern Africa Grain Council (EAGC), to fast-track its establishment. Another instrument is the Uganda National Commodity Exchange Ltd (UNCE) which, though established with 80:20 private sector government ownership, has not yet been fully operationalised.

Conclusions and Recommendations

From this study, it is evident that although agricultural activities remained operational, the generic COVID-19 control measures that were instituted had negative effects on the rice, maize, and beans supply chains. The most dire effects were reduced access to labour and crucial inputs, which either reduced scale of production or impinged on productivity; reduction in produce sales/deliveries culminating in reduced income for farmers or severed trading related jobs; low operational capacities at processing plants, or closure of some production lines; and other market systems bottlenecks. To enhance resilience and recovery of the value chain actors, we propose the following:
Short-Term

- Address the liquidity challenges, for example, through an economic stimulus package (patient capital; low cost finance options such as concessional loans, guarantee schemes; and input subsidy distribution for the coming season) or a de-risking fund to support recovery of MSMEs at all nodes of the value chain. Additionally, subsidising utility costs (especially electricity) for processors will be critical.

- Pilot new or upscaling promising low cost and efficient aggregation models (e.g. integration of motorized tricycles, ICT platforms, consortia approach and village agents) to improve service delivery and operational efficiency of supply chains.

- Revive/reconstruct the seed sector by supporting NARO to avail enough foundation seed for next season (including support to seed multiplication by private sector companies).

- Increase the capacity of seed inspection by building capacity of more inspectors, including para-seed inspectors.

- Support the development of an integrated ICT-based data management system i.e. starting from SME or farmer organization level for quick data collection and decision making (timely aggregation of input demand and distribution, digital payments and product aggregation).

- Promote access to critical post-harvest loss reduction and quality enhancing technologies by farmers, aggregators, and SMEs especially drying facilities.

- Improving smallholder farmers and SMEs professionalism to increase their resilience to shocks, in addition to taking advantage of available market opportunities.

- Focus on the promotion of investments with high job creation potential to deal with unemployment, currently at a record high.

- Promote multi-sectoral approaches to agricultural value chain development since different MDAs, private sector and CSOs have a role to play and their efforts are complementary.

Medium to Long Term

- Digitizing agricultural systems through promotion of ICT solutions to improve efficiency and effectiveness within value chains for enhanced food production, trade, and safety (e-extension, e-commerce, digital payments, and dissemination of timely market information).

- Establishing a Strategic Food Reserve (SFR), food banks and framework from which they should operate is urgent and crucial.

- Expedite the operationalisation of the Warehouse Receipt system and National Commodity Exchange to provide a wider and more efficient trading platform for value chain actors.

- Set up an input (especially seed) fund to build buffer stocks in preparation for similar crises.

- Build domestic capacity towards import substitution for both inputs and outputs and further promoting the Buy Uganda Build Uganda (BUBU) policy especially for rice and agrochemicals. This will also call for more investment in value addition and processing.

- Export promotion to take advantage of food deficits within the region and COMESA.
1. Background and Context

COVID-19, declared a global pandemic by the World Health Organization (WHO) on 11th March 2020, has continued to spread globally with 8.99 million confirmed cases (WHO, 2020) and 797 cases in Uganda as of 23rd June 2020 (MoH, 2020), leaving behind a trail of health and economic strain. In response to the pandemic, the Government of Uganda from March 2020 introduced several precautionary measures that affected the functioning of different supply chains and businesses. A business survey by EPRC (2020) revealed that small and medium businesses have experienced the largest effects of COVID-19 compared to large scale businesses, with the decline in operations attributed to an inability to cope with containment measures instituted by the government. Additionally, nine out of ten businesses experienced increase in operating expenses, with agricultural enterprises being the worst hit due to challenges of accessing inputs arising from transport restrictions, the ban on weekly markets, reduced demand of fresh produce and shift to consumption of dry rations that dampened fresh produce prices, among others. The response measures have disrupted agricultural supply chains and suppressed aggregate demand which has led to reduced business activity, loss of revenue, laying off employees, closure of several MSMEs and loan defaults (KPMG, 2020).

Countries like Uganda are expected to be much affected given that agriculture is the largest employer i.e. employing 64.3% of the working population (UBOS, 2019), 72% of the labour force, 58.4% of the youth and 77% of the working women (Willmott-Harrop, 2017). The agriculture sector contributed 21.9% to the GDP in 2018 (UBOS, 2019) and accounted for about 49% to the total merchandise exports value (USD 2.005 billion) in 2019 (GoU, 2020). Although the agricultural sector was identified as an essential sector by the government (agricultural activities continued during lockdown), the indirect impact of the instituted measures has had a far-reaching impact on the sector.

Significant effects were already observed in trade, with a drop in the country’s imports from USD 711.9 million in January 2020 to USD 593.7 million in March 2020 while exports decreased from USD 383 million in January to USD 352.9 million in February (UNCDF & GOU, 2020a). For instance, maize (one of the top six agricultural exports by value) experienced a drop in export value from USD 10.23 million in March to USD 6.256 million in April (GoU, 2020). The impacts of the Covid-19 pandemic and instituted mitigation measures are likely to result in significant economic losses for actors along the different sectors and supply chains; leading to high levels of business insolvency; increased unemployment rates; increased operational costs; household food and nutrition insecurity; drastic policy actions in the country and external markets, among others.

Against this background, AGRA commissioned this study to assess the impact of the COVID-19 pandemic and instituted mitigation measures on key agricultural sub-sectors in Uganda to inform AGRA’s Africa Food Trade and Resilience Programme on specific interventions to help in mitigating against disruptions in food supply chains.

The goal of this study is to inform the re-orientation of the Africa Food Trade and Resilience Programme to respond to Covid-19 impacts on food systems. Re-orientation should inform measures that will support the government to facilitate evidence-based policy interventions and appropriate implementation as well as measures that will support smallholder farmers and ensure stability of food supply chains. The specific objectives were to

- Establish impacts of the COVID-19 pandemic and policy instruments on strategic agricultural value chains.
- Establish current and likely policy interventions in response to the COVID-19 pandemic and recovery.

The report includes the following sections: Executive summary, Background, Focus value chains and justification, Market systems analyses for identified value chains, Key instruments and
mechanisms for food security, COVID-19 pandemic impacts on agricultural market systems, followed by and lastly, the conclusions and recommendations.

2. Approach and Methods

The study took a case study design and was conducted in three phases as in Figure 1-1.

<table>
<thead>
<tr>
<th>Description of Phase</th>
<th>Phase</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensive review of literature and documents was undertaken to identify data gaps, triangulate and strengthen the primary data findings</td>
<td>Phase I: Secondary data review</td>
<td>Secondary data report Identified data gaps</td>
</tr>
<tr>
<td>Involved sampling, actual data collection</td>
<td>Phase II: Primary data collection</td>
<td>Raw data</td>
</tr>
</tbody>
</table>

Sources: Kilimo Trust database, online resources e.g. ITC website, and information from other published literature sources; Presidential addresses, Online platforms including webinars and panel discussions

Done through phone interviews and virtual calls on a purposively selected sample

Sample: 9 key informants (MAAIF, MTIC, EAGC, TGCU, UWRSA, Maersk Agency Uganda Ltd (logistics), Flona Investments Ltd (clearing and forwarding), CAR-I-EA team, and REACTS II team) and 37 market actors for rice, maize and beans value chains (farmers, wholesalers, retailers, seed companies, fertilizer distributors, agrochemical suppliers, mechanization services provider, village agents, maize exporters, beans exporters, rice importer, maize processors, ice processors) – See Appendix 1 for details

Tools

Key informants - Interview guides

Market actors - Structured questionnaires

Involved data cleaning, entry, analysis and report writing

Phase III: Data analysis and Report writing

Analysis products Draft and Final report

Data analysis: Was done using MS Excel with analysis by case while the qualitative interviews were transcribed and analysed by content

Report writing: Analysis of products from primary data were combined and triangulated with those of secondary data and literature to produce a final report
Limitations to The Study

- The study was limited to telephone and web-based virtual (Skype, Zoom, Microsoft Teams) interviews owing to the restrictions to travel and gatherings instituted as measures to curb the spread of COVID-19.
- The number of participants engaged was lean, given the resources available and restrictions. The findings do not encourage inference since the study adopted a case study design.
- The study also heavily relied on secondary literature to provide an overview of recent trends in functioning of the priority value chains, most of which were quite generic, and some data had no recent updates.

3. Empirical Findings

3.1 Food Crops/Products Value Chain Analysis

Maize: Maize ranks first among the key staples crucial to food security in Uganda (Kilimo Trust 2019b; figure 3-1), contributing 18.2% of the daily caloric intake per capita (FAOSTAT, 2020, Figure, 3-2). Among the producing households, maize is the most important food crop for families and the source of about half of the family cash income (Palladium, 2017). This value chain is likely to have been impacted largely because the institution of the COVID-19 containment measures coincided with the onset of the production season. Additionally, the value chain is also crucial to trade, implying that the measures set on transport and cross border restrictions likely impacted the supply chain.

Rice: Rice is the second most important grain staple after maize in Uganda (Kilimo Trust, 2019b), grown in mostly the eastern and northern parts of the country (Figure 3-1), although of recent production has spread to the South-West and some pockets in Central Uganda. However, an annual domestic deficit of 95,000 MT (as of 2019) exists in the domestic market (USDA, 2020a), largely covered through imports. Uganda is a net importer of rice, with rice imports contributing about 77% of the domestic demand. In 2018, 171,483MT of milled rice products and 23,442MT of paddy worth USD 77million were imported (ITC, 2020). About 62% of the rice imports by value came from South Asia (Pakistan, Thailand, Vietnam, India, and China). This illustrates the importance of international markets to the functioning of this value chain. Although rice comes second by value to wheat in terms...
of cereal/food staple imports in Uganda (ITC, 2020), it was selected for this study because of the growth rate of the sub-sector and potential to impact different value chain actors in comparison to wheat. Additionally, while the domestic rice sector grapples with underproduction, the imports Uganda relies on have hit snags as major suppliers, including India and Vietnam, have reduced rice exports to ensure their own domestic food security to cope with the pandemic (World Economic Forum, 2020). Additionally, the heavy reliance on imports further emphasises the importance of transport and logistics to these supply chains, which have been affected by the COVID 19 containment measures instituted by the government.

**Beans:** The beans value chain is the second largest employer in Uganda (after maize) (figure 3-1), employing about 1.6 million households seasonally or 40% of agricultural households (FAO et al., 2019) and a multitude of other actors such as aggregators, traders, processors, exporters, loading & offloading staff, among others. Beans production and trade is spread across the entire country (table 3-1) and it is one of the most traded food commodities across Ugandan borders, especially to Kenya. Additionally, beans make up the most important protein source for the biggest proportion of the population (as it is an accessible, cheap, and close alternative to animal source proteins) (Takusewanya et al., 2018). Common beans are also the most exported pulse from Uganda tapping into various markets such as the EAC, DRC and South Asia (ITC, 2020).

For the above reasons and the fact that the institution of COVID-19 containment measures coincided with onset of the production season, and the major consumption hubs have been the worst hit by the measures set, these value chains and their actors are likely to be significantly impacted.

**Table 3-1: Major Producing districts in Uganda for maize, rice, and beans**

<table>
<thead>
<tr>
<th></th>
<th>Rice</th>
<th>Maize</th>
<th>Beans</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pallisa, Budaka, Butaleja,</td>
<td>Iganga, Mubende, Masaka,</td>
<td>Mubende, Masaka, Ntungamo,</td>
</tr>
<tr>
<td></td>
<td>Tororo, Bugiri, Iganga, Gulul,</td>
<td>Kamuli, Kapchorwa, Masindi,</td>
<td>Kyenjojo, Kibaale, Kabarole,</td>
</tr>
<tr>
<td></td>
<td>Lira, Amuru, Nwoya, Kitgum</td>
<td>Soroti</td>
<td>Kasese, Gulu, Amuru, Oyam</td>
</tr>
</tbody>
</table>

Source: UBOS (2019)

**Figure 3-2: Rank of maize & products as a food security crop - % contribution to daily caloric intake**

Source: FAO, 2020; USDA, 2020

---

2 Based on the Uganda National Household Survey 2016/17 data, average caloric intake for Uganda stood at 2,226 calories per person per day (UNHS, 2018)
3.2 Food Market Systems Analysis for the Identified Food Crops/Products

3.2.1 The Maize Value Chain

The maize value chain in Uganda is largely private sector driven, with growing commercialisation at 50% (Kilimo Trust & Heifer International, 2018). While grown throughout the country, the highest maize production is in eastern Uganda, accounting for 47% of the national output (UBOS, 2018). This is followed with some distance by the western (21%), central (19%), and northern (13%) areas (UBOS, 2015). Production has been growing at a rate of 1.5% AAGR since 2014, reaching 2.7 million MT in 2018 (USDA, 2020). Maize productivity currently ranges between 1MT/Ha and 2.5MT/Ha, with up to 80% loss anticipated in cases of droughts, likely to occur in the high production areas (MAFAP, 2014). Unlike at production, where much has been done towards organizing producers into cooperatives and groups, organization of other value chain actors is still low. Traders, including exporters and large processors have organized themselves into TGCU. Established vertical linkages are however observed in the formal trade largely involving institutional buyers, exporters and large traders with producer groups and aggregators.

The value chain thus entails; i) Input supply, which includes producers/importers and distributors of seed, fertilizers, agrochemicals, machinery and implements, and is largely private sector led e.g. Equator Seed, Bukoola Chemical Industries, who channel products to farmers through input dealers/stockists or a chain of their own distributors, although periodically, distribution of subsidized or free inputs to farmers has been undertaken through programs such as Operation Wealth Creation (Daily Monitor, 2019; Kilimo News, 2019; Tabaro & Katusiimeh, 2018), and the Agriculture Cluster Development Project (ACDP) (MAAF, 2020), under MAAIF; ii) Production, engaging about 2 million households seasonally (FAO et al., 2019), over 80% of which are smallholders, practicing low input rainfed production (USAID, 2014); iii) Aggregation involving aggregators/assemblers and local traders that collect small surpluses from the individual farmers, through village agents/cooperatives, into bulk quantities either on behalf of or to sell to large traders (Kilimo Trust, 2019a), like Agroways Uganda, Afrokai, Twizimbe ACE; iv) Processing largely involves small scale millers (77%), with a few medium and large scale millers, with the major products being unfortified flour, fortified flour and bran. Over 780 mills exist in Uganda employing about 1,800 people (milling) and 5,100 transporters and bulking agents (FAO et al., 2019; SPRING, 2017). Some of the key processors include Maganjo Millers, Mandela Millers, Arise and Shine millers; v) Trading engages a wide spectrum of actors ranging from aggregators to rural traders, wholesalers, retailers, large traders and exporters, dealing largely in both grain and flour (FAO et al., 2019). Aggregators deal in grain supplying processors, institutional buyers like WFP, schools, government, and exporters while flour is supplied by processors and wholesalers to retailers, institutional buyers, and other wholesalers.

Support services within the maize value chain are provided by various players. Research and development are spearheaded by MAAIF and the NARS. MAAIF regulates the seed industry, is responsible for policy formulation and implementation, issuance of export and import documentation and control or provision of online systems for expediting the issuance of SPS certificates, extension support, inspection, and certification of seed, supply inputs to cooperatives at subsidized cost under ACDP, and coordination and implementation of government agricultural development interventions. NARO through its subsidiaries leads breeding, varietal release, supplies breeder seed, develops technologies, and provides advisory services. Provision of advisory services is also done by the district local governments, higher institutions of learning, Uganda Cooperative Alliance, Uganda National Farmers’ Federation, and non-state actors. Another crucial service is trade facilitation under the docket of the Uganda Export Promotion Board, UNBS (standards formulation and implementation), Uganda Warehouse Receipt Authority. UIRI is crucial to technology development and piloting. Financial services are provided by commercial banks who predominantly serve large scale commercial farmers while smallholder farmers access finance mostly through MFIs, SACCOs, VSLAs and government and donor input support programs. Generally, transport and logistics within the domestic trade involve private individual players as opposed to companies and is organized,
ranging from boda bodas to trucks. Cross-border trade however, involves logistics companies such as Flona logistics, MAERSK Agency Uganda Ltd. Uganda has standard storage infrastructure of a total of over 750,000MT capacity, largely owned by the private sector such as the large exporters, traders and processors. Several organizations such as WFP and other non-state actors have come up to support producers and other actors to construct storage facilities for grains, especially maize and beans (Atlassian, 2015). Provision of market information has over time been in the hands of traders (especially middlemen). However, there has been entry and engagement of private players such as FIT (U), development partners and the local government commercial offices, into providing market information to, mostly, producers (see appendix 2 for details).

Meanwhile, regulation and product certification in the sector is primarily done by the government. Seed production and distribution are the obligation of the National Seed Certification Services, Department of Crop Inspection and Certification (DCIC) for agrochemicals and other imported/exported seed or grain, Agricultural Engineering and Appropriate Technology Research Center (AEATREC) for agri-machinery together with Uganda National Bureau of Standards, that is also mandated to undertake product certification. The Uganda Revenue Authority is responsible for tax enforcement, while the Ministry of Trade Industry and Cooperatives ensures traders adhere to standards and other regulation. Additionally, the Agricultural Chemicals (Control) Act, 2006, the Seeds and Plant Act, 2006, the National Agricultural Seed Policy, 2018, and the Quality Declared Seed (QDS) Regulations form a part of statutory regulation. One major challenge in the subsector is the adulteration of inputs estimated at 40% for seed and 40-50% of all agrochemicals sold on the market (Parliament of Uganda, 2018), yet the inspection is spotty.

3.2.2. The Rice Value Chain

The rice value chain is highly commercialised with about 70% of the produced crop marketed (Kilimo Trust, 2019b). Rice production in Uganda has been fluctuating since 2014, registering a stagnation, between 2017 and 2018, at 262,000 MT (USDA, 2020). Although produced in almost all regions, the highest production is in the eastern region (67%), followed by the northern region (23%) (UBOS, 2019). Generally, the resources used in production activities are controlled by males, while both males and females do the work. Youths are mostly engaged in ploughing (51%), nursery bed preparation (51%), transplanting (62%), planting (59%), fertilizer application (56%), pesticide application (61%), bird scaring (54%) and harvesting (59%). At production though, men perform most activities, except weeding, drying and cleaning the rice (winnowing and sorting) (Barungi & Odokonyero, 2016). Rice is also among the highly irrigated crops in Uganda, although irrigation is only practiced by 0.9% farmers (PARM, 2015). However, only 5% of the grown rice is adequately irrigated, with the rest being rainfed (JICA, 2013).

The value chain thus entails: i) Input supply, which includes producers/importers and distributors of seed, fertilizers, agrochemicals, machinery and implements, and is largely private sector led by companies like Equator Seed, Pearl seed, Victoria seed, GrainPulse, Bukoola Chemical Industries, who channel products to farmers through input dealers/stockists or a chain of their own distributors. Periodically, distribution of subsidized or free inputs to farmers has been undertaken through programs such as the Agriculture Cluster Development Project (ACDP) (MAAIF, 2020); ii) Production, engaging about 250,000 farmers (RAU, 2018), over 80% of which are smallholders, practicing low input rainfed production and producing both lowland and upland rice varieties (Kilimo Trust, 2019b; JICA, 2013). These sell paddy to millers or get toll milling services and sell the milled rice to millers, traders and consumers; iii) Aggregation involving aggregators/assemblers and local traders that collect paddy from the individual farmers, through village agents/cooperatives, into bulk quantities either on behalf of, or to sell to, large traders (Kilimo Trust, 2019b); iv) Processing involves over 800 millers. The majority are small scale millers, with a few medium and large-scale players. The major products being milled are rice and bran. Some of the processors include Upland Rice Millers Co. Ltd, Diners Group Ltd, Kehong Peyero Millers, AK Purongo Ltd, Sunad Ltd, Mychere Ltd, Eastern Rice Ltd, Royal Rice Ltd, Pearl rice Ltd, UgaGrains Ltd, TILDAH/Kibimba, SWT Millers, FOL Group (U) Ltd; v) Trading engages a wide spectrum of actors, ranging from aggregators to rural traders,
wholesalers, retailers, large traders and importers. These actors deal largely in both paddy, milled rice and brown rice. Aggregators deal in paddy and supply millers.

Support services within the rice value chain are provided by various players. Research and development are spearheaded by MAAIF and the NARS. MAAIF regulates the seed industry, is responsible for policy formulation and implementation; issuance of export and import documentation and control or provision of online systems for expediting the issuance of SPS certificates; extension support; inspection and certification of seed; supply inputs to cooperatives at subsidized cost under ACDP; and coordination and implementation of government agricultural development interventions. NARO, through its subsidiaries, leads breeding; varietal release; supplies breeder seed; develops technologies and provides advisory services. Provision of advisory services is also done by the district local governments, higher institutions of learning, the Uganda Cooperative Alliance, Uganda National Farmers’ Federation, and non-state actors. Another crucial service is trade facilitation undertaken by UNBS (standards formulation and implementation) and the Uganda Warehouse Receipt Authority. Financial services are provided by commercial banks who predominantly serve large-scale commercial farmers and farmer groups while smallholder farmers access finance mostly through MFIs, SACCOs, VSLAs and government and donor input support programs. Generally, transport and logistics within the domestic trade involve private individual players as opposed to companies, operating vehicles ranging from boda bodas to trucks. Cross-border trade however, involves logistics companies such as Flona logistics, MAERSK Agency Uganda Ltd. Uganda has standard storage infrastructure of over 750,000MT capacity, largely owned by private sector companies such as the large exporters, traders and processors. Provision of market information has over time resided with traders (especially middlemen). However, there has been entry and engagement of private players such as FIT (U), development partners and the local government commercial offices into providing market information to producers (see appendix 2 for details). Establishing irrigation infrastructure is crucial to the rice value chain and this is spearheaded by the Ministry of Water and Environment.

The regulatory environment is controlled largely by the government through state structures or line ministries like MAAIF, UNBS and URA, which are the same institutions that operate in the maize value chain. The major challenge in regulation, however, is at the trade level, where middlemen and traders - at times in search of exorbitant returns, adulterate rice products by mixing aromatic and non-aromatic rice varieties to get the price of the former (Kilimo Trust, 2019b).

3.2.3. The Bean Value Chain

While historically grown for sustenance, beans have become crucial to income generation especially for small scale farmers with increasing commercialisation along the value chain and primarily private sector led (Kilimo Trust, 2018). Beans are grown seasonally throughout the country by 40% of the agricultural households (1.6 million) (FAO et al., 2019). Growth is concentrated in in the western region (41.8%), followed by the central (22%), eastern (20%) and lastly northern (16.2%) regions. Similarly, the highest production is in the Western region (44.3%) with Ntungamo being the largest producing district (UBOS, 2019). Bean production has been growing at an AAGR of 1.2% since 2014, reaching 1,039,000 MT in 2018 (UBOS, 2019). Smallholder farmers constitute 80% of the total bean producers in the country (Kilimo Trust, 2018). Women conduct 76% of the bean production activities, while youth engagement is at 63% (FAO, 2018b). Bean production is characterised by minimal inputs and improved technologies usage (only 31% use improved seed) (Larochelle et al. 2016; PARM, 2015). This has stagnated the yields at 1.7MT/Ha (FAOSTAT, 2020c). Like most food staples in Uganda, most of the production is rainfed (PARM, 2015) taking advantage of rains in September and March (FAO, 2019a). This despite the 145% increase in yield, and USD 286 higher gross margins per hectare for irrigated beans, than that for those grown in a rainfed system (EPRC, 2014).

The bean value chain comprises actors like; i) input suppliers of mainly seed, fertilizer and agrochemicals like Grow More Seeds & Chemicals, East African Seed Ltd, FICA Seeds, CEDO, Balton Uganda and Grain Pulse that utilise a distribution channel of organised stockists or informal agro-input shops; ii) about 1.6 million small holders dispersed around the country, producing under
rainfed low input conditions, marketing the surplus; iii) a number of brokers/agents/traders/aggregators, who bulk the produce of farmers and farmer cooperatives. Some also provide services like threshing, cleaning, grading upon obtaining grain; iv) multiple trader categories, ranging from village to urban-based traders and exporters who source beans from farmers and distribute it to institutions like schools, urban open markets, and border produce markets from where the products are headed for export destinations like Egypt and Kenya and South Asia, as well as domestic wholesalers and retailers; v) small-scale processors like Nutreal Ltd, which produce flour.

Numerous support institutions in the beans value chain exist. Research and development are spearheaded by MAAIF and the NARS. MAAIF regulates the seed industry, is responsible for policy formulation and implementation; issuance of export and import documentation and control or provision of online systems for expediting the issuance of SPS certificates; extension support; inspection and certification of seed; supplying inputs to cooperatives at subsidized cost under ACDP; and coordination and implementation of government agricultural development interventions. NARO through its subsidiaries leads breeding, varietal release, supplies breeder seed, develops technologies, and provides advisory services. Provision of advisory services is also done by the district local governments, higher institutions of learning, the Uganda Cooperative Alliance, Uganda National Farmers’ Federation, and other non-state actors. Another crucial service is trade facilitation under the docket of the Uganda Export Promotion Board and UNBS (standards formulation and implementation), Uganda Warehouse Receipt Authority. Financial services are provided by commercial banks who predominantly serve large-scale commercial farmers and farmer groups while smallholder farmers access finance mostly through MFIs, SACCOs, VSLAs and government and donor input support programs. Generally, transport and logistics within the domestic trade involve private individual players as opposed to companies, operating vehicles ranging from boda bodas to trucks. Cross-border trade however, involves logistics companies such as Flona logistics and MAERSK Agency Uganda Ltd. Uganda has standard storage infrastructure totalling over 750,000MT, largely owned by the private sector such as the large exporters, traders and processors. Provision of market information has over time resided with traders (especially middlemen), however, there has been entry and engagement of private players such as FIT (U), development partners and the local government commercial offices into providing market information mostly to producers (see appendix 2 for details).

The major regulating institutions within the sector remain the same as those in the maize and rice value chain, since these government institutions are mandated with regulating all agricultural inputs that trickle down to the open market, but also products for both the domestic and export market. The outstanding setbacks in regulation still accrue down to inadequate inspecting staff. This results in an influx of adulterated and inferior, or even expired, products in the market.

3.3 Key Instruments and Mechanism for Food Security

3.3.1 Commodity Balance Sheets

Status of Food Balance Sheet (FBS): While Uganda currently does not have an existing food balance sheet (FBS), there are initiatives to put it in place. Several engagements took place spearheaded by the Eastern Africa Grain Council (EAGC) involving other stakeholders i.e. MAAIF, MTIC, UBOS, and private sector actors (New Vision, 2020a). The FBS is crucial to establish stocks, potential/availability for exports, and for planning. Currently, this data is estimated based on national household and agricultural surveys done every 10 years.

Maize: The national demand for maize annually is 2.7 million MT (as of 2019), yet, over the past five years (2015 to 2019), domestic consumption increased at an estimated AAGR of 1.95% (USDA, 2020). Production grew at an AAGR of 0.83% since 2015 to 2.8 Million MT in 2019. Uganda is also a surplus country with the production superseding national requirements by 4.6% (USDA, 2020). However, domestic supply is reduced by the high postharvest losses that APHLIS (2020) reports at 16.6%. Uganda exports close to 44% of the marketed grain and 4% of the produced flour, among other products to external markets through formal and informal channels (Kilimo Trust, 2019;
SPRING, 2017). Formal trade is most significant for maize grain and flour exports constituting 80.8% and 16% of the total maize products export value in 2018 respectively (ITC, 2020). Other products exported formally include maize grain (2.3%), bran (0.87%) and lastly starch (largely reexported). Maize exports from Uganda are mainly destined to EAC (77.6%), with the key markets being Burundi, Rwanda and Kenya for grain, Kenya and Rwanda for seed, Kenya, and Rwanda for bran (figure 3-4). The scenario is different with maize flour where the EAC region only takes 35% of the total exports (Rwanda 83.8%, Burundi 11%, Tanzania 5%) while 64.3% goes to the rest of Africa (mainly DRC and Sudan). There is low trade outside Africa, with only 32MT of flour exported beyond the continent in 2018. Furthermore, Uganda informally exported 241,980MT of maize grain, which accounted for 70% of the regional trade in 2019 (FEWS NET, 2020). The major markets for grain were Kenya (70%) and South Sudan (21%) (FEWS NET, 2020). Most of the maize flour is exported informally to DRC and South Sudan. Nonetheless, despite the surplus, some maize is still imported into the country with 0.04% of national requirements coming from Africa while 0.07% is imported from outside the continent in 2018 (ITC, 2020). In 2018, Uganda imported 594MT of grain & seed, flour (12MT), brans & sharps (48MT) and starch (2,491MT), worth USD 1.9 million; with the major products imported from Africa being seed (578MT), bran & sharps (47MT) and starch (19MT), primarily from Kenya. Maize starch was the major product imported from outside Africa (2,099MT or 85% at a value of 0.93 million and originating largely from India) Between 2015 to 2018 though, imports registered a decline of 14.1% (ITC, 2020).

Beans: The national demand for beans in 2018 was 1.03million MT3, with a production of 1.04 million MT; implying a surplus beyond national requirements of 1.4% (FAOSTAT, 2020b; UBOS, 2019). However, due to poor postharvest handling, domestic supply is reduced by high postharvest losses of 10-30% (FAO, 2018; Tibagonzeka et al., 2018). Only a small part of national requirements was imported from Africa and outside the continent (1.1% and 0.34% respectively) (ITC, 2020). Formally, Uganda being a surplus producer of beans, exports significant volumes of bean products to external markets through both formal and informal channels, with the latter being dominant. Informal bean exports increased from 183,000MT in 2014 to 224,000MT in 2019, with 65% going to Kenya (FEWSNET, 2020). In 2016, Mpondwe (32.7%), Busia (15.8%), Elegu (8.7%), Katuna and Mutukula border stations accounted for the largest share of informal exports, representing a combined share of 72.1% of informal export earnings (UBoS & BoU, 2017). Despite the surplus, Uganda imported 2,774MT of bean products worth USD 0.7 million in 2018, of which dried beans constituted the largest proportion (80%) and the rest was fresh, chilled, and other processed bean products. Some 35% of the imports came from international markets (mostly Brazil), while the rest came from EAC, with Tanzania and Rwanda being the main suppliers. Thus, imports contribute only a slight share towards national requirements (1.44%) (ITC, 2020).

Rice: Uganda is a net importer of rice, importing up to 79,062.25 MT and 107,572.05 MT (milled rice equivalent) from Africa and outside Africa valued at USD 29 million and USD 48 million, respectively in 2018 (ITC, 2020; Figure 3-4). The consumption of rice in Uganda has generally been growing at an AAGR of 2.33% from 234,000MT in 2014 to 254,000MT in 2019 (USDA, 2020). Ideally, domestic production should contribute about 65% to the national requirements. However, this figure is reduced by exports that saw domestic supply drop to to 53,000MT (milled rice equivalent) in 2018. This is driven by the informal trade seeking out lucrative available markets (Ayoki, 2012), as well as re-exports (ITC, 2020). Domestic supply is reduced further by postharvest losses of 16.6% (APHLIS, 2020). With this, production only contributes 36% to the domestic supply, while imports from Africa and outside Africa contributed 39.5% and 49.1% to the domestic supply. These figures are skewed since a relatively sizeable proportion of imported rice is re-exported. For instance, in 2017 Uganda re-exported 41,172 MT of broken rice (DRC-66.8%, South Sudan-30.2%, and others-3%) and 11,945 MT of semi-milled/wholly-milled rice (DRC-70.1%, South Sudan-27.2%, and others-2.7%) (ITC, 2017). As of 2018, the major products imported from the African region were paddy (22,225MT), broken rice (22,696MT) and semi-milled/wholly-milled rice (41,903MT), primarily from Tanzania while

3 The latest consumption data available dates to 2017, and this was assumed to hold for 2018.
those from outside Africa included brown rice (24,590MT), semi-milled/wholly-milled rice (7,250MT) and broken rice (74,941MT), primarily from Pakistan and Thailand (ITC, 2020). Also, unfinished products especially brown rice and paddy are imported by millers that seek to improve utilisation of their installed processing capacity. This was boosted by the presidential import waiver that reduced the duty (Common External Tariff- CET) on brown rice imports from USD 345/MT or 75% (whichever is higher) to USD 150/MT. This measure was supposed to run till June 2020 (Kilimo Trust, 2019b). However, discussions are being held between the rice millers and the government to institute an extension of the waiver.

**Figure 3-3: Contribution of production and imports to the national requirements – 2018 (’000’MT)**

**Notes:** Beans-2017 data used; Maize imports (Grain & seed considered); Rice (Paddy imports converted to milled rice equivalent at 65%).

Source: USDA, 2020b; FAOSTAT, 2020b; ITC, 2020; UBOS, 2019
- **EAC** - Bu (58%), Rw (41%), Ke (0.9%)
- **African markets** (other than EAC) – Sudan (97.4%); DRC(0.6%); CAR(2%)
- **International markets** - Bahrain

**EAC**

- **Seed**
  - 10,266 MT
  - US$ 2.4M

**African markets** (other than EAC)

- Sudan (97.4%)
- DRC (0.6%)
- CAR (2%)

**International markets** - Bahrain

**Grain**

- 451,431 MT
- US$ 87.1M

**EAC**

- **Flour**
  - 62,456 MT
  - US$ 17.3M

**African markets** (other than EAC)

- Sudan (95%)
- DRC (5%)

**International markets** - Can, Saudi Arabia

**Bran**

- 6,789 MT
- US$ 0.94M

**EAC**

- **Starch**
  - 37 MT
  - US$ 9,000

- EAC - Ke (98.6%), Rw (1.4%)
- No international markets supplied

Figure 3-4: Formal exports of maize and maize products from Uganda (2018)
3.3.2 Strategic Food Reserves

Uganda does not have national strategic grain reserves. Food supplies are largely managed by the private sector while prices are solely dependent on market forces with no government intervention. Incidentally, there has been a proliferation of grains storage facilities and warehouses, owned by the private sector, and to a smaller extent, non-state actors like WFP and NGOs. Such infrastructural investment by multiple value chain actors can be attributed to the liberalisation of the sub-sectors and their cross-border trade orientation (Kilimo Trust, 2019a). Currently, the largest concentration of standard privately-owned storage facilities is in the Eastern and Central Regions. Out of the national grain storage capacity of over 750,000MT, at least 80% belongs to members of the Grain Council of Uganda (TGCU), a private multi-stakeholder organisation (EPRC, 2019). The Government of Uganda through MAAIF is installing value addition facilities including 19 bulk storage facilities (silos) of 2,000 MT capacity, 10 milling plants, fruit and feeds processing plants, batch drying, cleaning and grading systems of grains (in the districts of Yumbe, Kapeeka, Nwoya, Kayunga, Nakasongola, Bugiri, Iganga, Mayuge, Bulambuli, Kween, Kaberamaido, Serere, Amuru, Kabarole, Hoima, among others) in partnership with M/S Alvan Blanch and Colas Ltd, but also through Uganda Prisons, Uganda Development Corporation and the Ministry of Trade, Industry and Cooperatives (EABW News, 2020). There is also a component under ACDP for warehouse construction.

Commodity Exchange: While the Uganda National Commodity Exchange Ltd (UNCE) was instituted with 80% shares owned by the private sector and 20% owned by government through the Uganda Development Corporation (UDC), operating in tandem with the warehouse receipt system, it is not yet fully operational (Robbins, 2011). The ‘trading platform is in the process of development, with limited resources being the major constraint; especially in the wake of post-COVID priorities’ reveals an authority from the Ministry of Trade, Industry and Cooperatives (MTIC) ⁴.

3.4 COVID-19 Pandemic Impacts on Agricultural Market Systems

3.4.1 Government Interventions to Contain Spread of COVID-19


<table>
<thead>
<tr>
<th>Government COVID-19 measure</th>
<th>Summary of the government measure</th>
<th>Date of institution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lockdown:</strong></td>
<td>Closure of all the education institutions, suspension of communal prayers and all public gatherings or conferences of more than 10 persons.</td>
<td>18/03/2020 to date</td>
</tr>
<tr>
<td></td>
<td>A nationwide curfew, from 1900 to 0630 hours (amended to 2100 to 0630hrs on the 21st July).</td>
<td>01/04/2020 to 21/07/2020</td>
</tr>
<tr>
<td></td>
<td>Suspension of all public transport including buses, taxis, motorcycle-taxis (boda-bodas), with only private vehicles allowed to carry a maximum of 3 passengers, including the driver. Other public automobiles including lorries/trucks were also allowed to carry food and perform delivery services.</td>
<td>26/03/2020</td>
</tr>
<tr>
<td></td>
<td>Stopped all passengers coming into Uganda by air, land, or water. This affected in-coming planes, buses, taxis or boats, including pedestrians. Closure of Entebbe International Airport and all other border points of entry except for cargo planes and trucks.</td>
<td>31/03/2020 to date</td>
</tr>
<tr>
<td></td>
<td>Sellers and factory, hotel, ministry, construction site workers must arrange to stay nearby for the duration of the 14 days of lockdown, to reduce movement and contact.</td>
<td>01/04/2020</td>
</tr>
</tbody>
</table>

⁴ This response was provided by one of the MTIC high level personnel interviewed during the study.
<table>
<thead>
<tr>
<th>Government COVID-19 measure</th>
<th>Summary of the government measure</th>
<th>Date of institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance: Introduction, in cooperation with Kenya, Rwanda and South Sudan of a digital surveillance and tracking system to monitor cargo truck drivers engaged in cross border transport activities.</td>
<td>12/04/2020</td>
<td></td>
</tr>
<tr>
<td>Governance: URA not to close business on account of not paying taxes</td>
<td>01/04/2020</td>
<td></td>
</tr>
<tr>
<td>Governance: Government vehicles that do not belong to UPDF, police, prisons or UWA, be pooled and deployed at the District Health Offices, including the divisions of Kampala, with their drivers, staying in tented compounds, ready to help in those health emergencies under the command of the District Medical Officer.</td>
<td>01/04/2020</td>
<td></td>
</tr>
<tr>
<td>Governance: Each ministry should work out plans of having only essential staff on duty.</td>
<td>26/03/2020</td>
<td></td>
</tr>
<tr>
<td>Governance: All truck drivers testing positive for COVID-19 to be denied entry into the country.</td>
<td>17/05/2020</td>
<td></td>
</tr>
<tr>
<td>Governance: All banks to offer loan restructuring to their clients and desist from charging penalties</td>
<td>14/04/2020</td>
<td></td>
</tr>
<tr>
<td>Socio-economic: Allow the non-agricultural gathering points e.g. factories, hotels, large plantations, markets, etc to continue operating but follow the SOPs (Standard Operating Procedures) put out by the Ministry of Health.</td>
<td>26/03/2020</td>
<td></td>
</tr>
<tr>
<td>Socio-economic: Suspension of trading of non-food items like clothes, mobile phones, necklaces and shoes, salons. Closing of lodges and garages, among others, so as to create space. Only the essential services such as medical, agriculture and veterinary, telecommunication, door-to-door delivery, financial institutions, all media, private security companies, cleaning services, garbage collection, fire-brigade, fuel stations, water departments, funeral services and some KCCA staff were permitted to continue to operate.</td>
<td>26/03/2020</td>
<td></td>
</tr>
<tr>
<td>Socio-economic: Suspension of all weekly and open markets.</td>
<td>18/03/2020</td>
<td></td>
</tr>
<tr>
<td>Socio-economic: Suspended opening of all the discos, dances, bars, sports, music shows, cinemas, and concerts.</td>
<td>18/03/2020</td>
<td></td>
</tr>
<tr>
<td>Socio-economic: Suspended opening of the shopping arcades, hardware shops, which gather a lot of people to sell and buy non-food items.</td>
<td>01/04/2020</td>
<td></td>
</tr>
<tr>
<td>Socio-economic: Allowed super-markets to remain open but with clear SOPs that restrict numbers that enter and leave the site at a given time and the handling of trolleys within the super-markets.</td>
<td>01/04/2020</td>
<td></td>
</tr>
<tr>
<td>Public health: Ministry of Health (MoH), with support from partners, put in place a comprehensive response plan and launched sensitisation campaign.</td>
<td>18/03/2020</td>
<td></td>
</tr>
<tr>
<td>Public health: Banned Ugandans from moving to or through category one (I) countries that had a large number of corona cases by that time, but allowed those returning from low risk countries, provided they undergo mandatory quarantine, at own cost, for 14 days at a venue identified by the Ministry of Health.</td>
<td>18/03/2020</td>
<td></td>
</tr>
<tr>
<td>Public health: Set mandatory SOPs such as wearing masks in public, frequent washing hands with soap and water or using sanitizers, regularly disinfecting surfaces such as tables, and door handles, and not touching your eyes, nose or mouth, coughing and sneezing etiquette.</td>
<td>18/03/2020</td>
<td></td>
</tr>
<tr>
<td>Public health: Advised the public on good nutrition, especially fruits, to strengthen the body defence system.</td>
<td>18/03/2020</td>
<td></td>
</tr>
<tr>
<td>Public health: Health facilities like hospitals, pharmacies, clinic, health centres, to remain open but adhere to SOPs.</td>
<td>01/04/2020</td>
<td></td>
</tr>
<tr>
<td>Public health: Inbound and outbound cargo was allowed, ferried by a maximum of 3 persons to reduce the number of risk cases.</td>
<td>31/03/2020</td>
<td></td>
</tr>
<tr>
<td>Public health: To deal with other health emergencies, permission can be sought from the RDC to use private transport to take a sick person to hospital.</td>
<td>01/04/2020</td>
<td></td>
</tr>
<tr>
<td>Public health: Mandatory testing of truck drivers entering and exiting Uganda</td>
<td>12/04/2020</td>
<td></td>
</tr>
<tr>
<td>Public health: Quarantining expected and confirmed cases for a minimum of 14 days until recovery</td>
<td>18/03/2020</td>
<td></td>
</tr>
<tr>
<td>Social distancing: Established food markets in Kampala and the other towns continue to be open while maintaining social distancing</td>
<td>01/04/2020</td>
<td></td>
</tr>
<tr>
<td>Social distancing: Reducing number of employees in factory and production settings to maintain social distancing.</td>
<td>01/04/2020</td>
<td></td>
</tr>
</tbody>
</table>

Source: FAO-GIEWS, 2020; Daily Monitor 2020b
It is worth noting that these measures have affected the business environment in totality, with the impact most severe among MSMEs and the informal sub-sector (UNCDF & GOU, 2020a). However, the government, instituted a National Task Force in the wake of the pandemic to coordinate mitigation activities and focus on the impact and business operations. This approach by the Government of Uganda was multifaceted and multi-sectoral, with a specific focus on public health and governance. With the initial response budget set at USD 77.8 million, the government also urged private sector, development partners and all well-wishers to make donations towards this cause through a national taskforce housed in the Office of the Prime Minister (Uganda-Invest, 2020). This call to action yielded UGX 21 Billion (7 billion cash, 4 billion cash in pledges, 50 motor vehicles valued at 5 billion, food stuffs, medical equipment and others valued at about 5 billion) (Soft Power News, 2020a). The Ministry of Health (MoH), with support from partners, put in place a comprehensive response plan that is guiding ongoing preparedness activities.

Meanwhile, anecdotal data indicates that since 2018 Uganda has been in emergency mode and has had to respond to outbreaks of Ebola Virus Disease (EVD), Yellow Fever, Measles and Crimean Congo Haemorrhagic Fever (CCHF), all in regular succession (WHO Africa, 2020). From this experience, the epidemics have been reported to affect indicators like access to education and local markets, productivity, disrupting different supply chains, among others (Ssendagire et al., 2017). Similarly, the COVID 19 pandemic and measures set to contain it, have already disrupted supply chains, impacted several indicators such as access to markets (inputs and outputs), availability of food stocks, purchasing power, availability and productivity of labour, among others, with more long-term impacts anticipated (refer to Sections 4.4.4 to 4.4.6 for details). To avert and help recovery of the different players, the Government of Uganda has established and implemented various interventions and policy actions, with no specificity on value chains but rather directly or indirectly affecting their functioning and the agricultural sector at large.

Therefore, the following have been the government interventions:

**Current Government Interventions in Response to COVID 19 Based on Past Experience:**

Coordination of management of disasters and emergency outbreaks is the responsibility of the Office of the Prime Minister (OPM) that coordinates outbreak preparedness activities and implementation of recovery interventions during the post-outbreak periods (MoH, 2015; Ssendagire et al., 2017). In response to the COVID 19 pandemic, the following policy interventions and pronouncements were made to enable recovery of the economy.

In the State of the nation address held on the 4th June 2020 H.E. Yoweri Kaguta Museveni, the President of the Republic of Uganda, made the following pronouncements and proposals:

- The Cabinet agreed that sustainably developing the economy needs to focus on the most potential sectors with sturdy demand resilient in crises such as agriculture, industry, and ICT.

- No evictions of tenants by landlords on account of not paying rent during the COVID-19 lockdown period. Following this, the President instructed security agencies to prohibit landlords from evicting tenants defaulting on rent payment during the lockdown period. The government advised that agreements between tenants and landlords be reached for future payment after COVID-19.

- In the 2020/21 budget, the Government of Uganda set aside UGX 1.0405 trillion for the Uganda Development Bank (UDB) as part of government’s Covid-19 stimulus package to avail affordable credit for investment in areas where Uganda has a comparative advantage such as manufacturing and commercial agriculture. The lending rate at the Bank has also been reduced from 12% to 10%.

- Directive that up to UGX 5.3 trillion that could be potentially saved from the 2020/21 budget is re-allocated to support food security programs and wealth creation (under OWC/NAADS) (Nile Post, 2020), Youth, Women and the NAADS funds. In addition, support would be extended to
some categories of businesses heavily affected by the lockdown measures such boda-bodas, salons and bars.

- Through the Bank of Uganda, the government has already gazetted the measures to support businesses; which include; (i) reduction of the Central Bank Rate (CBR) from 9% to 7% % to help manage the effects of COVID-19 on the economy and encourage borrowing by commercial banks, with anticipated trickle down effects through lending to value chain actors; (ii) creating a special liquidity facility to support businesses unable to absorb operational costs due to low demand or reduced production during this period; (iii) extension of loan repayment periods for existing loans; (iv) postponement of loan repayment for a limited period; (v) relaxing conditions for non-performing loans.

- Allow deferred tax payments till September 2020 for the manufacturing, horticulture, tourism and floriculture industry, and delayed corporation or presumptive tax payments due between April and June 2020 for corporations including small and medium sized enterprises (SMEs). This is in addition to deferred PAYE (Pay-As-You Earn) tax payment until September 2020 by the most affected sectors. The Ministry of Finance, Planning and Economic Development (MoFPED) also proposed a waiver on interests on tax arrears accumulated before 1st July 2020, expediting payment of outstanding Value Added Tax refunds, and procured government contracts.

- The Minister MoFPED also proposed the following:
  
  i). UGX 300 billion provided to immediately boost production of maize, cassava, oilseeds (including palm oil), cotton, coffee, cocoa, beef, fish and dairy. This will be directed to facilitate access to seedlings, fertilizers, irrigation, storage facilities and value addition.
  
  ii). Increase support to utility institutions like water and electricity, for continued supply during the period April to June 2020.
  
  iii). Domestic arrears payment for private sector goods and services supplies to the government. In the 2020/21 budget, UGX 673 billion was allocated, with priority to be given to Small and Medium Enterprises, cooperative societies, and contractors.
  
  iv). To allow the government to make strategic investments, like UGX 100 billion capitalisation of Uganda Development Corporation (UDC) to be done for public private partnership investments to facilitate import substitution and export promotion strategy. In the 2020/21 budget, UGX 138 billion was allocated.
  
  v). Increase funding to the Uganda Industrial Research Institute (UIRI) in FY 2020/21 for continued innovation research and incubation of business start-ups.
  
  vi). Secure funding for development of Kampala Industrial Business Park at Namanve and for power transmission and substations for Mbale, Kapeeka, Bweyogerere, Kasese, Soroti, Luzira, Jinja and Mbarara industrial parks.
  
  vii). Reduce charges on mobile banking and mobile money transactions, to improve efficiency, reduce person-to person contact to prevent spread of the Corona Virus.
  
  viii). Job Creation by expanding labour intensive public works in urban and peri-urban areas; for which an allocation of UGX 130 billion was made in the 2020/21 budget.
  
  ix). UGX 300 billion allocated in the 2020/21 budget to enhance the provision of improved subsidized agricultural inputs using NAADS e-Voucher Scheme under the ACDP, to farmers and upscaling agriculture extension services to boost production of key agricultural commodities.
  
  x). UGX 45 billion allocated in the 2020/21 budget to the continuation of relief aid in response to the COVID-19 crisis, and natural disasters such as the locust invasion and climate change crisis, including floods and landslides.
Roll-out of regional and community-based storage facilities to store increased agricultural products and reduce post-harvest losses.

**Other Interventions Include the Following:**

- **Food relief by government** – At the start of April, the government of Uganda initiated a relief food distribution program to vulnerable individuals who have been affected by lockdown measures. The package given included 6 kg of maize flour and 3 kg of beans per person. Lactating mothers and the sick received 2 kgs of powdered milk and 2kgs of sugar. This program was to target 1.5 million urban poor who are affected by the lockdown through door-to-door food delivery. The food distribution was launched in the Kampala suburb of Bwaise, which has a substantial population of urban poor (Xinhuanet, 2020a)

- **To increase resilience against climate change shocks**, within the 2020/21 year, 12 small scale solar power irrigation schemes, 20 parish-level and 30 small-scale irrigation schemes will be constructed.

- **Under the Support to Agricultural Revitalization and Transformation (START) Facility**, the UNCDF has unlocked UGX 0.83 Bn, to enhance liquidity of SMEs in the Northern Region, through loans from the UDB at zero interest, and flexible repayment of at most 12 months (UNCDF News, 2020).

- **The government also secured a USD 491.5 million loan from the IMF** to help finance the health, social protection and macroeconomic stabilisation measures, to meet the urgent balance-of-payments and fiscal needs arising from the COVID-19 outbreak (IMF-PR, 2020).

- **UGX 94 billion was allocated by the government as credit through SACCOs and microfinance institutions for SME and business recovery** (Parliament of Uganda, 2020). This was allocated under the 2020/21 budget.

- **The National Social Security Fund (NSSF) also put in place measures to ease the cash flow burden of affected private sector employers**, prominent of which is the allowing of rescheduling their contributions for three (3) months without accumulating penalties effective from 31st March 2020.

- **The Uganda Revenue Authority (URA) put in place measures of a tax administration nature to support taxpayers in meeting their obligations during this unprecedented time**. These measures are flexible, depending on the unfolding of events These include:
  - Extension of tax filing to 30th of every month and payments extended to 30th June 2020, flexible depending on the duration of lockdown. This relates to monthly tax types such as of PAYE (Pay As You Earn), Value Added Tax, Local Excise Duty and Withholding Tax
  - Taxpayers whose businesses have been affected by COVID-19 restrictions, that had restructured their payments to start in May 2020 but were unable to meet the obligations can reschedule their payment to start in June 2020
  - Encouragement of use of online URA services

- **Bank of Uganda through its Monetary Policy Statement of April 06, 2020, pronounced several credit relief measures during this pandemic period to be extended to borrowers of Commercial Banks, Credit Institutions, and Microfinance Deposit Taking Institutions (MDIs) supervised and licensed by the Bank. These measures are only granted within the 12-month period with effect from April 01, 2020, in the best interest of consumers (with full disclosure). The measures include:**
  - Debt restructuring (covered in existing regulations) such as extension of loan tenor and a maximum of 12-month repayment holidays
  - Decision to offer or decline a credit relief is the responsibility of the Supervised Financial Institution (SFI).
Credit status at the time of granting a repayment holiday shall remain unchanged for the duration of the said repayment holiday.

Arrear prepayment as a condition for restructuring a credit facility is suspended for 12 months with effect from April 01, 2020.

The Parliament of Uganda amidst this pandemic period on the 20th May 2020, passed the Local Content Bill which seeks to impose local content obligations on persons using public money or Uganda’s natural resources or carrying out activity requiring a license, to prioritise Ugandans in Public Procurement, ensure skills and technology transfer and provide for development of local content plans. It also stipulates the establishment of a national local content committee and to maximise value-addition and job creation using local expertise, goods, and services, among others. For instance, a foreign investor will be required to hire 100% Ugandans for its unskilled labour force and 60% Ugandans for its skilled labour force (State of the Nation Address, June 2020; Soft Power News, 2020b).

**Likely Policy Intervention from Past Experience**

Since 2010, Uganda’s strategy for outbreak management has been the Integrated Disease Surveillance and Response (IDSR) strategy; with financing largely coming from development partners. Though generally outbreak prevention, preparedness, response and recovery is multisectoral (various MDAs) (Ssendagire et al., 2017). Therefore, based on previous outbreak emergency responses and to avert the COVID-19 pandemic effects during and after the outbreak, the Government of Uganda is likely to adopt the following policy interventions regarding the agricultural sector.

- At a time when the country’s food supply is already threatened by the desert locust scourges (FAO, 2020), measures to ensure ability of farmers to produce and sell, by allowing for functionality of agricultural market supply chains, could be adopted. Also, learning from the escalation of prices during the global food crisis of 2007/08 (World Bank, 2011) and even though the country’s liberalised markets put limits on exercising price controls, import-export restrictions are likely to occur. The value chain likely to be affected by these policy interventions is the rice value chain (e.g. CET revisions for rice is under discussion).

- From the learnings of the recovery of the LRA insurgency, input subsidies (seeds, fertilizers, pesticides, equipment, and veterinary products) through government programs such as OWC and ACDP as well as micro financing is the likely foreseeable course of action to incentivise producers, SMEs and increase domestic stock.

- Borrowing from learnings of the bumper maize harvest in 2018 that led to a declaration by the Ministry of Finance, Planning and Economic Development of a UGX 100 billion fund from the Agricultural Credit Facility (ACF) at Bank of Uganda channelled through 23 eligible commercial banks and micro deposit-taking institutions, to allow purchases at higher prices, only eligible to maize traders with large storage facilities that can guarantee highest quality preservation of the grains for six months. This money was obtained as loans with interest rates of not more than 15% per annum. This is likely to be the situation this season, not because of bumper volumes but reduced capacity of traders to offtake farmer produce and reduced exports due to transport restrictions and delays, as such, the government is likely to establish a buffer fund to cushion the producers.

- Reviewing trade and policy options to address COVID-19 impacts such as reducing import tariffs on essential goods and inputs; reviewing domestic taxation policies on essential goods produced locally; assessing the potential impact of exchange devaluation; instituting stimulus packages to boost local production and promote imports substitution; applying monetary and fiscal measures to counter inflationary pressures; upscaling trade facilitation to enhance food trade.

In summary, the government of Uganda has embarked on a multi-phased reopening of the economy. During his televised address on 4th May 2020, the President gave a green light for the reopening of
some businesses, including wholesalers, hardware shops and restaurants. This was followed by a resumption of private vehicles and arcades to operation on 26th May 2020, as per the Presidential directive on his 14th address to the nation (18th May 2020), allowing for only three and eventually four passengers. In a later address, the president also granted that public transport could return to operation on 4th June 2020, but only utilising 50% capacity. Motorcycle taxis (boda-bodas) were denied the right to carry passengers, indicating that they could continue food and general merchandise delivery. Additionally, both public and private transport in border districts was barred. The operational businesses have been tasked to undertake the MOH-SOPs, including social distancing, use of masks in public, washing of hands with water and soap or utilizing alcohol-based sanitizers.

The President also sanctioned a team led by the Minister of MTIC, together with the City administrative authority, KCCA and selected members of the City Trader’s Umbrella body, KACITA, to carry out feasibility studies on the possibility of opening of arcades. This was due to multiple scuffles with authorities, as well as complaints by arcade owners and operators and traders, as to why they had to stay closed. Since then 48 arcades were permitted to commence operations on a pilot basis after meeting the Standard Operating Procedures.

### 3.4.2 Summary of Impacts of Government COVID-19 Measures on Supply Chains

Table 4-2 presents the summary of potential impacts of selected government measures on cross-border trade, logistics, food security, gender and resilience.

**Table 4-2: Potential impact of selected government measures on cross-border trade, logistics, food security, gender and resilience**

<table>
<thead>
<tr>
<th>Government COVID-19 measure</th>
<th>Potential impact of government COVID-19 measure*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cross-border food/input logistics</td>
</tr>
<tr>
<td>Lockdown:</td>
<td></td>
</tr>
<tr>
<td>Beans</td>
<td>2</td>
</tr>
<tr>
<td>Maize</td>
<td>2</td>
</tr>
<tr>
<td>Rice</td>
<td>2</td>
</tr>
<tr>
<td>Governance:</td>
<td></td>
</tr>
<tr>
<td>Beans</td>
<td>2</td>
</tr>
<tr>
<td>Maize</td>
<td>2</td>
</tr>
<tr>
<td>Rice</td>
<td>2</td>
</tr>
<tr>
<td>Socio-economic:</td>
<td></td>
</tr>
<tr>
<td>Beans</td>
<td>2</td>
</tr>
<tr>
<td>Maize</td>
<td>2</td>
</tr>
<tr>
<td>Rice</td>
<td>2</td>
</tr>
</tbody>
</table>

*1 = Minor impact; 2 = Moderate impact; 3 = Major impact
The impact of selected government measures on cross-border trade, logistics, food security, gender and resilience is discussed below.

**Cross-Border Food/Input Logistics**

Export restrictions, the closure of overseas factories and a ban on international travel to suppress the spread of COVID-19 in regions where most inputs (e.g. seeds, agro-chemicals and other agro-inputs) are sourced like Europe, South Africa and Middle East, including China and India, has affected restocking by a majority of the agro-dealers in the country. The pandemic has also led to delays in imports and ‘lesser than ordered deliveries’ (IFDC, 2020). In some cases, common agro-chemicals such as mancozeb ran out of stock in agro-input shops, compelling farmers to use alternatives they are not familiar with. Such was expected, especially given the high import reliance of Uganda for synthetic fertilizer and agro-chemicals (FAO, 2020).

Reduced cross border trade and trade volumes due to prolonged procedures of mandatory testing of drivers, restriction on number of people per truck to three (and eventually one), border closures to humans except truck drivers, reduced international demand (e.g. South Asian markets for Ugandan beans) and increased mandatory border security and also product checks, increased both transport and operation costs and created delays in clearing, generally reduced trade flows. The UNCDF & GOU (2020b) report estimates that 49.2% of export-oriented businesses expect over 20% decline in export volumes. Also, among some maize exporters such as AfroKai Ltd saw exports to their usual markets like South Sudan and DRC dropping to zero during the lockdown. The majority of businesses reported moderate reduction in international demand by a range of 26% to 50%. Yet informal traders, especially women and youth, were financially affected. For example, about 67,240 MT of dry beans were traded from Uganda to other EAC member states in the first quarter of 2020, a 21% drop from the same time last year (FEWS NET, 2020).

Unique to the rice value chain that depends largely on imports, stock dwindled from major suppliers, including India and Vietnam, which reduced or banned rice exports as a food security strategy during the pandemic (World Economic Forum, 2020). This affected the operation of over 20 millers, who depend significantly on the imports of mainly brown rice. Since close to 60% of the formal rice imports in Uganda are from outside Africa (ref to 2018 data) (ITC, 2020), their transit into the country requires movement through Kenya. However, during this pandemic, acquisition time of the bills of lading for imports (one of the crucial documents for importation) into Kenya has increased from 3-4 days to 3-4 weeks (World Economic Forum, 2020). Nevertheless, reduced imports from South Asian markets opened an opportunity for importation from Tanzania, resulting in a current influx of paddy.

The distribution of maize grains to Kenyans by their government had a downward push on prices of maize exported to Kenya from Uganda by 20% (from UGX 1,100/kg to 880/kg). As a result, maize grain export to Kenya became less profitable, factoring in the heightened transaction costs and delays at the border points.

There are increased concerns and complaints about quality deterioration especially for exports because of the delays in clearing. An example is ESL, a seed company that exports to the South Sudan market and registered a 25% increase in the number of complaints about seed quality due to mandatory border testing and clearance delays.
Logistical delays due to change in border operations especially mandatory testing of drivers and releasing of trucks only on receipt of test results that take 24-48 hours. This has had a grave impact on logistics companies as well as exporters and importers. For instance, prior to COVID-19, a shipment from Mombasa to Kampala took 3-5 days. However, due to these measures and the resultant congestion this increased to 10-21 days. Cost of freight/transport has gone up by 30%.

**National Food/Input Logistics**

The onset of the COVID-19 pandemic led to stagnation and delays in exports of crucial machinery and technologies for rice, maize, and beans processing from China. Thus, processors have expressed concern over delayed processes in importation that have stalled operations. A case in point is Equator Seeds Ltd (ESL), a seed company that has established a grain processing plant (Equator commodities) targeting the export market. ESL initiated an order for processing line equipment from China in December 2019 with anticipation of delivery in April 2020. However, the onset of the pandemic in China halted the process, with no machines delivered yet. This has delayed the start of some projected operations of Equator commodities Ltd.

Suspension of weekly and monthly markets reduced income streams of some agricultural households, thus reducing their ability to purchase planting material (seed) and agro-chemicals. Nonetheless, much as inputs may be available, panic buying that ensued when prices of basic goods shot up had a downward push towards household purchasing power, and this could reverberate to the subsequent seasons.

Transport restrictions prevented most of the farmers from accessing agrochemical shops, restricted operational times and restricted staff travel for input suppliers. This resulted in reduction in sales and turnover (IFDC, 2020). In reference to an interview with Equator Seeds Limited (ESL), they anticipate a minimum recovery period of 5 years from the disruptions and losses incurred during the COVID-19 pandemic. ESL trade volumes in the first season of 2020 were reduced by 25% (from 6,000MT in 2019 to 4,500MT) due to reduced demand, reduced capital base to purchase the seed from farmers, and a 30% reduction in out-growers reached attributable to the suspension of public gatherings. Another case is that of Grow More seeds & chemicals Ltd that experienced a 65% decline in volumes of bean seed supplied from one of their major districts, Bulambuli.

Slight decrease in prices of inputs due to dampened demand (reported by 43% of businesses) among the large traders/wholesalers coinciding with a build-up of inventory (EPRC, 2020), while the retailers/stockists increased product prices to offset the increment in transport costs. For example, agro-input dealers in Masaka increased the cost of agro-chemicals by UGX 10,000 to cater for the incremental transport costs incurred in sourcing from Kampala, which affected overall sales.

Reduced input access and use, especially of fertilizers, agrochemicals, and mechanisation services (ASARECA, 2020). This was driven by reduced purchasing power, unavailability of inputs, limited access to input suppliers and increased prices among stockists and retailers. Purchasing power reduced due to shifting of spending decisions to purchase of basic goods at the start of the lockdown, loss of income earning opportunities due to bans on weekly and monthly output markets and loss of employment of household heads previously employed formally or informally. The shortage in agrochemicals is of great concern given the pending risk of the locust outbreak and likelihood of inability to contain it in case it worsens (Schmidhuber et al., 2020). There were localised reports of Fall Armyworm in maize fields in the Central and Eastern Regions; and Desert locusts in Teso, Karamoja, and parts of Acholi and Lango sub-regions of North-Eastern (FEWS NET, 2020). The situation was made worse by floods in several production areas. At least 100,000 people were affected by floods that hit Kasese District, destroying gardens, bridges, and other properties. Therefore, together with heavy rainfall, there was localised flooding in the Central and Eastern Regions, which destroyed agricultural fields and displaced agricultural households. All these events are bound to lead to lower productivity and production volumes this season.

Many farmers usually access inputs in cash or in kind through off-takers, input suppliers and financial institutions as credit. During this period, however, there was an escalating demand for loans (for monetary and agro-inputs) and a radical reduction in savings at all levels. As a result, the ability and
willingness of the usual financiers to offer the credit dwindled due to pressure on their own businesses as well as the increased risk of default among producers (Agrilinks, 2020).

**Food and Nutrition Security**

Restrictions on movement limited farmer access to output markets, resulting in high food losses. This was worsened by the ban on weekly and monthly markets, closure of schools, restaurants, and hotels that some producers and producer groups used to supply.

Rural weekly and monthly markets are crucial for assemblers/rural traders and agents to collect adequate volumes for supply to larger off-takers. Thus their closure disrupted the supply chains and volumes available for delivery/supply to onward buyers such as wholesalers, processors, and so on. This was worsened by the closure of community stores during the first phase of the lockdown that seriously affected aggregation.

Household food insecurity in mainly urban and peri-urban areas rose. This was driven by the limited access to markets, availability of food stocks, business closures and laying off of workers in urban and peri-urban areas (that affected access to income thus, reduced purchasing power); all sprouting due to the measures set by the government in response to the pandemic. This has been depicted through reduced portions and frequency of meals in households. This situation was fully addressed through the distribution of food relief. Despite the government response to distribute food to the vulnerable, the urban poor say the relief is inadequate. The distribution was only restricted to Kampala and Wakiso, with some households unable to get the packages (Alliance for Science, 2020).

**Gender Inclusion & Inequality**

Proliferation in cases of domestic violence. Alluding to this situation, within a space of one month during lockdown (March 30th to April 20th 2020), up to 3,280 gender based violence cases, including 283 against children and at least 6 deaths were reported (Xinhuanet, 2020b; CEDOVIP, 2020).

**Resilience to Shocks**

In the 2020/21 budget, the Government of Uganda set aside UGX 1.0405 trillion to be put in Uganda Development Bank (UDB) as part of government’s Covid-19 stimulus package to avail affordable credit for investment in areas where Uganda has a comparative advantage, such as manufacturing and commercial agriculture. The lending rate at the Bank has also been reduced from 12% to 10%.

Directive that up to UGX 5.3 trillion that could be potentially saved from the 2020/21 budget be re-allocated to support food security programs and wealth creation (Under OWC/NAADS) (Daily Monitor, 2020) Youth, the Women and the NAADS funds. In addition, support would be extended to some categories of businesses heavily affected by the lockdown measures such boda bodas, salons, bars and nightclubs, musicians/artists, and so on. Some of these funds will be availed as low interest loans through Microfinance Institutions or Community SACCOs. Additionally, seed capital (UGX 256 Bn), would be allocated to organised special interest groups under Gazetted Funds for the Youth Livelihood Program (YLP) and Uganda Women Entrepreneurship Program (UWEP) and the ‘Emyooga’ Talent Support scheme.

The Minister MoFPED also proposed the following.

- UGX 300 billion provided to immediately boost production and productivity in maize, cassava, oilseeds (including palm oil), cotton, coffee, cocoa, beef, fish and dairy. This will be directed to facilitate access to seedlings, fertilizers, irrigation, storage facilities and value addition.
- UGX 300 billion allocated in the 2020/21 budget to enhance the provision of improved subsidized agricultural inputs using the NAADS e-Voucher Scheme under the ACDP, to farmers and upscaling agriculture extension services to boost production of key agricultural commodities.
UGX 45 billion allocated in the 2020/21 budget to the continuation of relief aid in response to the COVID-19 crisis, and natural disasters such as the locust invasion and climate change crisis, leading to floods and landslides.

Roll-out of regional and community-based storage facilities to store increased agricultural products and reduce post-harvest losses.

To increase resilience against climate change shocks, within the 2020/21 financial year, 12 small-scale solar power irrigation schemes, 20 parish-level and 30 small-scale irrigation schemes will be constructed.

Under the Support to Agricultural Revitalization and Transformation (START) Facility, the UNCDF has unlocked UGX 0.83 Bn, to enhance liquidity of SMEs in the Northern region, through loans from the UDB at zero-interest, and flexible repayment of at most twelve months (UNCDF News, 2020). The government also secured a USD 491.5 million loan from the IMF to help finance the health, social protection and macroeconomic stabilisation measures, to meet the urgent balance-of-payments and fiscal needs arising from the COVID-19 outbreak (IMF-PR, 2020).

UGX 94 Billion has been allocated by the government as credit through SACCOs and microfinance institutions for SME and business recovery (Parliament of Uganda, 2020). This was allocated under the 2020/21 budget.

For continued innovation research and incubation of business start-ups, increase funding to Uganda Industrial Research Institute (UIRI) in FY 2020/21.

Secure funding for development of Kampala Industrial Business Park at Namanve and for power transmission and substations for Mbale, Kapeeka, Bweyogerere, Kasese, Soroti, Luzira, Jinja and Mbarara industrial parks.

Job Creation by expanding labour intensive public works in urban and peri-urban areas; for which an allocation of UGX 130 billion was made in the 2020/21 budget.

Bank of Uganda through its Monetary Policy Statement of April 06, 2020, pronounced several credit relief measures during this pandemic period to be extended to borrowers of commercial banks, credit institutions, and Microfinance Deposit Taking Institutions (MDIs) supervised and licensed by the Bank. These measures are only granted within the 12-month period with effect from April 01, 2020, in the best interest of consumers (with full disclosure). The measures include:

- Debt restructuring (covered in existing regulations) such as extension of loan tenor and a maximum of 12-month repayment holidays.
- Decision to offer or decline a credit relief is the responsibility of the Supervised Financial Institution (SFI).
- Credit status at the time of granting a repayment holiday shall remain unchanged for the duration of the said repayment holiday.
- Arrear prepayment as a condition for restructuring a credit facility is suspended for 12 months with effect from April 01, 2020.
### 3.4.3 Interventions by development partners towards COVID-19 mitigation

**Table 4-4: Summary of interventions by development partners**

<table>
<thead>
<tr>
<th>Development Partner</th>
<th>Summary of interventions</th>
<th>Amount (USD)</th>
<th>Highlight any specific focus on gender and inequality</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. WFP</td>
<td>Food distribution in refugee camps. Working with government to: strengthen and expand social protection programmes to address poverty, food insecurity and malnutrition; sustain food production, trade, distribution and consumption; support national health systems through improved supply chains, data collection and targeted nutrition services for the most vulnerable; and provide alternatives to school feeding since educational activities have been suspended in the wake of the pandemic.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. FAO</td>
<td>Committed to supporting access to food and nutrition for Africa’s most vulnerable; providing Africans with social safety nets; minimizing disruptions to the safe movement and transport of essential people, and to the transport and marketing of goods and services. Collective fight against the second wave of locusts together with the government.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. EU</td>
<td>Extended €178 million (around 737 billion UGX) support to Uganda to combat COVID-19.</td>
<td>USD 204 M</td>
<td></td>
</tr>
<tr>
<td>4. UNDP</td>
<td>Availed the Government of Uganda with Zoom licenses, laptops and HD video conferencing cameras to enable the government to maintain its core functions operational and to plan, coordinate, communicate and finance its COVID-19 response. The UNDP Uganda instituted a response plan budget of US$12M, specifically to: launch innovative grants for MSMEs, young entrepreneurs and support supply chains in agriculture, trade and services sectors; promote inclusive and integrated crisis management and multi-sectoral responses by experimenting and scaling-up innovative and digital solutions (Zoom virtual video and audio-conferencing) to empower partners to solve development challenges; but also electrify existing or temporary health facilities and other social sectors in Uganda through renewable energy solutions, coupled with improving coordination of COVID-19 response and recovery to strengthen service delivery.</td>
<td>USD 12 M</td>
<td>Launched innovative grants for young entrepreneurs</td>
</tr>
<tr>
<td>5. The UN Mission</td>
<td>Provision and coordination of food, agro-inputs and extension services, establishment of food supply and access infrastructure, in collaboration with government; nutrition security through provision of community public health services, with distribution of specialized nutritious foods to curb malnutrition within a 3-6-month period</td>
<td></td>
<td>Grants to women-led and other MSMEs</td>
</tr>
<tr>
<td>6. Give-Directly</td>
<td>Working with Civil Society Organisations and mobile network operators (MNOs) to identify vulnerable individuals and enrol them remotely to receive an initial three-month basic income of USD 25 USD in rural areas and USD 50 in urban areas. With government and donor buy-in, this could be expanded to reach hundreds of thousands of Ugandans.</td>
<td>USD 25 and 50 per household, for rural and urban areas respectively</td>
<td>Trained paralegals to create awareness about gender-based violence in communities during the lockdown</td>
</tr>
<tr>
<td>7. UN Women</td>
<td>Capacity building to prevent unforeseeable effects e.g. gender-based violence</td>
<td></td>
<td>60% of the target were youths, including women</td>
</tr>
<tr>
<td>8. SNV</td>
<td>Distributed improved early maturing and drought tolerant seeds, and agro-inputs (pesticides and tarpaulins) to farmers. Also trained farmers in CSA.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. World Vision</td>
<td>Food distribution in refugee camps. Designated over US$1,010,000 (3.73 billion UGX) from its different programmes in Health, Education, Water &amp; Sanitation, Livelihood and Refugee Response to its COVID-19 Emergency Response programme. Donated over 40,500 kilogrammes of soap to the Office of the Prime Minister (OPM) in Arua district. Dispatched hygiene equipment and supplies worth UGX 2 billion to support 500 government health units and hospitals in 38 districts.</td>
<td>USD 1.642 M</td>
<td></td>
</tr>
</tbody>
</table>
### Summary of Interventions

<table>
<thead>
<tr>
<th>Development Partner</th>
<th>Main goal and focus of intervention</th>
<th>Amount (USD)</th>
<th>Highlight any specific focus on gender and inequality</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. <strong>The World Bank</strong></td>
<td>Together with other non-state actors like IGAD and World Vision, the World Bank made cash contributions – UGX 57 billion (USD 15.42 m) to combat COVID-19.</td>
<td>USD 15.42 M</td>
<td></td>
</tr>
<tr>
<td>11. <strong>UNICEF &amp; Standard Chartered</strong></td>
<td>Supplied nearly 12,000 pieces of Personal Protective Equipment (masks, gloves, and boots) to support health workers in various districts throughout the country as well as soap, hand-washing facilities, and some 17,000kgs of chlorine to be used in 17 regional referral hospitals and health facilities for infection control. UNICEF is also actively supporting the Ministry of Education and Sports (MoES) with distance learning opportunities as well as providing mental health and psychosocial support to children and families who have been directly affected by COVID-19. In order to raise awareness about the pandemic, UNICEF is supporting the production, procurement, and distribution of nearly three million information, education and communication materials through audio mobile vans, along with the airing of radio spots and talk shows in 30 local languages.</td>
<td>USD 0.3 M</td>
<td></td>
</tr>
<tr>
<td>12. <strong>Red Cross</strong></td>
<td>Involved in carrying out lifesaving interventions such as risk communication, beneficiary registration, food distribution, community surveillance, screening, hygiene promotion, ambulance services and referrals, psychosocial support to the affected. Together with MTN, Red Cross donated standard non-food item kit (containing cooking pots, jerrycans, cups, plates, Knives, ladles, blankets, bars of laundry soap, tarpaulin, mosquito nets, solar lamps, mats, and buckets) in Kasese.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. <strong>Telecommunication companies</strong></td>
<td>With the temporary waving of transfer fees, free COVID-19 message alerts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. <strong>WHO</strong></td>
<td>Guidelines to follow during the pandemic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 3.4.4 Disruption and Impact of COVID-19 on Different Populations

#### 3.4.4.1 Smallholder Farmers

The COVID-19 pandemic posed quite appreciable challenges to the smallholder farmers. Many of them experienced reduced access to inputs, which is likely to affect productivity and production volumes. This was attributable to reduced access to input markets, suppliers, financial institutions, shortage of inputs and reduced financing base, with SHFs interviewed indicating at least a 50% drop in access to inputs arising from the lockdown, transport restrictions and ban on weekly and monthly markets. There was also reduced access to output markets that led to high postharvest losses and cash flow shortages, which revenue streams are crucial to financing production activities, resulting from the ban on weekly and monthly markets, transport restrictions, curfew, lockdown.

Additionally, decreased labour supply and availability especially for casual workers on farms (for producers that hire labour) due to the lockdown and transport restrictions. Nonetheless, to some farmers, with the closure of all schools, agricultural labour in rural areas was slightly reinforced since use of family labour is common among smallholder farmers. However, increased labour cost increments of 100% were reported in some areas, such as, Ntungamo due to transport restrictions, lockdown, and curfew. Furthermore, difficulty in financing due to drained base and closure of some common sources of finance like SACCOs and VSLAs as well as limited access to commercial banks and reduced access to extension services arising from the ban on social gatherings, movement restrictions and fear of contagion, was experienced by a majority of farmers.
3.4.4.2 Women and Youth

With the ban on public transport, input access was a challenge specifically to women farmers, who do not own or cannot operate private transport means such as bicycles and motorcycles, yet the closure of the land borders halted informal trade that employs several women in border towns. Similarly, the closure of businesses (mostly SMEs) due to reduced demand and sales led to laying off employees, especially the informal and casual workers, where women are dominant. With the lockdown and transport restrictions instituted, women’s access to reproductive health services was undermined, and this is likely to increase cases of child mortality and at worst death of expectant mothers, as well as unplanned pregnancies. This threatens the availability and productivity of the most pertinent labour force for agriculture.

Due to a stay home campaign and restrictions on movement, there was an increase in domestic-based violence against women (and children), something that affects productivity. Considering the business outlook, the impact of COVID-19 is likely to be larger among women enterprises and their respective revenues as opposed to male-owned enterprises (UNCDF & GOU, 2020b).

Similarly, for the youth, the closure of the land borders equally halted informal trade that employs several of them in border towns, rendering them unemployed. As well, the closure of businesses (mostly SMEs) due to reduced demand and sales led to laying off employees, especially the informal and casual workers, for which youth form a good proportion. It is recorded that the transport restrictions also hindered movement of youth (those usually providing labour to farms on a seasonal basis) to places of work. Also, given the fact that a proportion of this segment is still in school, closure of schools coupled with other measures has left them idle, but on the positive side, this boosted availability of family labour especially for producing households.

3.4.4.3 Small and Medium enterprises

In Uganda, most enterprises belong to the MSME category and are spread across the different sectors (UIA, 2016). Therefore, business activity in the agricultural sector reduced by over 50%, owing to the lockdown and other containment measures (such as transport restrictions and a ban on weekly markets) (EPRC, 2020). This is further attributable to reduced supplies, labour availability, and market access. Most of these businesses experienced cash flow shortages and inability to absorb costs because of the reduced operations, demand and revenue against increased costs to meet the mandatory SOPs. The result was that most SMEs suffer from liquidity problems. Revenue reduction has been due to a sharp decline in traded volumes driven by low demand (Mutegeki, 2020). Declined/reduced orders, fewer distributions due to transport difficulties, closure of key markets for maize flour, beans and rice like schools, hotels, and difficulty in getting in touch with suppliers also played a part. As a result, several agribusinesses are unable to pay the operational costs, sustain salaries or wages for workers, utility bills and rent, while having to fork out extra costs for field operations as there are restrictions on the number of farm workers that can gather at any time.

Also, the increase in business operating expenses due to implementation of the mandatory SOPs could be witnessed in extra expenses incurred in providing sanitizers and masks for employees, coupled with price hikes of the two requirements, and the requirement to house employees at company premises during the first month of lockdown. This halted the operations of many businesses, mostly SMEs and led to laying off employees (EPRC, 2020). Additionally, due to closure of factories, halting of international flights and delays in export clearings from major manufacturing countries such as China in an attempt to contain COVID-19, inputs of manufacturing businesses have become relatively expensive and unavailable (EPRC, 2020). This puts specifically Ugandan processors at risk since most of the machinery and spare parts is imported from China. Severe effects on operations are already being felt. A case in point is Equator Seeds Ltd (ESL), a seed company that has established a grain processing plant (Equator Commodities) targeting the export market. ESL initiated an order for processing line equipment from China in December 2019 with anticipation of delivery by latest April, 2020; however, the onset of the pandemic in China halted the process, with no machines delivered to date which has delayed start of operations of Equator Commodities Ltd. This coupled
with banning of food exports from key supplier markets in their interest of domestic food security e.g. Vietnam has affected operations of value chains with a big reliance on imports such as rice.

Furthermore, reduced abilities to repay loans have ensued, with the largest declines being reported among micro (69% of the businesses), small (72% of the businesses), and medium (88% of the businesses) scale businesses. This could be attributed to the loss of revenue, since most of the MSMEs halted operations (EPRC, 2020). These happenings later forced businesses to devise rational operations, such as supply model adaptations, due to limited physical access to consumers, businesses, thereby altering their usual demands (figure 4-1). These include the adoption of digital technologies (e-commerce) and door to door deliveries. UNCDF reported that 40% of businesses used technology to reach out to customers, receive orders and payments. This was a limitation in rural areas with a low internet reach (UNCDF & GOU, 2020b).

SMEs were also affected by bottlenecks like border closures to humans as well as the mandatory testing of truck drivers, with exportation to the neighbouring countries impinged, thus affecting business operations and employment of mostly the informal traders, the most affected value chains being maize and beans. The condition was exacerbated by delays in accessing some essential services from responsible authorities for certification and clearance such as the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) and Uganda National Bureau of Standards (UNBS). This affected the operations of several value chain actors for instance seed producers that require inspection and certification services from MAAIF. Reduced labour availability, because most employees of SMEs use public transport, which was banned on 25th March 2020, negated their productivity.

![Figure 4-1: Change in domestic demand (% of businesses)](source: EPRC, 2020)

### 3.4.4.4 Informal Businesses

Informal businesses employ the largest number of people in agriculture especially in the staple value chains. With exception of subsistence farmers, 85% of all the employed population is in informal employment (Walter & Binsg, 2020). Informal employment is largely present in agriculture and rural sectors, where more than 80% of the self-employed are informal (ILO, 2018). However, a crippling of the sector was experienced during the period of transport restrictions given the heavy reliance on
public transport for those employed in the sector as well as for logistics. These restrictions reduced transactions in the informal markets since the majority of the businesses relied on public transport including boda bodas for logistics and moving to and from their businesses. On relaxation of this measure on the 4th June, the observance of SOPs especially social distancing led to halving the usual capacity of public means, thereby doubling transport fares.

Earlier on, the suspension of weekly and monthly markets strained income flows since sale of produce in the local village markets was disrupted. In addition, local markets had several vendors suspended due to failure to adhere to the SOPs. Consequently, there were cash flow shortages and inability to absorb costs due to reduced operations, demand, revenue, and increased costs to meet the mandatory SOPs. This resulted in most informal businesses suffering a liquidity crunch. Revenue reduction can be attributed to a sharp decline in traded volumes driven by low demand (Mutegeki, 2020), declined/reduced orders, lower distribution due to transport difficulties, closure of institutions such as schools and hotels which constitute key markets for maize, beans and rice and difficulty in getting in touch with suppliers. The response to this was reduction in business activity, temporary closure, prioritising costs, laying off employees and restructuring wages. Therefore, reduced incomes of informal MSMEs due to the COVID-19 restriction measures in agriculture has pushed 15% of businesses below the national poverty line and 19% have discontinued operations (UNCDF & GOU, 2020b). Nationally, about 44 million informal sector workers will lose their earnings or see them drop below the national poverty line (UNCDF & GOU, 2020b).

With the majority of the informal businesses operating in open markets, the fear of contagion among the usual consumers/customers impacted and reduced their visits to markets, which further lowered demand and revenue. Also, reduced available financing due to drained resources of SACCOs and inability to access loans during the implementation of containment measures such as lockdown and transport bans would likely limit the ability to stock. However, it is expected that demand for goods and services in the informal sector will rebound to its pre-COVID-19 level within three months, a factor that is likely to drive recovery. Nonetheless, commencement of businesses for the majority will be a challenge due to loss of market share and assets resulting from the pandemic and subsequent containment measures (UNCDF & GOU, 2020b). Additionally, the closure of borders and border markets affected cross-border trade and earnings of informal traders, which are mostly women and youths. Some produce markets like Busia market which is key in cross-border trade of food staples were closed to contain the spread of the virus. This led to closure of business for the majority of the traders while others continued operations at half capacity.

### 3.4.4.5 Blue collar workers

Blue collar workers are mostly employed in the manufacturing and services sectors, which experienced a higher load of layoffs, closures, and salary restructuring (EPRC, 2020; UNCDF & GOU, 2020b). Owing to the prevailing COVID-19 containment measures, for 24% of the manufacturing businesses, salaries were reduced by more than 50% while 41% of businesses laid off more than 50% of the employees (EPRC, 2020). Similarly, among agribusinesses, mandatory closure was observed in food service centres and this led to laying off several blue-collar workers, largely women affecting their purchasing power and ability to access food and other basic needs.

Additionally, the suspension of public and private transport and the curfew affected access to workplaces and reduced business activity attributable to reduced demand continued to accelerate the laying off of blue-collar workers, or salary restructuring in a bid to lower the costs of operation. This is because for several businesses that fetch and pay a daily wage, a temporary closure meant a cessation not only of activity, but also a loss of would-be revenue. Resultantly, with most of these workers living ‘hand to mouth’, they were categorised as the vulnerable poor, targeted for government food relief. However, the inefficiencies in the distribution of food relief affected their household food and nutrition security. This in addition to the containment restrictions which had already affected their incomes, purchasing power and general livelihoods.
Generally, the agriculture, manufacturing, and services sectors, which form the bulk of the country’s economy, experienced varied levels of shock in the supply of workforce, as well as salary changes. The study (figures 4-2 and 4-3), by EPRC (2020) visualises these changes graphically, below.

**Figure 4.2: Overall change in the workforce**
Source: EPRC, 2020

**Figure 4.3: Change in salaries of employees**
Source: EPRC, 2020
3.4.5 Disruption and Impact of COVID-19 on Labour as a Factor of Production

Labour shortages due to mobility restrictions and social distancing requirements, have impacted value and supply chain operations as well as the different actors i.e. producers, processors, traders and trucking/logistics companies in food supply chains; particularly for food products that require workers to be in close proximity (World Bank, 2020). Different nodes have been impacted in akin or contrasting manner that is:

**Production:** With the closure of all schools, agricultural labour in rural areas was slightly reinforced, benefitting from family labour, common among smallholder farmers. However, for those sourcing hired labour due to size of their operations, restrictions on movement limited labour availability for farm activities. Consequently timeliness of activity since the lockdown was affected, coinciding with the onset of the planting season in some areas. Resultantly, costs of operation increased for employers with the burden of housing and feeding workers around their farms. In some areas e.g. Ntungamo, a key bean producer, labour costs increased by 100% (from UGX 4,000 to 8,000 per person per day). Additionally, reduced liquidity among producers amidst transport restrictions, suspension of weekly and monthly markets that were income sources through sale of produce, and inability to access credit from financing institutions, affected their financial ability to hire labour.

In response, some farmers reduced the area under operation to maximise the available and accessible labourers. Therefore, this is likely to impinge on production volumes this season. At input level, seed production and multiplication are expected to reduce by 50-60%.

**Other value chain nodes:** Labour availability was constrained since transport restrictions hindered access to business premises coupled with the mandatory requirement to accommodate the employees at the business premises. Also, some casual labourers demanded higher wages (e.g., from UGX 5000 to 7000) since they claimed to be risking their lives. Although workers were available in some localities, only a few were employed since housing and feeding the few encamped ones meant increased operational costs for employers.

3.4.6 Disruption and Impact of COVID-19 and Government Measures on Food Value Chains

3.4.6.1 Supply and Access to Key Agricultural Inputs (Seed, Fertilizer, Chemicals)

Supply chains for key agricultural inputs were affected by restriction in movement, suspension of public transport and curfew (6:30am to 7pm), which reduced input sales (seed, fertilizers & agrochemicals) since most actors are located in towns and most of their customers live far apart, yet rely on public transport to pick inputs (Palladium, 2020). Additionally, (i) with the onset of rains, most rural roads became impassable, and coupled with movement restrictions, increasing the cost delivering inputs, doubling in some cases (AFAP, 2020); (ii) there was difficulty in accessing business premises, especially given the fact that for most value chain actors, their residences are at appreciable distances (as far as 15km), making it hard to commute, considering the curfew hours (AFAP, 2020); (iii) input dealers faced difficulties accessing suppliers since the key hub is Kampala which is quite distant from production areas coupled with hiked transport costs (Palladium, 2020), which destabilised the input supply system, since these logistical challenges resulted in supply contract breaches.

Additionally, export restrictions, closure of factories and a ban on international travel to contain the spread of COVID-19, in regions where most inputs (e.g. seeds, agro-chemicals and other agro-inputs) are sourced (i.e. Europe, South Africa and Middle East, including China and India) affected restocking by a majority of the agro-dealers in the country. The pandemic has also led to delays in imports and ‘lesser than ordered deliveries’ (IFDC, 2020). In some cases, common agro-chemicals such as mancozeb ran out of stock in agro-input shops, compelling farmers to use alternatives they are not familiar with. Such was expected, especially given the high import reliance of Uganda for synthetic fertilizer and agro-chemicals (FAO, 2020c).

With the suspension of weekly and monthly markets, following a presidential directive, there were reduced income streams of some agricultural households, thus reducing their ability to purchase
planting material (seed) and agro-chemicals. Nonetheless, much as inputs might have been available, panic buying that ensued when prices of basic goods shot up had a downward push towards household disposable income and purchasing power, which increased the prices of some inputs, rendering them less affordable by majority farmers. Furthermore, the transport restrictions prevented most of the farmers from accessing the agrochemical shops, restricted operational times, including staff travel, for input suppliers, resulting in reduction in sales and turnover (IFDC, 2020). With reference to an interview with Equator Seeds Limited (ESL), based on the volumes produced and traded they anticipate a minimum recovery period of five years for the input industry.

For example, traded volumes for ESL in the first season in 2020 reduced by 25% (from 6,000MT in 2019 to 4,500MT) due to a reduced demand, reduced capital base to purchase the seed from farmers and a 30% reduction in out-growers reached (attributable to the suspension of public gatherings). Another case is that of Grow More seeds & chemicals Ltd that experienced a 65% decline in volumes of bean seed supplied from one of their major districts, Bulambuli.

Amidst low traded volumes, it is expected that delayed inspection and certification for seed producers by MAAIF due to unavailability of inspectors is likely to affect available stock. Coupled with the limitations to capacity building of seed multipliers by seed company staff, both volumes and quality of seed produced this season are likely to deteriorate. For example, ESL supplied seeds to only 70% of the seed multipliers due to the anticipated difficulty in inspection and monitoring. In addition, there was an increase in operational costs due to implementation of COVID-19 containment measures such as providing sanitizers and masks for employees (worsened by a spike in price of both articles), and housing employees at company premises during the first months of the lockdown (EPRC, 2020). This led to temporary closure of some businesses due to failure to absorb the additional costs of implementation (EPRC, 2020), downsizing the workforce and effecting salary cuts. A case in point is ESL that laid off 60% of its casual workers (from 2,500 to 1,000), to minimise the increment in the cost of operations (casual workers were housed and fed at the facility), which has had a negative impact on available stock.

Conversely, some slight decreases in prices of inputs occurred due to dampened demand (reported by 43% of businesses) among the large traders/wholesalers, coinciding with a build-up of inventory (EPRC, 2020). There was limited export, while the retailers/stockists increased product prices to offset the increment in transport costs. For example, agro-input dealers in Masaka increased the cost of agro-chemicals by UGX 10,000 to cater for the incremental transport costs incurred in sourcing from Kampala, which affected overall sales.

Nevertheless, increased use and adoption of e-extension by producers and extension workers given the travel restrictions, transport bans and restrictions on gatherings, was registered. One of the leading service providers in e-extension, Akorion company Ltd recorded an increase in adoption and use of the Ezyagric app by up to 40% of new farmers, mostly used to order for agro-chemicals. Orders through the app increased by 115% from 2,000 per season to 4,300 during the COVID-19 period. As a result, the value of fertilizers and agro-chemicals sales increased by 150% (from UGX 200 million to 500 million) during this period compared to the previous seasons.

The figure 4-4 below summarises the changes experienced in input access owing to the containment measures instituted to curb the COVID-19 pandemic.
Boxes 1-4: Selected cases of agro-input suppliers – Impact of COVID-19 measures on their operations

**Case 1: Equator Seeds LTD – producer and supplier of seed of various crops including rice, maize and bean seed**

Equator seeds Limited (ESL) is one of the leading seed producers and marketers in Uganda. Before the sudden outbreak of COVID-19 in Uganda, ESL would trade over 10,000MT (60% sold in the first season) of bean seed per year with the major buyers being UN agencies (most especially FAO), Government (MAAIF), South Sudanese government and agro-dealers, Ugandan agro-dealers and farmer cooperatives. Containment measures such as transport restrictions, mandatory border testing, suspension of public gatherings, instituted to combat COVID-19 had severe impact on the business and operations of ESL. Using the case of bean seed, some prominent impacts included: (i) reduction in sales, with a 25% drop in traded bean seed volumes (from 6,000MT to 4,500MT) because of reduced demand, 30% reduction in farmers reached, arising from transport restrictions and suspension of public gatherings; (ii) value of seed traded reduced by 57% from UGX 60 million to UGX 26 million; (iii) profits also dropped by 64% from UGX 10 million to UGX 4.4 million; (iv) markets served reduced by 33.3% attributed to a complete halt of demand by agro-dealers from within and outside Uganda; (v) due to the anticipated difficulties in inspection of seed multipliers, only 70% of farmers were provided with foundation seed; (vi) 60% (1,500 jobs) of the casual workers were laid off to minimise increment in the cost of seed processing since employees were housed and fed at the facility; and lastly, (vii) around 25% increase in the number of complaints from South Sudan about seed quality due to mandatory border testing and clearance delays.
**Case 2: Akorion (Fertilizer and agro-chemical distributor)**

Akorion Company Ltd, is an agri-tech company digitising agricultural value chains to enable all commercial farmers and other agribusinesses to access high-quality production and marketing services through a flagship platform, EzyAgric app. The company does not own stores but uses master agents (cooperatives), agro-input dealers and village agents (VAs) to deliver agro-chemicals to final consumers. When orders are received from VAs, cooperatives, or agro-dealers, the company links up with suppliers of such agro-chemicals and fertilizers, which are then delivered to farmers. The major agro-input suppliers working with Akorion are Bukoola Chemicals Ltd, Nsanja Agro-chemicals Ltd and Simlaw Seeds Ltd. The company uses 3 delivery systems i.e. smartphones (farmers order using the app and later pick from the company), agro-input dealers (pick from the company for further supply to distant farmers), cooperatives (get orders from farmers to the company that later supplies to the cooperative). The company experienced significant positive impact because of the pandemic and the government's containment measures. Some of these include: (i) During the lockdown, delivery services were offered to only smartphone farmers which prompted the incremental use of the app by over 40%; (ii) Volume of fertilizers and agro-chemicals traded through the app increased by about 40% due to transport restrictions; (iii) Fertilizers and agro-chemicals sales increased by 150% (from UGX 200 to 500 million) during this period compared to the previous seasons; (iv) Increased adoption of the Akorion app (Ezyagric) by up to 40% of new farmers to order for agro-chemicals as a result of transport restrictions; (v) Orders for agro-chemicals increased by 115% from 2000 per season to 4300 during the COVID-19 period; (vi) Adaptation of supply chains. Delivery was dependent on the company van, public buses for customers in western, central and eastern regions. The Northern Region was left out, because transport costs by delivery trucks to the north increased by 100% (from UGX 5,000 bag to 10,000 bag) compared to other regions. On the negative side, export restrictions in countries where agro-chemicals are sourced and mandatory testing at border points worsened and caused delays in supply. Delayed deliveries amounted up to 30% of the total orders received. Additionally, observation of social distancing led to closure of the office, affecting physical availability.

**Case 3: Bukoola chemical industries limited – Agrochemicals distributor**

Bukoola Chemical Industries Limited (BCIL), is a leading importer that also does repackaging and distribution of agro-chemicals and personal protection equipment and gear (PPEs), against chemicals. During the COVID-19 period, BCIL has had to close down some of its production units, like that of secondary chemicals and PPEs processing, since there were export bans in source countries, especially China and India; whilst some agro-chemicals stocks were depleted and equipment was either stalled or operating below capacity, due to increased lead times (of 50-100% of the initial times spent), between orders and deliveries of the involved secondary inputs, owing to border restrictions and delays. Despite being provided with travel stickers, BCIL faced a 30% reduction in staff availability, who were also constrained by the ban on public transport and adherence to the curfew. Staff also faced a 25% reduction in working hours. Distribution of certain chemicals that ran out of stock had to be shelved since they could not be imported. Similarly, movement restrictions within the country, equally resulted in delays in delivery of products to customers by at least 50%. Some distant customers also could not access the company facilities and outlet shops due to such logistical bottlenecks. Consequently, support services like free consultations and technical training of agro-input dealers decreased by 60%, due to the ban on gatherings and social distancing requirements.

**Case 4: Bongomin Group Limited – Provider of mechanisation services in rice**

Bongomin Group Limited (BGL) is an agro-input company that is also involved in rice production. The company’s involvement in rice production was catalysed by its innovation of low-cost and efficient solutions for the labour-intensive production of rice in eastern Uganda. The company provides mechanised operations using its in-house trained workers and own equipment, but also supplies seed and agro chemicals. During a normal season BGL employs 500-700 casual staff and 12 permanent staff. The COVID-19 pandemic has set back its operations. The most impacted line of business was provision of hired labour due to mobility challenges, with up to 90% incremental cost per head due to restrictions on movement. To mitigate this, the company resolved to train new labourers closer to the operation at a marginal cost (UGX 24 Million). Later it requested its staff to cost share transportation. Altogether, profit margins during this period have decreased by 3%. Furthermore, BGL had MoUs pending in DRC, Cameroon and Kenya, which have been put on hold.
3.4.6.2 Production and Harvesting of Identified Food Crops and Others

During the containment period, the production nodes of the value chains experienced reduced input access and use. This applied especially to fertilizers, agrochemicals, and mechanization services (ASARECA, 2020) and was driven by reducing purchasing power, unavailability of inputs, limited access to input suppliers and increased prices among stockists and retailers. Purchasing power reduced due to shifting of spending decisions to purchase of basic goods at the start of the lockdown; loss of income earning opportunities due to bans on weekly and monthly output markets; and loss of employment by household heads previously employed formally or informally. The shortage in agrochemicals is of great concern given the pending risk of the locust outbreak and likelihood of inability to contain it in case it worsens (Schmidhuber et al., 2020). There were localised reports of Fall Armyworm in maize fields in the Central and Eastern Regions; and Desert locusts in Teso, Karamoja, and parts of Acholi and Lango sub-regions of North-Eastern (FEWS NET, 2020). The situation was made worse by floods in several production areas. At least 100,000 people have been affected by floods that hit Kasese District, destroying gardens, bridges, and other properties. Therefore, combined with heavy rainfall, there has been some localised flooding in the Central and Eastern Regions, which destroyed agricultural fields and displaced agricultural households. All these events are bound to lead to lower productivity and production volumes this season.

Also, during this period, there were reduced operations of financial institutions. Most commercial banks responded to the government containment measures by opting to reduce working hours by about 40% (from 0900 to 1500 as opposed to from 0800 to 1800 pre-COVID-19). They also reduced staff by half during the lockdown, which affected the speed of loan processing targeted for procurement of services. The other common sources of finance for producers such as village SACCOs and VSLAs severely declined because of dmember savings were drained and delays in repayment for debtors occurred. Coupled with transport restrictions this affected access to finance in time for production activities.

Additionally, reduced labour availability and cost was merited by the smallholder farmers, following the closure of schools in March, for which family labour was available, for a good proportion of the production and postharvest activities. However, reduction in labour availability and its consequences was experienced among medium to large producers that require, and use hired labour due to the size of their operations. Furthermore, restrictions on movement, limited farmer access to markets resulting in high food losses. This was worsened by the ban on weekly and monthly markets, closure of schools, restaurants, and hotels that some producers and producer groups used to supply. Similarly, village stores were closed due to misinterpretation of presidential directives, putting a huge burden of post-harvest management of previous seasons’ harvest to smallholder farmers whose capacity (in terms of knowledge and skills, and access to PHH technologies) is limited.

While many farmers usually access inputs in cash or in kind through off-takers, input suppliers and financial institutions as credit, during this period, there was an escalating demand for loans (for monetary and agro-inputs) and a radical reduction in savings at all levels, since the ability and willingness of the usual financiers to offer the credit dwindled due to pressure on their own businesses as well as the increased risk of producers with high uncertainty surrounding capability of repayment (Agrilinks, 2020).

Boxes 5-7: Selected Cases of interviewed Farmers – Impact of COVID-19 measures on their operations

Case 5: Bean producer in Masaka- Stephen Kyazanga

Over the past five (5) years, Stephen cultivated beans on 20 acres of land in Lwengo district. He usually uses credit obtained from banks to supplement his resources to finance the production activities. The government containment measures instituted at the onset of the pandemic, disrupted his operations. In February 2020, he ploughed 9 acres and needed additional funds to complete the other 11 acres, which he sought from a commercial bank. Because of the existing movement restrictions, the loan processing took longer than anticipated. The bank notified him that inspection
of his land (collateral) was delayed because some bank staff was laid off in a bid to comply with the presidential directives. Due to this, Stephen opted to plant beans on only 3 acres out of the 9 that were ploughed. This decision was also driven by a 50% drop in access to labour because of transport restrictions and social distancing requirements. Stephen narrates the ordeal of the police and LDU operatives invading the bean fields to enforce the social distancing restrictions prompting some labourers to abandon the fields. Furthermore, limited access to finance and agro-input shops negatively affected access to fungicides which in any case were often out of stock. Agro-input dealers attributed this to transport challenges to Kampala. Previously, Stephen would harvest 2MT of beans from 3 acres of land. However, since fungicides against bean beetles were inaccessible, he only harvested 500kg, a drop of over 70%.

**Case 7: Maize producer in Bweyale- Donnah Naluggya**

Donnah Naluggya is a maize farmer based in Bweyale, Kiryandongo and belonging to the Bweyale ACE. The onset of the implementation of the containment measures such as the lockdown, social distancing, transport restrictions and a ban on public gatherings, occurred when she had already ploughed her four acres and prepared them. At the start of the season fields require monitoring, which the ban on public transport greatly impeded. Because of the movement restrictions, labour availability decreased 20%. With the additional requirement for social distancing, only a few casual workers could access her field at a time. This increased delayed operations by 30%. Activities like chemical application costs to the transport challenges to Kampala. Previously, Stephen would harvest 2MT of beans from 3 acres of land. However, since fungicides against bean beetles were inaccessible, he only harvested 500kg, a drop of over 70%.

**Case 6: Rice producer in Zirobwe- Jasper Kiiza**

Jasper Kiiza is a rice farmer, belonging to a cooperative called ZAABTA that is based in Zirobwe-Luwero district. Prior to COVID-19, he anticipated to scale up the production area from one to three acres with land that he acquired in February. However, since these fields were quite distant, moving hired labour became a gross impediment in the management of this labour-intensive crop. A 70% reduction in labour was experienced (from 7 to 2 workers), which affected timely execution of operations. This inevitably compromised crop performance. Jasper often sources all the required inputs for farm use from the cooperative agro-input shop, but due to the transport restrictions to Kampala (the input supply hub) the agrochemicals in the shop ran out. He had no option but to forego their use which will likely drastically reduce this seasonal yield. With the ban on public gatherings, Jasper laments about the total cessation of extension and other associated support services. This will affect productivity and paddy quality for this season.

3.4.6.3 Aggregation, Storage, and Trade (Domestic And Regional Trade)

Rural weekly and monthly markets are crucial for assemblers/rural traders and agents to collect adequate volumes for supply to larger off-takers. Their closure disrupted the supply chains and volumes available for delivery/supply to onward buyers such as wholesalers and processors. This was worsened by the closure of community stores during the first phase of the lockdown, seriously affecting aggregation. This resulted in:

Declined orders and reduced sales – This was driven by reduced demand (after a short period of panic buying) and purchasing power, and the closure of operations of institutional buyers such as schools, restaurants and hotels (that make up a big market for both formal and informal trade). Considering the processors that use supermarkets as a channel for distribution, they reported close
to 50% decline in sales during the lockdown. This negatively affected the incomes for businesses and all the people employed at this node.

Decline in business activity - This was due to restriction on movement and transport as well as suspension of weekly and monthly markets that not only strained access to markets, but also limited the number of transactions made by the involved actors (rural traders, producers and middlemen) crucial for trade in food staples. This was further compounded by reduced labour availability especially of casual workers.

Increased operational costs in sourcing raw materials/produce and day-to-day operations - This was caused by the transport restrictions and bans that created a supply gap in transport services leading to an increment in transport costs, which are the major drivers of costs at this node. Logistics disruption has negatively affected 50% of the businesses (UNCDF & GOU, 2020b). This was worsened by increased storage costs for stock, due to declined orders and cost of implementation of the mandatory SOPs.

Price fluctuations – While this has not significantly affected the dry grains and pulses, at the onset of the lockdown speculation and panic buying sky-rocketed. Bean prices nearly doubled (Softpower News, 2020c), thereby increasing the cost of stock-replacement for traders who required supply, creating a need for extra financing. The price of beans increased from UGX 2,000/Kg to UGX 4,000/Kg and in some cases UGX 5,500/Kg, implying that a trader who used to acquire 12 MT at UGX 24 M needed UGX 48 M to procure the same quantity.

Increasing liquidity challenges due to reduced cash flows, accumulation of outstanding payments and shrunk financing options due to reduced activity/operations of financial institutions. This resulted in laying-off of staff, salary restructuring and accrued outstanding payments (e.g. loan repayment, utility bills, rent).

Failure to operationalise supply contracts with producer groups and pre-finance them with inputs at the beginning of the March season due to COVID 19 measures is likely to affect the operation of the formal markets because of uncertain supply.

To some large traders of maize and beans that received government contracts to distribute the relief food such as Afrokai (U) Ltd, Aponye (U) Ltd, among others, an increase in returns was observed during the COVID-19 lockdown.

Increased difficulty in aggregation of produce due to movement restrictions and closure of weekly and border markets, with increased transaction costs negatively affecting engagement in cross-border trade.

Reduced cross-border trade and trade volumes due to prolonged extra procedures of mandatory testing of drivers, restriction on number of people per truck to three, and eventually one, border closures to humans except truck drivers, reduced international demand (e.g. South Asian markets for Ugandan beans) and increased mandatory border security, as well as product checks, together increased both transport and operation costs, created delays in clearing and generally reduced trade flows.; The UNCDF & GOU (2020b) report estimates that 49.2% of export oriented businesses expect over 20% decline in export volumes. Export of some maize exporters e.g. AfroKai Ltd to their usual markets such as South Sudan and DRC dropped to zero during the lockdown. The majority of businesses reported moderate reduction in international demand by a range of 26 to 50%. Earnings of informal traders, especially women and youth have been affected. For example, about 67,240 MT of dry beans were traded from Uganda to other EAC member states in the first quarter of 2020, a 21% drop from the same time last year (FEWS NET, 2020).

Unique to the rice value chain that depends largely on imports, stock dwindled from major suppliers, including India and Vietnam, which reduced or banned rice exports as a food security strategy during the pandemic (World Economic Forum, 2020). This affected the operation of over 20 millers, who depend significantly on the imports of mainly brown rice. Since close to 60% of the formal rice imports in Uganda are from outside Africa (refer to 2018 data) (ITC, 2020), their transit into the country requires movement through Kenya. However, during this pandemic, acquisition time of the bills of
Lading for imports (one of the crucial documents for importation) into Kenya has increased from 3-4 days to 3-4 weeks (World Economic Forum, 2020). Nevertheless, reduced imports from South Asian markets opened an opportunity for importation from Tanzania, resulting in a current influx of paddy.

The distribution of maize grains to Kenyans by their government had a downward push on prices of maize exported to Kenya from Uganda by 20% (from UGX 1,100/kg to 880/kg). As a result, maize grain exports to Kenya became less profitable, especially when factoring in the heightened transaction costs and delays at the border points.

Increased concerns and complaints about quality deterioration especially for exports because of the delays in clearing. An example is ESL, a seed company that exports to South Sudan, that registered around 25% increase in the number of complaints about seed quality due to mandatory border testing and clearance delays.

Logistical delays due to changes in border operations especially mandatory testing of drivers and trucks only being released on receipt of test results that take 24-48 hours. This has had a grave impact on logistics companies as well as exporters and importers. For instance, prior to COVID-19, movement of a shipment from Mombasa to Kampala took 3-5 days. This increased to 10-21 days and cost of freight/transport have gone up by 30%.

**Boxes 8-11: Selected Cases of Aggregators and Exporters – Impact of COVID-19 measures on their operations.**

**Case 8: Rugendabara ACE – Aggregation at cooperative level**

Rugendabara ACE is a community-based enterprise, with a 600 MT storage space, primarily providing aggregation services to about 200 active farmers in Kasese district, but also managing up to 7 village level farmer stores, through agents; with 7 and 10 permanent and casual staff employed, respectively. Aggregation is done at 1% of grain value for members and UGX 50,000 per month for non-members, irrespective of the amount of grain. Additionally, the ACE supplies inputs (seed and other agrochemicals), provides subsidized tillage operations, transport services for grain, warehouse receipts to facilitate credit access, shelling, cleaning and grading of grain, milling services and marketing. The cooperative handles maize, beans, and groundnuts. Due to the pandemic and the established containment measures, business activity reduced tremendously. Initially, products were supplied to the local community, schools in the neighbourhood, and Rwanda. With the restriction of movement within the country, but also across borders, as well as school closures, there was low incentive to store and consequently milling reduced. Farmers that could deliver grain to the facility, were constrained logistically. This resulted in at least 60% reduction in stored and traded volumes and an 80% drop in product distribution. Labour availability and access reduced by up to 30% due to reduced business and movement restrictions. Furthermore, due to the ban on gatherings and requirement for social distancing, all capacity building and support services were put on hold, recording a 100% drop.

**Case 9: Mbidde - Village agent**

As a village agent on behalf of ZAABTA, Mbidde provides services to farmers right from input supply to aggregation of produce, for which he earns a commission. In comparison to the last season, the COVID-19 outbreak and containment measures, specifically transport restrictions, reduced farmer reach by 70%. Additionally, commission from input supply reduced by 52.2% from UGX 2.3 million to 1.1 million due to reduced number of farmers reached and reduced demand. Ideally, Mbidde had anticipated to receive a commission worth UGX 4.5 million which was 309% higher than the actual commission received (1.1 million). Furthermore, due to transport restrictions, aggregated volumes reduced by 3.3% from 6MT to 5.8MT. Transport restrictions also hindered provision of extension services to farmers, with none of the planned farmer training and demonstrations conducted.
Case 10: Maize and Beans Exporter - Naftali Masiga

Naftali is a maize exporter, based at the Busia Produce Market. As a produce trader, he contracts farmer groups within Busia, Masaka, Iganga, Bugiri and Mbale districts, who sell grain to him and other aggregators. He owns a 20 MT capacity store. In 2019, he traded 375 MT of maize and 300 MT of bean grain, worth UGX 325.5 M and UGX 837 M respectively. He has been supplying produce to Eldoret, Kakamega, Sega and Kisumu, in Kenya. However, by the end of March 2020, with the closure of the Busia Produce Trade Market on 9th April 2020 as well as restricted border crossing with unnecessary delays, Naftali was forced to cease operations. He is now losing out on a potential supply of up to 75 MT and 60 MT, that would have earned him UGX 65.1 M and UGX 167.4 M for maize and bean grain respectively. Furthermore, he had secured a monthly supply contract of 20 MT and 10 MT of beans and maize respectively in Mwea and Nairobi, Kenya, in addition to a supply of 30 MT and 60 MT, that would have earned revenue of UGX 26.04 M and UGX167.4 M for maize and beans respectively in other areas. All was lost. Additionally, he had to terminate the services of his five casual staff due to cessation of activities. According to Naftali, there are growing fears amongst traders, all these worsened by trust issues among exporters and transporters, with inherent risks in giving money to drivers to cross the border and purchase grain. Still with restricted border crossing, traders that wish to do quality assurance prior to purchase are constrained because they cannot access Busia. There are also growing concerns of increased smuggling of grain.

Case 11: Cross border trade - Busia Produce Trade Market

On the 9th of April 2020, following the Presidential directive to close all open markets, the Busia Produce-Trade Market, ceased operation. The market has about 200 food stores and 500 active produce traders. It employs at least 2,000 individuals directly dealing in produce, mainly maize, dry beans, soybean and millet; with seasonal based activity. During peak operations, 50 to 100 trucks (10-12 MT capacity) and 10 to 15 trucks (28 MT capacity) arrive and depart daily, fully loaded with grain. Therefore, approximately 1,000 MT of grain are traded daily.

In the wake of the COVID-19 pandemic, the market closure crippled activity greatly, registering a reduction of traded volumes by up to 90%. With the long waiting time for test results increasing transaction costs, many truck drivers have abscinded from duty for fear of being stigmatised. Traders cannot cross borders, but only transact by trusting drivers or their counterparts on either side, with cash. Most traders have lost gross amounts of capital, diverted for daily survival, as uncertainty of a return to normal activity taunts. Since most banks may not offer domestic subsistence loans, the community SACCOs, have remained the only alternative. Most individuals have either withdrawn all their savings or borrowed heavily, leaving these “village banks” with minimal or no operation capital at all. A few weeks after the market closure, several traders returned to their food stores, with an intent to assess the quality of their stock but were quickly dispersed by security personnel for failing to adhere to the presidential directives. This bred massive riots among the trader-community. Upon discussions with the association leaders they were allowed access with just a four-day window to dispose of all produce, which was done at significant losses. Challenges include mandatory testing, delays due to the time it takes to obtain results (24-48 hours), unstable exchange rates, volatile weather and poor condition of road access. However trade is starting to revive with traders operating from football pitches, home and school compounds to allow for social distancing, while also adhering to other set SOPs like wearing of face masks and washing of hands. Traders are desperate for a return to normal.

3.4.6.4 Processing

The processing industry was affected by various concerns:

Spike in demand and sales at the onset of the lockdown for maize, rice, and beans, attributable to panic buying with volumes maize traded nearly doubling for most processors. This was true at the start of the lockdown, though a decline was observed afterwards.

The onset of the COVID-19 pandemic led to stagnation and delays in exports of crucial machinery and technologies for rice, maize, and beans processing from China. Thus, processors have expressed concern over delayed processes in importation that have stalled operations. A case in point is Equator Seeds Ltd (ESL), a seed company that has established a grain processing plant (Equator commodities) targeting the export market. ESL initiated an order for processing line equipment from China in December 2019 with anticipation of delivery in April, 2020. However, the onset of the pandemic in China halted the process, with no machines delivered yet. This has delayed the start of some projected operations of Equator commodities Ltd⁴.
Schools and food service centres make up a crucial market for rice, maize, and bean products and therefore, with their closure, there ensued a halt in demand affecting volumes sold, returns and operations for processors with contracts to supply certain markets. A case is Ssunnad Limited, a rice miller based in Jinja, who is stuck with 30 containers of milled rice which were ready for delivery to several schools prior to the closure.

Reduced business activity – This was due to low utilisation of the installed capacity of processing equipment (approximately a 50% decline by most processors for rice and maize), arising from reduced grain and paddy supply, reduced labour availability (especially for casual workers due to transport restrictions), reduced demand and increased operational costs, overall curtailing profits. ZAABTA, a farmer cooperative operating a maize mill, experienced a 50% drop in utilisation of the processing capacity and an 85% reduction in daily milled quantities. Reduced supplies stemmed from logistical challenges and due to this, all the raw materials were obtained from traders as opposed to producers. Another miller, New Kakinga millers Ltd had a decline in operations by about 50%, which also had a negative bearing on the number of casual workers (about 70% drop), that could be maintained. Diners Group Ltd (DGL), a medium scale rice miller, experienced a 50% reduction in rice milling, due to the ban on public transport, and restricted movement through lockdown as well as the curfew, which reduced working hours by up to 50%. Thus, DGL reduced the number of staff employed by about 80%, while staff availability was at 60%.

UNCDF & GOU (2020) reported that the containment restrictions have negatively affected 50% of businesses. This can be depicted by the increment in prices of the delivered raw materials, which increased operational costs, with the situation exacerbated by the mandatory implementation of SOPs (figure 4-5).

Reduced extension to farmers and establishing of supply agreements. Working with farmers is crucial to processors to ensure supply of raw materials (paddy, maize grain and beans). However, with the outbreak of the pandemic and the measures put in place such as transport restrictions and bans on public gatherings, outreach extension engagements with farmers were not conducted, leaving uncertainty for this season’s supply.

![Figure 4-5: Increase in expenses due to COVID-19 measures (Percentage of respondents)](source: EPRC, 2020)

Boxes 12-14: Selected cases of interviewed processors

**Case 12: Rice processor – ZAABTA**

ZAABTA is a farmer cooperative located in Luwero district, that supports production, engages in processing and marketing of rice and maize production. The company employs 18 full time and 5 casual staff and services at least 21,000 smallholder farmers. The cooperative has a rice milling plant (5 MT/Hr capacity) and two storage facilities (11,000 MT total capacity). Services offered to farmers include seed and financial loans advanced to farmers, but also distribution of other agrochemicals like fertilizer and pesticides, capacity building of farmers, processing, and marketing of paddy. Last year, 3,401 MT of paddy were milled, and 2,210.65 MT traded generating a revenue of UGX 6.63 Bn. However, for
2020 to date (mid-year), only about 350 MT have been milled generating UGX 0.84 Bn. Furthermore, with the onset of COVID 19 containment measures, an 80% reduction in processing capacity materialised, owing to the restriction of movement that deterred grain delivery by farmers to the plant. Volumes traded however saw an initial 100% rise, from 3 MT to 7 MT/day, owing to the lockdown which stimulated panic buying for stock. This was immediately followed by a decline to currently 0.5 MT/day, because of reduction in disposable income of consumers and reduced demand. Additionally, since April, 196 MT of rice worth UGX 0.3 Bn have been traded, representing reductions of 65% and 44% in volume and value respectively from the 2020 first quarter values. Markets accessed also saw a 70% reduction, with access limited to communities in the vicinity of the plant, and some specialised deliveries, due to movement restrictions, border crossing restrictions, delays, closure of the Busia-Produce Markets as well as some rural open-air markets. With the ban on social gathering, the number of farmers engaged and supported decreased to only 100, representing a 99.5% decrease.

Case 13: Maize processor - New Kakinga Millers Ltd

New Kakinga Millers is a maize milling company based in Ibanda district. The company employs 23 permanent and 49 casual staff and engages 8,795 smallholder farmers. It runs an input shop, but also input promotion services, that tie into capacity building training. The company also buys grain bulked at different cooperative stores, offers free storage in its 5,000 MT storage facility, performs shelling, cleaning, sorting, grading, and milling of grain, with a 120 MT/day installed processing capacity. The company also markets processed flour through its multiple outlets, and agents reaching out to local wholesalers and retailers. From 2019 until the eve of the lockdown, 2,605 MT of grain had been milled, with 1,693.2 MT of flour traded accruing to UGX 3.36 Bn in revenue. However, following the ban on public transport, grain supply was reduced by 50% (150MT vs. 300MT). Consequently, processing capacity decreased by the same margin. Staff capacity was reduced by 70% since the company did not have sufficient resources to absorb their cost, in keeping with the presidential directive of accommodating employees at or in proximity to the company premises. Labour availability registered a 60% reduction due to movement restriction. Initially, the onset of the lockdown increased the traded volumes by 10% (68.2 MT to 78 MT) due to panic buying. With the ban on gatherings, and the requirement for social distancing, only 185 farmers were engaged and supported this season, representing a 93% reduction, and 80% support service provision decrease. The other key effect is the fact that some commercial banks are not following the presidential directive to suspend charging loan repayment penalties. They cite failure to present evidence for cessation of trade since most of the trade is done in informal markets, with no documentation/contracts.

Case 14: Rice miller and importer - Upland Rice Millers Co. Ltd

Upland Rice Millers Co. Ltd (URMC) is a rice miller and importer in Jinja, with a 5MT/hr processing capacity mill. URMC employs 20 permanent and 75 casual staff, engages at least 3,000 smallholder farmers. The mill had been operating at 40% pre-COVID-19. From 2019 to the first two thirds of March 2020, the company processed 10,000 MT of grain, trading 6,500 MT of milled rice worth UGX 21.6 Bn, supplied to Kikubbo Traders in Kampala (95%), and others in Eastern Uganda (5%), mainly Iganga and Bugiri. The onset of the COVID-19 containment measures led to closure of domestic grain sourcing by URMC due to movement restrictions, giving precedence to imported brown rice as input into the mill. Overall, this reduced milled grain by 50%. On the positive side however, URMC got several big supply contracts for relief that drove traded volumes up by 40% (2,000 MT worth GX 6.4 Bn). The net income was affected because of the increased costs of operation. Also, both permanent and casual staff were affected by the restriction on movement, but also the reduction in activity, and their number reduced by about 80% and their availability by 40%. Additionally, the institution of the curfew curtailed their working hours by 50%. The ban on gathering completely shut down the possibility of delivering extension support services to farmers. In anticipation of the cessation of imports in June 2020, the company made its last import shipment in February and this helped them adapt through the lowered domestic supplies.

3.4.6.5 Wholesale, Retail, and Distribution (End Markets)

Price fluctuation. Panic buying, speculative trading, and supply chain disruptions in mid-to-late March resulted in atypical price increases for staple foods, with the highest increases observed in urban areas, e.g. the price of dry beans increased from UGX 3000/kg to UGX 5000/kg. By the end of April, staple prices had declined again, though remained higher than before the lockdown period.
Reduction in turnover due to a sharp reduction in volumes traded (after the lock down) heightened by low demand for the products or fewer distributions due to logistical difficulties, closure of some potential markets like schools, hotels, and a sudden decline of orders that were already placed (New Vision, May, 2020).

Limited access to markets by end market segments during the lockdown due to logistical challenges, fear of contagion, coupled with reduced purchasing power that ultimately reduced sales and net incomes of market actors.

Rural weekly and monthly markets as well as open markets are crucial for rural retailers to distribute/sell to the rural market i.e. largely individual consumers. Thus, their closure disrupted the supply chains and volumes traded.

Declined orders and reduced sales – This has been driven by reduced demand, reduced purchasing power, prioritisation of purchases (in favour of dry rations and basics) and closure of operations of institutional buyers such as schools, restaurants and hotels (that make up a big market for both formal and informal trade).

Decline in business activity. This was due to restrictions on movement and transport as well as suspension of weekly and monthly markets that not only strained access to markets, but also limited the number of transactions made by the involved actors (traders and end markets) crucial for trade of food staples. Some open markets were also closed, however, established food markets that were allowed operation, were functioning below capacity, as buyers were constrained by the travel restrictions and curfew. This was further compounded by reduced labour availability especially for casual workers.

Increased operational costs in sourcing raw materials/produce as well as day to day operations. This has been driven by the transport restrictions and bans that created a supply gap in transport services leading to an increment in transport costs, which are the major drivers of costs at this node. Logistics disruption has negatively affected 50% of the businesses (UNCDF & GOU, 2020).

Growth in digital (e-commerce) and other innovative trading strategies - The closure of physical markets for non-food items, restricted movements and fear of contagion reduced physical access to markets which birthed the wide adoption of digital solutions (e-commerce, even for agricultural commodities) e.g. online butchery, Bringo fresh, and use of door to door deliveries by the traders and consumers especially in urban areas. Immediately after the first COVID-19 case was confirmed in Uganda, the size of each order grew by about 150% (e-Trade for all, 2020).

Increasing liquidity challenges due to reduced cash flows, accumulation of outstanding payments and shrunk financing options due to reduced activity/operations of financial institutions. This resulted into laying off staff, salary restructuring and accrued outstanding payments (e.g. loan repayment, utility bills, rent)

Boxes 15-17: Selected Cases of Interviewed Wholesalers and Retailers

**Case 15: Wholesaler 1 - Dry beans**

George Aogon is a dry beans wholesaler located in Masaka district. He attests to the grave negative impact of most of the containment measures. Negative impacts include; (i) over 20% reduction in supplies due to transport restrictions; (ii) over 50% drop in profit on sales due to increased costs of operation (10%) associated with costs of adhering to SOPs as well as bribing police checkpoints; (iii) price increment of up to 40.5% among suppliers, arising from government efforts to procure beans from aggregators and traders; (iv) supply delays of up to 12 extra days in comparison with pre-COVID situation, arising from government purchases that encroached on supplies and increased aggregation costs; (v) 60% demand increment at onset of the lockdown due to panic buying, followed by a 30% reduction starting March due to price hikes; (vi) cancellation of 10% of supply contracts due to failure to aggregate the required volumes for which advanced payments were made; (vii) 70% reduction in labour availability and access due to transport restrictions and fear of being arrested by police/law enforcers; (vii) 70% drop in business activity due to the reduced demand and reducing buying power from usual customers.
Case 16: Wholesaler 2 (Sulaiman) - Rice

Sulaiman is a rice trader based in Mbale District. He owns a 35 MT store and buys rice from farmers and the open market. For the period from 2019 to the end of March 2020, he was able to trade 95 MT of milled rice, worth UGX 304 million. However, from the time lockdown was instituted, Sulaiman has experienced a 20% shortfall in supplies from 10 MT to 8 MT, owing to the ban on public transport, which has frustrated farmer efforts to move their grain to the store. Similarly, traded volumes decreased by 50%, from about 20MT for the first quarter, to 10 MT in the second quarter of 2020. Initially, milled rice was supplied to other wholesalers, retailers, a few individual consumers, and other commercial traders in Kampala and Mukono. However, these have since reduced with initial distributions to areas such as Mukono cancelled, attributable to the movement restrictions, increased transport cost which increased delivery costs. Additionally, up to 50% of the major customers or trade partners have not been engaged during this period. Labour availability at the food store also decreased by 40%, while support services offered saw a 70% reduction.

Case 17: Retailer 1 (Tamale) - Dry beans

Dry beans retailing has been one of Tamale’s sources of livelihood for over a decade. At the beginning of the lockdown, volume traded increased by over 80% from 67kg/day to 200kg/day due to panic buying, however, after March, volume traded reduced by over 90% from 200kg/day to 5kg/day due to reduced purchasing power among consumers. The recent lifting of the ban on private transport means has increased volume traded by over 100% from 5kg/day to 60kg/day. Additionally, farmers increased the prices of beans by 33% (from UGX 3600 to UGX 4600) which coupled with transport restrictions reduced volumes sourced by over 60% (from 600kg to 200kg). Retail selling price increased by 15% (from UGX 5,200 to 6000/kg) which led to a reduction in demand of over 80%. Curfew and movement restrictions reduced business activity by 40% and affected access to over 60% of the customers. Furthermore, operational cost is estimated to have increased by 10% since there was need to buy sanitizers/soap, water, and masks. Also given the curfew and reduced turnover, employers reduced workers’ wage rate by 20% from UGX 10,000 to 8,000. Given the nature of the retail outlet and set measures, over 10% of customers would leave the shop if asked to wash and sanitise their hands.

3.4.6.4 Consumption

Growth in digital (e-commerce) and other innovative trading strategies: The closure of physical markets for non-food items, restricted movements and fear of contagion reduced physical access to markets which birthed the wide adoption of digital solutions (e-commerce, even for agricultural commodities e.g. online butchery, Bringo fresh) and use of door to door deliveries by the traders and consumers, especially in urban areas. Immediately after the first COVID-19 case was confirmed in Uganda, the size of each order grew by about 150% (e-Trade for all, 2020).

Loss of income-earning opportunities led to a decline in consumption of agricultural products since their demand is more income elastic (FAO, 2020).

In response to the COVID-19 outbreak and in anticipation of government measures, consumers adopted panic buying of food stocks mostly dry rations of staples such as rice, maize flour and beans and significantly reduced demand (EPRC, 2020). This led to a temporary spike in prices of some staples within the first weeks of the lockdown. Some commodities such as beans were up 100%, driven by need and desperation (D & C, 2020). Prices however, stabilised shortly after due to a drop in demand stemming from a drop in purchasing power. Priority buying led to a fall in demand for fresh produce e.g. fruits & vegetables and high perishables, leading to rapid drop in prices.

Household food insecurity in mainly urban and peri-urban areas: This was driven by the limited access to markets, availability of food stocks, business closures and laying off of workers in urban and peri-urban areas (that affected access to income thus, reduced purchasing power); all sprouting due to the measures set by the government in response to the pandemic. This has been depicted through reduced portions and frequency of meals in households. This situation was fully addressed through the distribution of food relief. Despite the government response to distribute food to the vulnerable, the urban poor say it is inadequate. The distribution was only restricted to Kampala and Wakiso, with some households unable to get the packages (Alliance for Science, 2020).
Reduced purchasing power among consumers has led to reduced produce demand, with a reported 71% (EPRC, 2020). This coupled with prioritised demand has slowed down trade.

In urban areas, food access is through markets thus with transport restrictions, lockdown, closure of several businesses, among other restrictions, access to food was seriously jeopardised.

4. Conclusions and Recommendations

This study has demonstrated the extent of the COVID-19 pandemic and set containment measures on the functioning of the maize, rice, and beans supply chains in Uganda. The maize, beans and rice value chains and their actors have been significantly affected by the pandemic and set measures. This is compounded by their importance as staples, trade crops, key employers, export earners as well as import commodities (for rice) in Uganda. Along these value chains, effects have been felt at all nodes from input supply to end markets. It is evident that the main business indicators have been and continue to be severely affected i.e. business activity, revenues/sales, operating costs, and productivity.

While all the actors across the value chains have been affected, the worst hit are the producers, processors, and traders, who anticipate carrying over effects to the next season. In addition, given that there was at least 30% reduction of staff at input supply, trading and processing, several lives have been deprived of earnings, implying lost purchasing power. Generally, the travel restrictions resulted in logistical challenges in accessing labour and crucial inputs, which either reduced scale of production or impinged on yield directly where input use was inadequate. Cutting-down on produce sales/deliveries culminated into reduced income for farmers or severed trading related jobs. This was caused by business closures/suspensions and low operation capacities at processing plants. With cost of input sourcing almost doubling in some cases some production lines closed. In short, supply bottlenecks characterised the sectors.

Consequently, there remains a lot of economic uncertainty which increases the risks inherent in these value chains. More dire effects are anticipated such as losses due to declined orders and reduced demand, business closures and increase in unemployment. This calls for strategies to jumpstart these value chains post-COVID to drive their recovery in the short, medium, and long term.

Some of the key options that might gear recovery include:

**Short Term:**

1. To address the liquidity challenges among the businesses in agriculture, there is need to:
   
   (i) Provide an economic stimulus package or de-risking fund to support recovery of businesses at all nodes. The package needs to clearly stipulate and provide low-cost finance options, mostly for trade finance such as concessional loans, guarantee schemes, grants, and low interest rate credit, mostly targeting the MSMEs, since they have been the worst hit. Patient capital for start-ups should be established to enable recovery of the majority that lost employment and capital with the containment measures. For producers, distribution of subsidized inputs for the coming season is crucial. The government through its extension and together with development partners needs to reach as many farmers as is possible with input subsidies and extension services to jumpstart production for the next season. This could be done by improving reach and efficiency of the Agriculture Cluster Development Project.

   (ii) Restructuring loan repayment plans by banks and MFIs to allow the businesses recover and restart normal operations. There is a need for rescheduling of payments for existing loans by commercial banks and instituting concessional loans. Tax incentive measures such as relaxation of some tax regimes, extension of payment timelines, duration of tax holidays and tax reductions, already pledged by the government in the 2020/21 budget.
(iii) For players involved in value addition and processing, reduction of utility costs (electricity and water charges) will be critical.

2. Pilot new or upscaling promising low-cost and efficient aggregation models (e.g. integration of motorised tricycles, ICT platforms, consortia approach and village agents) to improve service delivery and operational efficiency of supply chains.

3. Revive/reconstruct the seed sector by supporting NARO to avail enough foundation seed for next season (including support to seed multiplication by private sector companies).

4. Increase capacity of seed inspection by building capacity of more inspectors, including para-seed inspectors.

5. Support development of an integrated ICT-based data management system i.e. starting from SME or farmer organization level for quick data collection and decision making (timely aggregation of input demand and distribution, digital payments and product aggregation).

6. Promote access to critical post-harvest loss reduction and quality enhancing technologies by farmers, aggregators, and SMEs especially drying facilities.

7. Improving smallholder farmers and SMEs professionalism to increase their resilience to shocks, in addition to taking advantage of available market opportunities.

8. Focus on the promotion of investments with high job creation potential to deal with unemployment, currently at a record high.

9. Promote multi-sectoral approaches to agricultural value chain development since different MDAs, private sector and CSOs have a role to play and their efforts are complementary.

**Medium and Long Term:**

1. Digitising agricultural systems through promotion of ICT solutions to improve efficiency and effectiveness within value chains for enhanced food production, trade, and safety (e-extension, e-commerce, digital payments, and dissemination of timely market information). This is a lesson learnt through the pandemic with movement restriction and reduced physical contact due to fear of contagion. Digitising has positive impacts like reduced unit transaction costs; smarter targeting of farmer needs; and farm/firm level decision making. The pandemic also showed the wide digital divide in the rural areas (major producers that need it the most) that needs to be addressed. Thus digital literacy and improving infrastructure is critical. Digitising of credit access is also an aspect that could be adopted by commercial banks to quicken service delivery and enhance reach.

2. Export promotion especially within the region and continent taking advantage of the opportunities that have sprouted due to COVID-19 such as the growth and projected increment in deficit of food staples among the neighbouring countries e.g. Kenya, DRC and South Sudan. This effective demand will most likely reignite the supply chains. The country through export promotion can devise strategies to take advantage of and strengthen our engagement in the Continental Free Trade Area (CoFTA) and broker lucrative trade agreements across the different corridors.

3. Need to pay more attention to import substitution (building domestic capacity to cut the reliance on imports for both inputs and outputs, further promoting the BUBU policy) especially for rice and agrochemicals. This could be achieved through:

   a. enhancing efficiency of already existing systems and infrastructure such as building capacity of local fabricators to produce high quality machinery to reduce over-reliance on imports for machinery, increase resources under the quality and standards infrastructure, inputs inspection, among others. The other important aspect is linking research to extension to ensure uptake of technologies as they are released and exploiting the already existing resources built to the local context.
b. Invest in value addition and processing by supporting MSMEs acquire appropriate technology and capacity building in good manufacturing practices, good hygienic practices, packaging, and branding. Post-COVID-19, food safety and traceability will be emphasised more than ever in both domestic and global markets.

c. Support domestic entrepreneurs venturing into input manufacture and import substitution with low cost financing (set aside for this purpose), tax incentives such as holidays and policy instruments to improve their competitiveness (e.g. increased CETs on imports).

4. Establishing a Strategic Food Reserve (SFR), food banks and a framework from which they should operate is urgent and crucial.

5. Expedite the process of operationalisation of the Warehouse Receipt system and National Commodity Exchange to provide a wider and more efficient trading platform for value chain actors, especially given that this period has birthed several movement restrictions, incremental transport costs associated with market search and it would be a great tool while tapping into CoFTA.

6. Set up an input (especially seed) fund to build buffer stocks in preparation for similar crises.
References


19. EPRC (2014). Enhancing agricultural production and productivity in Uganda through irrigation
23. EPRC. (2014). Enhancing agricultural production and productivity in Uganda through irrigation.
36. ILO (2020). COVID-19 and the impact on agriculture and food security


75. RATIN. (2020). *Grain Storage Facilities Within EAC*. https://ratin.net/site/grain_storage..


91. UBOS (2012). *Agricultural sector: Gender statistics profile*.

98. UKAID (2012). Uganda: The Role of the Informal Economy in City Growth


## Appendix 1: Additional Data Tables

### Table A-1: Major public actors supporting the maize, rice and beans value chains

<table>
<thead>
<tr>
<th>Value chain stage</th>
<th>Public sector player</th>
<th>Roles</th>
</tr>
</thead>
</table>
| **Input supply**  | National Agricultural Research Organisation (NARO)-National Crop Resources Research Institute (NaCRRI)-Namulonge | • Research and development (Breeding)  
• Variety release  
• Main supplier of breeder seed to seed companies  
• Provision of extension services |
|                   | Operation Wealth Creation (OWC)/NAADS | • Supply of seed, other inputs, and mechanisation technologies to producers  
• Extension services - information and knowledge sharing |
|                   | National Seed Certification Service/National Seed Authority & National Seed Board | • Regulation of the seed industry |
|                   | Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) | • Policy formulation and implementation  
• Issuance of export and import documentation and control or provision of online system for expediting the issuance of SPS certificates  
• Extension support, inspection, and certification of seed  
• Supply inputs to cooperatives at subsidised cost under ACDP  
• Coordination and implementation of government agricultural development interventions |
|                   | National Plant Protection Organization | • Issue plant health certificates |
|                   | Agrochemicals Control (ACC) Division, Department of Crop Inspection and Certification (DCIC), MAAIF | • Regulation of agrochemicals industry |
|                   | Agricultural Chemicals Board (ACB) | • Registers all agricultural chemicals prior to importation as well as the importers |
|                   | Uganda National Bureau of Standards | • Inspect imported inputs for conformity at the borders  
• Extension services and capacity building in standards  
• Standards formulation and enforcement |
|                   | Uganda Revenue Authority | • Clearing and checking for proper documentation |
|                   | Local government | • Supply of inputs and extension services to producers  
• Implementation of government policies and programs |
|                   | High institutions of learning e.g. Makerere University College of Agricultural and Environmental sciences | • Continuous research and development either individually or in collaboration with NARS and the Private Sector |
|                   | Agricultural Engineering and Appropriate Technology Research Centre (AEATREC)-NARO | • Capacity building and development of technologies like pedal threshers and improved open sun drying.  
• Generate, promote, and supply agricultural technologies to improve productivity, value addition, income, and food security |
| **Production**    | District Local Government | • Supply of inputs and extension services to producers  
• Implementation of government policies and programs |
|                   | NARO | • Breeder and Foundation Seed Production  
• Provide extension services |
<p>|                   | MAAIF (District Agriculture Office) | • Provide extension services |
|                   | Uganda Cooperative Alliance | • Regular training of cooperatives and farmers |
|                   | Ministry of Gender, Labour and Social Development (MGLSD) | • Under the Uganda Women Entrepreneurship Programme provides interest free loans for women in organized groups |</p>
<table>
<thead>
<tr>
<th>Value chain stage</th>
<th>Public sector player</th>
<th>Roles</th>
</tr>
</thead>
</table>
|                    | Uganda National Farmers’ Federation | • Trains farmers and promotes agribusiness  
|                    | Ministry of Water and Environment | • Rehabilitation of rice irrigation schemes |
| Aggregation, Storage and Trade: | Ministry of Trade, Industry, and cooperatives | • Houses the Uganda Export Promotion Board, Uganda Warehouse Receipt System Authority, and the Uganda National Commodity Exchange (not yet operational) all crucial to promote grain trade  
|                    | Uganda Warehouse Receipt Authority | • Licensing of Storage Facilities  
|                    | Uganda National Bureau of Standards | • Certify products and systems  
|                    | Uganda Export Promotion Board | • Export promotion and development  
|                    | Uganda National Bureau of Standards | • Certify products and systems  
|                    | Uganda Export Promotion Board | • Export promotion and development  
|                    | Uganda Warehouse Receipt Authority | • Licensing of Storage Facilities  
|                    | Agricultural Engineering and Appropriate Technology Research Center (AEATREC)- NARO | • Capacity building and development of technologies like pedal threshers and improved open sun drying.  
|                    | Uganda Industrial Research Institute | • Championing of innovations and application of applied research, and developing products and industrial processes aimed at enhancing the nation’s industrial capabilities. Capacity building of actors in product development |
| Processing | Uganda National Bureau of Standards | • Certify products and systems  
|                    | Uganda Export Promotion Board | • Export promotion and development  
|                    | Uganda Warehouse Receipt Authority | • Licensing of Storage Facilities  
|                    | Agricultural Engineering and Appropriate Technology Research Center (AEATREC)- NARO | • Capacity building and development of technologies like pedal threshers and improved open sun drying.  
|                    | Uganda Industrial Research Institute | • Championing of innovations and application of applied research, and developing products and industrial processes aimed at enhancing the nation’s industrial capabilities. Capacity building of actors in product development |
| Distribution/ wholesale/ retail | Uganda National Bureau of Standards | • Certify products and systems  
|                    | Uganda Registration Services Bureau | • Registration of traders and businesses  
|                    | Uganda Export Promotion Board | • Export promotion and development  
|                    | Uganda Revenue Authority | • Border inspection of agricultural produce for export or import and clearance documentation |
Table A-2: Major private actors supporting the maize, rice and beans value chains

<table>
<thead>
<tr>
<th>Value chain stage</th>
<th>Beans</th>
<th>Maize</th>
<th>Rice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input supply</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fertilizer/chemical</td>
<td>• About 10 fertilizer and a few agrochemical importers exist and function primarily as brokers supplying wholesalers. Local fertilizer manufacture is currently at Grain Pulse Ltd and Sukulu Fertilizer Plant (Tororo)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>manufacturers &amp; distributors</td>
<td>• Key Agrochemical distributors - Hangzhou Agrochemicals (u) Ltd, Nsanga Agrochemical Ltd, MTK Uganda Ltd, Bukoola Chemical Industries Ltd, Daps Distribution Company Ltd, SHP SONS UGANDA LTD, Grow More seeds and Chemicals Ltd, Trust Chemicals, - Juanco Group Ltd, Uganda Crop Care Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Key Fertilizer distributors - Grain Pulse Ltd, Africa One Ltd, Balton Uganda, Bukoola Chemical Industries Ltd, Grow More seeds &amp; chemicals Ltd, VAP Chemicals Ltd, MTK Uganda Ltd, Sukulu Phosphate Plant (Tororo)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Fertilizer and agrochemical distribution at farmer level are done through agro-input stockists and village agents. About 15-20 large distributors/wholesalers exist supplying about 1,000 retailers, who supply numerous stockists and village agents that reach the farmers</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Large farms are the major users of agrochemicals and fertilizers procured either directly from manufacturers or import e.g. from Europe, South Africa. Take up 30% of the market share</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seed manufacturers &amp; distributors</td>
<td>Seed companies: These are not licensed as breeders but multiply seed obtained from NACRRI or imported. They use their own farms or contract farmers to produce certified seed, which they pack and sell as certified seed to farmers through a distribution network consisting of company outlets, wholesalers, and retailers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• A total of 34 seed companies exist (19 produce maize seed (produced 22,000MT in 2017), 17 produce bean seed (produced 3,794 MT))</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Seed merchants also categorised as agro-dealers are registered under the Uganda National Agro-Input Dealers Association (UNADA).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Wholesalers distribute/sell certified seed to retailers and large farmers while retailers sell to producers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mechanization</td>
<td>Local fabricators - About 134 metal fabricators are registered under the Uganda Small Scale Industries Association (USSIA). They fabricate and customise production, postharvest and processing technologies.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Key importers - Asia Agro Industries, Auto-Sokoni, Snowmans, ETC Agro, China Huangpai Food Machines and China North Machine. Other actors are mechanisation service providers such as Bongomin Group Ltd (specific to rice), MarkBurrige Guest farms, Agricultural Tractor Services, several village agents, cooperatives e.g. Bwelyale ACE, New Kakinga Agro-input shop and Nsemex Agro-Service Providers, off-takers e.g. Equator seeds Ltd</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does value chain benefit from government input subsidy</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supply of subsidized seed and other inputs under the ACDP e-voucher system as well as Operation Wealth Creation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production</td>
<td>Key producers</td>
<td>• Engages 1.6 million household seasonally</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 80% of the producers are small scale</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Highest number of engaged HHs - western region (41.8%), central (22%), eastern (20%) and northern (16.2%) regions</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Highest production is in the Western region (44.3%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Highest producing districts - Mubende, Masaka,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Engages about 2 million households seasonally 90% of producers are smallholders</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• While grown throughout the country, highest maize production is in eastern Uganda (47%), followed by western (21%), central (19%), and northern (13%) Uganda</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Highest producing districts - Iganga,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Produced by about 250,000 farmers</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 80% of the producers are smallholder farmers</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Highest production is in the eastern region (67%) and northern region (23%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Highest producing districts - Pallisa, Budaka, Butaleja, Tororo, Bugiri, Iganga, Gulu, Lira, Amuru, Nwoya, Kitgum</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Large producers - AGRISERV-UK Amatheon</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Uganda COVID-19 Country Rapid Analysis Report | 53
<table>
<thead>
<tr>
<th>Value chain stage</th>
<th>Beans</th>
<th>Maize</th>
<th>Rice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ntungamo, Kyenjojo, Kibaale, Kabarole, Kasese, Gulu, Amuru, Oyam</td>
<td>Mubende, Masaka, Kamuli, Kapichorwa, Masindi, Soroti</td>
<td>Agri NV, Germany Investment, FOL Logistics (U) Ltd, Vinayak Agro, Omer Farms</td>
<td></td>
</tr>
</tbody>
</table>

### Aggregation, Storage and Trade

**Key local aggregators (farmers, agro dealers or off takers)**
- Due to scattered and small nature of producers, aggregators are crucial to assemble large volumes for large traders
- Aggregation involves aggregators, cooperatives, and traders
- Some of the cooperatives involved in aggregation include Nyakera Rukoni ACE, Kyazanga ACE, CEDO, Bukusu ACE, Manyakabi ACE, etc.
- Large traders - Agroways (U) Ltd, Aponye (U) Ltd, TOTCO, Equator Impex Commodities, Sanyu Investments, REWA grains
- Village agents

**Exporters**
- Major exporters - 40 Miles Farm Business Smc Ltd, Kikez Agroline Ltd, Sky Seed Africa Ltd, Agro King (U) Limited, Sfam Express International (U) Limited, Primes Sponsor, Malheirwe Investments Ltd
- Informal trade is dominated by informal traders and transporters at border points

**Importing companies, imported products and import sources**
- Very little importation takes place since Uganda is a surplus country. In 2018, 2,774MT of bean products worth USD 0.7 million were imported
- Products – Dried beans (90.1%) and fresh beans (19.9%)
- Sources – EAC (mostly Kenya) accounted for

- Due to scattered and small nature of producers, aggregators are crucial to assemble large volumes for large traders
- The aggregators include village agents, rural traders, and trader agents
- Some of the cooperatives involved in aggregation include: Nyakatoni cooperative union ltd, Twezimbe ACE, ZAABTA, Katerera ACE, Manyakabi ACE, Rugendabara ACE, Kapeeka grain growers association, Kikita area coop enterprise ltd, Agaru Sacco, KACOFAM etc.
- Large off takers – Agroways, TOTCO, Aponye, Sanyu Investments, Afro Kal, Arise and Shine, REWA Grains, Amagara Commodities Ltd, Uga Grains Ltd, Agahikaine Grains Ltd, Divine Masters Limited
- Village agents

- Major importers - SWT Millers, FOL Group (U) Ltd, Upland Rice Millers Ltd, Eastern Rice Millers Ltd, Pearl rice millers, Royal rice ltd, Ssunnad Ltd, and large traders for example Jascom trading LTD, R I distributors, Marcopolo Traders Uganda LTD.
- Uganda is a net importer for rice, importing up to 79,000MT and 108,000 MT
### Value chain stage

<table>
<thead>
<tr>
<th>Value chain stage</th>
<th>Beans</th>
<th>Maize</th>
<th>Rice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value chain stage</td>
<td>64.8% of the imports while the rest came from international markets (mostly Brazil)</td>
<td>(47MT) and starch (19MT), primarily from Kenya while maize starch was the major product imported from outside Africa (2,099MT worth 0.93 million largely from India - 95%)</td>
<td>(milled rice equivalent) from Africa and outside Africa valued at USD 29 million and USD 48 million respectively in 2018</td>
</tr>
<tr>
<td><em>● Products – Of the rice imports, 52.3% was broken rice, 26.3% milled rice, 13.2% brown rice, 8.2% paddy.</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>● Sources – of the imports, 44.5% came from EAC (Tanzania) and the rest came from international markets (largely from Pakistan &amp; Thailand)</em></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Processing

- Processing is still at infancy stage
- Processors - Peak Value, Nutreal limited
- Major products – Precooked beans, bean flour
- Over 780 mills exist – 77% are small scale, a few are medium and large-scale millers
- Some of the medium and large-scale millers: Magano grain millers Ltd, Mandela millers, Afokai Ltd, Aponye Uganda Ltd, Arise and Shine millers Ltd, Kasawo Grain millers, etc.
- Main products – Unblended flour, fortified flour, bran, and grits
- Over 800 small scale millers, about 15 Medium scale millers and a few large-scale millers exist. Large scale millers - TILDAH/Kibimba, SWT Millers, FOL Group (U) Ltd
- Examples of Medium scale millers – Upland Rice Millers Ltd, Diners Group Ltd, AK Purongo Ltd, Eastern Rice Millers Ltd, Pearl rice millers, Royal rice ltd, Ssunnad Ltd, Kehong Peyero Ltd, etc
- Major products – milled rice (primary product), rice bran, rice flour

### Distribution/ wholesale/ retail

- Key distributors/wholesalers/retailer
  - Large traders/wholesalers - Elshaday, Farmers centre (U) Ltd, Ocean group traders (U) Ltd, Agroways (U) Ltd
  - Institutional buyers i.e. WFP
  - Involves large traders, millers as well as wholesalers and retailers
  - Large traders - Afokai (U) Ltd, Uga Grains Ltd, Arise and Shine Millers Ltd, Aponye (U) Ltd, Agroways (U) Ltd, Kasawo Grain millers, Talian Company Ltd, Rewa Grains, Uga grains Ltd, Amagara Commodities Ltd, Magano grain millers Ltd, Mandela group, etc
  - Institutional buyers i.e. WFP
  - Involves large traders, millers as well as a myriad of wholesalers and retailers
  - Large traders – Traders and Millers such as Upland Rice Millers Ltd, Diners Group Ltd, AK Purongo Ltd, Eastern Rice Millers Ltd, Pearl rice millers, Royal rice ltd, Ssunnad Ltd, Kehong Peyero Ltd, etc
  - There is a key distribution network of traders in Kikuubo market in Kampala crucial to rice distribution with outlets of millers and importers as well as independent traders

- Key products sold
  - Major products – Dried beans, fresh beans, precooked beans, bean flour
  - Main products – Grain, Unblended flour, fortified flour, bran, and grits
  - Major products – milled rice (primary product), rice bran, rice flour
### Table A-3: Major non-state actors/development partners supporting the maize, rice and beans value chains

<table>
<thead>
<tr>
<th>Value chain Node</th>
<th>Beans</th>
<th>Maize</th>
<th>Rice</th>
</tr>
</thead>
</table>
| **Input supply:** | ● Research and development – IITA  
  ● Extension and capacity building - ISSD, CRS  
  ● Input distribution - Sasakawa Global, Kilimo Trust, World Bank (funding to ACDP), SNV, aBi Development, Palladium  
  ● Uganda Seed Trade Association - Engaged in advocacy and training of seed dealers  
  ● Uganda National Agro-Input Dealers Association - National apex body for ag-ro-dealers and represents their interests | ● Research and development - AATF  
  ● Extension and capacity building - ISSD  
  ● Input distribution - Sasakawa Global, Kilimo Trust, World Bank (funding to ACDP), SNV  
  ● Uganda Seed Trade Association - Engaged in advocacy and training of seed dealers  
  ● Uganda National Agro-Input Dealers Association – National apex body for ag-ro-dealers and represents their interests | ● Research & development – AfricaRice, JICA, IRRI  
  ● Extension and capacity building - AfricaRice, JICA, IRRI, ISSD, Sasakawa Global, Kilimo Trust, KOICA, IFDC  
  ● Policy – AGRA, JICA  
  ● Input distribution - AfricaRice, JICA, IRRI, ISSD, Sasakawa Global, Kilimo Trust, KOICA, IFDC, World Bank (funding to ACDP)  
  ● Uganda Seed Trade Association - Engaged in advocacy and training of seed dealers  
  ● Uganda National Agro-Input Dealers Association - National apex body for ag-ro-dealers and represents their interests |
| **Production:** | ● Extension and capacity building - Sasakawa Global, Kilimo Trust, AGRA, CARITAS, USAID, World Vision, CRS, SNV, Techno Serve, DFID (CASA project) | ● Extension and capacity building - Sasakawa Global, Kilimo Trust, AGRA, CARITAS, (IAM project), World Vision, TechnoServe | ● Extension and capacity building - AfricaRice, JICA, IRRI, ISSD, Sasakawa Global, Kilimo Trust, KOICA, IFDC, Palladium |
| **Aggregation, Storage and Trade:** | ● EAGC - Advocacy, promote grain trade, support standards development, capacity building, certifying warehouses, provide market information  
  ● TGCU - Policy advocacy; Secure trade agreements; Capacity building of members  
  ● Capacity building and provision of storage and PHH infrastructure – Kilimo Trust, AGRA, Sasakawa Global, Global, USAID, WFP, CARITAS, SNV, aBi Development  
  ● Uganda Small Scale Industries Association (USSIA) – Represent interests of MSMEs | ● EAGC - Advocacy, promote grain trade, support standards development, capacity building, certifying warehouses, provide market information  
  ● TGCU - Policy advocacy; Secure trade agreements; Capacity building of members  
  ● Capacity building and provision of storage and PHH infrastructure – Kilimo Trust, AGRA, Sasakawa Global, USAID, WFP, CARITAS, SNV, aBi Development  
  ● Uganda Small Scale Industries Association (USSIA) – Represent interests of MSMEs  
  ● Uganda Grain Traders Association – Represents interests of grain traders | ● EAGC - Advocacy, promote grain trade, support standards development, capacity building, certifying warehouses, provide market information  
  ● TGCU - Policy advocacy; Secure trade agreements; Capacity building of members  
  ● Capacity building and provision of storage and PHH infrastructure – Kilimo Trust, AGRA, Sasakawa Global, USAID, Palladium, Rikolto, IFDC |
| **Processing:** | ● Uganda Small Scale Industries Association (USSIA) - Representing interests of MSMEs all over Uganda (advocacy)  
  ● USAID - Advocates for manufacturers interests and pushes for platforms to improve competitiveness  
  ● aBi Development – Finance to agro-processors  
  ● Facilitate market linkages and capacity building – Kilimo Trust, AGRA, Sasakawa Global | ● Uganda Small Scale Industries Association (USSIA) - Representing interests of MSMEs all over Uganda (advocacy)  
  ● USAID - Advocates for manufacturers interests and pushes for platforms to improve competitiveness  
  ● USAID - Fund agricultural enterprises through cooperatives through grants  
  ● aBi Development – Finance to agro-processors  
  ● Facilitate market linkages and capacity building – Kilimo Trust, AGRA, Sasakawa Global | ● Uganda Small Scale Industries Association (USSIA) – Representing interests of MSMEs all over Uganda (advocacy)  
  ● USAID - Advocates for manufacturers interests and pushes for platforms to improve competitiveness  
  ● USAID - Fund agricultural enterprises through cooperatives through grants  
  ● aBi Development – Finance to agro-processors  
  ● Facilitate market linkages and capacity building – Kilimo Trust, AGRA, Sasakawa Global |
Table A-4: Other actors supporting the maize, rice and beans value chains

<table>
<thead>
<tr>
<th>Service provider</th>
<th>Roles played</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Financial services</strong></td>
<td></td>
</tr>
<tr>
<td>Commercial Banks (DFCU, Equity Bank, Centenary, East Africa Bank and Post bank etc)</td>
<td>● Provide farmers, aggregators, and buyers with the much-needed short-term facilities in form of advances, revolving lines of credit and unsecured loans used to purchase produce from the thousands of small holder farmers&lt;br&gt;● Offer long term loans to millers/processors for establishing storage facilities, packaging points plus post-harvest handling equipment</td>
</tr>
<tr>
<td>Soluti Finance (Previously Stromme Microfinance)</td>
<td>● Capacity building of cooperatives/ farmer groups in financial literacy for informed decision-making regarding saving, spending behaviour and investments&lt;br&gt;● Provides market responsive financial and non-financial services as well as technical assistance to financial institutions and business service providers</td>
</tr>
<tr>
<td>Cooperative SACCOs (e.g. Oyam Agro Cooperative Society, Dokoto West Cooperative Society Ltd, Kateterra SACCO, Rugendabarara &amp; Bigando SACCO, ZAABTA SACCO)</td>
<td>● Provide financial intermediaries, channel savings into loans and offer financial literacy trainings</td>
</tr>
<tr>
<td>Micro Finance Support Centre</td>
<td>● Owned by the Government of Uganda and mandated to manage micro-credit funds and offer business development services on behalf of the government&lt;br&gt;● Offer affordable credits loans to farmer groups, cooperatives, and other value chain actors.</td>
</tr>
<tr>
<td><strong>Market Information</strong></td>
<td></td>
</tr>
<tr>
<td>Kilimo Trust, Agency for Cooperation and Research in Development (ACORD), Japan International Cooperation Agency (JICA), International Fertilizer Development Center (IFDC), CARD, EAGC</td>
<td>● Provide market information, market assessment info-packs and facilitate business linkages among value chain actors&lt;br&gt;● EAGC – Provides quarterly cross border trade outlook</td>
</tr>
<tr>
<td>FIT Insights</td>
<td>● Provide Market information (prices per market), weather forecasts, extension messages, transaction platform, farm record management to farmers, cooperatives, traders, SACCOs, banks, insurance firms, input suppliers</td>
</tr>
<tr>
<td>Service</td>
<td>Service provider</td>
</tr>
<tr>
<td>---------</td>
<td>------------------</td>
</tr>
<tr>
<td>Middlemen</td>
<td>● Link buyers to suppliers and they are focal points for transfer of market information to producers</td>
</tr>
<tr>
<td>E-commerce platforms</td>
<td>AGMIS website</td>
</tr>
<tr>
<td></td>
<td>EAGC</td>
</tr>
<tr>
<td></td>
<td>FIT Uganda</td>
</tr>
<tr>
<td></td>
<td>FarmGain Africa Ltd</td>
</tr>
<tr>
<td></td>
<td>Foodnet</td>
</tr>
<tr>
<td>Logistics, Clearing &amp; Forwarding</td>
<td>Logistics - Flora investments limited, Bollore transport &amp; logistics Uganda limited, A &amp; Q logistics limited, 3d forwarders Uganda limited, Adieko limited, Cargo trust (u) limited, East end procurement and logistics hub, Maersk Agency Uganda Ltd, etc.</td>
</tr>
<tr>
<td></td>
<td>Clearing and Forwarding - Afro Freight Clearing &amp; Forwarding Company Limited, Novamarine Limited, BTS Clearing and Forwarding, Speedag Uganda Limited, ATACO Freight Services, among others</td>
</tr>
</tbody>
</table>
Table A-5: Situational analysis on availability, access to and use of inputs in Uganda

<table>
<thead>
<tr>
<th>Seed</th>
<th>Agrochemicals &amp; Fertilizers</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Major seed classes – Basic seed, Certified seed, pre-Basic seed and QDS</td>
<td>• Nationally, average fertilizer usage is 1.9kg per Ha, but 30kg per Ha for usually fertilized soils</td>
</tr>
<tr>
<td>• Informal seed system accounts for 87% of seed planted</td>
<td>• In rice, about 82% of producers do not use fertilizers</td>
</tr>
<tr>
<td>• Similarly, the informal market is the source for 85-90% of all seed used by farmers</td>
<td>• Generally, use of agrochemicals is at less than 10% among producers</td>
</tr>
<tr>
<td>• Informal sector involves farmers saving, sorting, distributing, and using part of their produce as seed from one growing season to the next. Common of OPVs &amp; self-pollinated seed</td>
<td>• Informal trade for fertilizers and agrochemicals is prominent in small stalls (kiosks) in or near towns. Fertilizer and agrochemical distribution at farmer level are done through agro-input stockists, cooperatives and village agents</td>
</tr>
<tr>
<td>• Formal sector contributes 30% to National Seed Supply (part of which is exported)</td>
<td>• Key Agrochemical distributors - Hangzhou Agrochemicals (u) Ltd, Nsanja Agrochemical Ltd, MTK Uganda Ltd, Bukoola Chemical Industries Ltd, Daps Distribution Company Ltd, SHP SONS UGANDA LTD, Grow More seeds and Chemicals Ltd, Trust Chemicals, - Juanco Group Ltd, Uganda Crop Care Limited</td>
</tr>
<tr>
<td>• Improved varieties - 5-15% of total seeds a, b</td>
<td>• Key Fertilizer distributors - Grain Pulse Ltd, Africa One Ltd, Balton Uganda, Bukoola Chemical Industries Ltd, Grow More seeds &amp; chemicals Ltd, VAP Chemicals Ltd, MTK Uganda Ltd</td>
</tr>
<tr>
<td>• Less than 15% of farmers use quality seed c</td>
<td>• For agrochemicals, there is heavy reliance on imports. While fertilizers are also highly imported, local manufacture has grown with players such as Grain Pulse Ltd, Sukulu Phosphate Plant (Tororo)</td>
</tr>
<tr>
<td>• Maize seed accounts for ~60% of all agricultural quality seed sales d</td>
<td>• Key external suppliers include Europe, South Africa, South Asia, Middle East, Mauritius, Kenyan importers (i.e. YARA-formerly Norsk Hydro, SKL and MEA)</td>
</tr>
<tr>
<td>• Use of clean seed – rice (19%) e and beans (30%) f. The rest of the farmers use home saved seed</td>
<td>• Regulated through Control of Agricultural Chemicals (Registration and Control) Act 2007</td>
</tr>
<tr>
<td>• A total of 34 seed companies exist (19 produce maize seed (produced 22,000MT in 2017), 17 produce bean seed (produced 3,794 MT) g</td>
<td></td>
</tr>
<tr>
<td>• Distribution is done through a network of 2,500 wholesalers, retailers, agro-input stockists, and village agents g.</td>
<td></td>
</tr>
</tbody>
</table>

Agri Machinery & Mechanization

• Mechanisation is still low with growing demand in rice and maize production – 10% of farmers use improved mechanised power, 80% of which use draught power/animals j |
• Some of the common implements – Rice: Ploughs, Tractors, Power tillers, Seeders. Mechanical Weeners, Rice Cutters, Rice Reaper, Pedal and Motorised threshers; Maize and beans: Ox-ploughs, tractors, planters, shellers. In the three value chains, there is growing promotion and use of electric spray pumps |
• Generally, irrigation use among producers is at less than 1%k |
• Demand is inclined towards locally fabricated machinery due to cost, appropriateness to local needs, ease of access & tailoring |
| • Major local manufacturers - Tonnet Agro Engineering Co. Ltd, Central Engineering Ltd, Musa Body Machinery Ltd, Ramanand Ltd, Technology Research Network Ltd, Munyegera Agro-machinery Ltd, AEATREC -Namalere l | • Major External suppliers - China, India and UAE |
• Key importers - Asia Agro Industries, Auto-Sokoni, Snowmans, ETC Agro, China Huangpai Food Machines and China North Machine ml |
• Major External suppliers - China, India and UAE |
• Growing demand for mechanisation has seen entry of players that offer mechanisation hire services especially in the maize and rice value chain and an increasing role of village-based agents in this is observed |

Source: a-ISSD, 2020; b- Daly et al., 2017; c- Barungi et al., 2016; d- EPRC, 2016; e- Odokonyero et al., 2016; f- Ronner et al., 2018; g- Mabaya et al., 2018; h- Godfrey & Dickens, 2015; i- Barungi & Odokonyero, 2016; j- MAAIF, 2012; k- FAO et al., 2019; l- Musiime, 2015; m- BoU & MAAIF, 2014
Appendix 2: Grain Storage in Uganda

Box 18: Status of grain storage in Uganda

- **Commonly used storage facilities** - granaries, mud silos, cribs, commercial stores, living rooms, polypropylene, and jute bags (Tibagonzeka et al., 2018)

- **Promoted improved postharvest technologies** - cribs, standard commercial stores and aggregation centers, concrete drying yards, hermetic storage structures (plastic silos, metallic silos, PICs bags, Grain Safe bags), solar and biomass dryers, raised drying platforms (FAO et al., 2019), tarpaulins, shellers (hand-held and motorised) (maize) (Balungi, 2017), threshers (rice and beans), among others.

- **Private sector investment in postharvest infrastructure** – standard storage, cleaning, drying and grading facilities e.g. 40,000MT Grain Bulking Facilities (GBFs) and 100MT/day drying and cleaning facilities for maize by AgroWays in Jinja and Mbarara; 25,000MT Storage facilities and 50MT/hr cleaning and drying facilities for maize by AfroKai in Matugga and Kasese; 27,000MT storage facilities for maize and beans under Aponye Uganda Ltd; 4,250 MT storage facilities for rice and maize under UgaGrains Ltd; 50,000 MT storage facilities under Mandela group, among others.

- Non-state actors crucial to establishment and renovation of storage facilities at farmer/group level include World Food Programme, aBi Development, Sasakawa Global, Kilimo Trust, USADF, Food Trade ESA.

- Government efforts towards postharvest infrastructure has been through OWC (distribution of post-harvest handling technologies, development and promotion of food preservation methods, rehabilitating cooperative stores) (OWC, 2018) and ACDP (supply PHH technologies at subsidised costs to registered farmer cooperatives/groups, linking qualified dealers in equipment for post-harvest handling and agro-processing to farmer cooperatives/producer organisation, setting up warehouses, improving grading, storage and processing (MAAIF, 2019).

Map 1: Distribution of Grain storage facilities in Uganda (73)

Source: RATIN, 2020