

Technical Report for the Karamoja Development Partners Group

# RAPID ASSESSMENT OF COVID-19 IMPACTS IN KARAMOJA, UGANDA

August 2020

This publication was produced at the request of the United States Agency for International Development (USAID). The authors of the report are Raphael Lotira Arasio, Andy Catley and Mesfin Ayele.



FRIEDMAN SCHOOL OF NUTRITION SCIENCE AND POLICY

Feinstein International Center



# KARAMOJA RESILIENCE SUPPORT UNIT RAPID ASSESSMENT OF COVID-19 IMPACTS IN KARAMOJA, UGANDA

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# ACRONYMS

COVID-19	Coronavirus disease 2019
FGD	Focus group discussion
FMD	Foot and mouth disease
HC	Health center
HIV/AIDS	Human immunodeficiency virus/acquired immune deficiency syndrome
IGA	Income-generating activity
KDPG	Karamoja Development Partners Group
KRSU	Karamoja Resilience Support Unit
KSh	Kenyan shilling
LC1	Local Council 1
LDU	Local Defence Unit
NGO	Non-governmental organization
S/C	Sub-county
STD	Sexually transmitted disease
UgX	Ugandan shilling
USAID	United States Agency for International Development
VHT	Village Health Team
VSLA	Village Savings and Loan Association

# **KEY FINDINGS AND RECOMMENDATIONS**

#### **OVERALL SUMMARY**

This technical report describes the impacts of coronavirus disease 2019 (COVID-19) restrictions in the Karamoja sub-region of Uganda, based on field assessments in Amudat, Moroto and Abim Districts. The COVID-19 prevention guidelines that prompted total lockdown measures included market closure and travel restrictions which in turn affected the essential economic activities of many households, especially the poor. These restrictions were implemented in March 2020 and were still in place in August 2020.

Before the introduction of COVID-19 measures, Karamoja had the worst human development and nutrition indicators in Uganda. The population is mainly rural, and rural livelihoods are based on livestock and crop production, and a range of diversified livelihood activities. Bi-annual food security and nutrition surveys have demonstrated the low food security and nutrition status of rural households, and their vulnerability to shocks such as food price increases, declines in livestock or crop production and market disruptions. After a large-scale government disarmament program that ended in 2010, Karamoja experienced a period of relative security, some recovery of livestock herding and the development of very active livestock markets.

The COVID-19 situation is causing immediate and serious livelihood impacts, and a food security crisis is emerging. Child malnutrition is increasing. This crisis is being driven by market closures, restricted travel, rising travel costs, reduced access to food and rising costs of food, basic commodities, agricultural inputs and livestock services, and constraints to land preparation and crop planting.

COVID-19 measures were introduced in March 2020, which coincides with the onset of the main wet season in Karamoja. As livestock milk production peaks during the rains, milk consumption and sharing of milk may have provided some temporary protection in terms of food security. However, livestock production during COVID-19 has been affected by disease outbreaks, reduced access to and increased costs of veterinary care, and in some areas, the reintroduction of "protected kraals"<sup>1</sup> and increased livestock raiding. Also, even in normal years, many households do not have enough access to livestock milk. The wet season is also the main period for land preparation and planting crops, with harvests expected from late August through September and October. In common with livestock, crop production is relevant to most rural households—agropastoral, agricultural and even "pastoral" households. However, in the areas covered by the assessment a net 45% reduction in the area of land cultivated was reported during COVID-19 compared to a normal year. A corresponding impact on harvests is expected, with associated impacts on food security and hunger.

COVID-19 measures have had major impacts on diversified livelihood activities in Karamoja, which are especially important for poorer households and poorer women. There have been dramatic declines in income from activities such as sales of agricultural produce and livestock, casual labor, production and sale of local brew, and work and sales linked to markets. When reduced purchasing power is combined with rising food and commodity prices, the net result is food insecurity and hunger.

The direct health impacts of COVID-19 remain uncertain in Karamoja. The number of COVID-19 cases is currently very low, and given Karamoja population's age structure, distribution and pre-existing disease burden, there are many uncertainties about future disease transmission. In contrast, there is clear evidence of a serious decline in food security and livelihood systems now, with a high risk of an area-wide food security crisis in the coming months.

#### **KEY FINDINGS**

#### COVID-19 and health

#### Awareness and capacity to manage COVID-19

- At community level, fear and uncertainty about COVID-19 was the main concern (Table 4), leading to stress and depression in households with severe pre-existing livelihood and social pressures.
- There is clear community awareness on COVID-19 but low compliance with COVID-19 measures. Some measures assume changes in behavior and practices that are rooted in people's traditions and culture. Other measures require financial resources and availability of water, yet COVID-19 measures have reduced household purchasing power.

<sup>&</sup>lt;sup>1</sup> Protected kraals were used during the government disarmament program in Karamoja up to 2010. They involve the forced enclosure of livestock herds into kraals that are guarded by the Ugandan army. Although this approach prevents livestock thefts, during disarmament protected kraals were associated with high livestock mortality and reduced livestock production.

#### **KEY FINDINGS AND RECOMMENDATIONS**

• There are currently very few confirmed cases of COVID-19 in Karamoja. Visits to local health centers and community discussions indicated low capacity in the districts to manage an increase in COVID-19 cases, especially if the number of cases reaches the level of an epidemic outbreak.

# Health and nutrition

- While the direct health impacts of COVID-19 are currently very low, increased cases of other human diseases, especially malaria, were reported by communities (Table 14). Child deaths due to malaria and anemia were reported, with more cases in Amudat compared to other districts. There were outbreaks of scabies in all three districts and a cholera outbreak in Moroto. Declining access to health centers during March and April due to COVID-19 measures coincided with a seasonal peak in some diseases, especially malaria in children. Overall, for 10 health conditions observed in six locations, there was a 48% increase in cases during COVID-19 relative to the corresponding season in a normal year (derived from Table 14).
- At community level, an **increasing impact of pre-COVID 19 diseases** was attributed to the following factors:
  - o Reduced access to and use of health centers and referral hospitals, with Amudat District being more affected. Reduced access was mainly due to: restricted movements; fear of contracting COVID-19; lack of or increased cost of motorbike transport, with bribes at police roadblocks; increased security risks of travel; the requirement to buy and wear a mask before entering a health facility; and the fear of quarantine if someone has flu or high body temperature not due to COVID-19.
  - o Reduced ability to pay for health services, especially due to closure of livestock markets that has led to limited access to cash.
  - Reduced availability and increased cost of health services. Issues included: a shift of attention of health workers to COVID-19 quarantine centers; detailed and lengthy interrogation of patients; being ignored or neglected by health workers due to fear of COVID-19; high costs of accessing services at private clinics; lack of or shortage of medicines e.g., for human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS), brucellosis, and malaria; neglect of other diseases e.g., asthma, gonorrhea, and sickle cell anemia; reduced number of health workers at health centers; and lack of or shortage of ambulance services.

• Rising child malnutrition was reported (Table 15), mainly due to food access problems.

# Declining food security and impending food security crisis

The assessment concluded that COVID-19 measures had resulted in a serious food security problem in Karamoja, which was likely to evolve into an area-wide food security crisis in the following months. These conclusions were based on the following assessment findings:

- Low household purchasing power because of loss of income, set against increases in food prices that exceeded typical seasonal increases. In Amudat District the average increase in food prices was 116% (derived from Table 9) whereas in village shops in Moroto, the average increase in food prices was 113% (derived from Table 10). Income was lost from multiple activities, including businesses, services such as motorbike transport, and sale of livestock and agricultural produce due to market closure. Across the three districts the average loss of income from livestock and crop**based activities was 60%** (derived from Table 45), and the average loss of income from other activities was 51% (derived from Table 46). To mitigate the impacts of low incomes, people are selling land; the buyers are urban-based elites.
- Findings related to COVID-19 impacts on commodity and food markets and prices were:
  - o Relative to seasonal changes in a typical year, a marked reduction in the flow and availability of food and other essential commodities (Table 5), especially due to the high cost of transport (Table 12) and paying bribes en route (Table 11).
  - o **Restricted access to food markets** because of movement restrictions and unnecessary harassment and arrests by police; and increased cost of motorbike transport, which typically is the least expensive means for rural people to travel to towns.
- By March 2020, most communities had only 25% to 50% cereal stocks remaining from the previous harvest in 2019, with household cereal stocks expected to reach zero by end of August 2020 (Table 7).
- There is a strong likelihood of a poor harvest this year, in late August to October, due to the impact of COVID-19 restrictions on farming activities and a marked decrease in the area of land cultivated. On average, the cost of agriculture inputs increased by 26% (derived from Table 37) and there was a

net decrease in the area of cultivated land of 45% across selected assessment sites (derived from Table 39). Other constraints included the desert locust invasion and poor rains at the beginning of the season.

- Findings related to livestock production, prices and animal health:
  - o There was a **net decrease in livestock prices of 32%** taking account of seasonal changes in a normal year (derived from Table 29).
  - o There were losses of livestock to a **recent resurgence of raids (Figure 1) and reintroduction of the protected kraal system**, leading to reduced milk availability and fewer animals for sale.
  - o There were losses of livestock due to increased mortality from disease; based on community observations, the **average increase in livestock disease incidence was 70%** (derived from Table 31), taking account of typical seasonal variations. Increased cases of anaplasmosis, East Coast fever and contagious bovine pleuropneumonia in cattle were a particular concern.
  - o Factors contributing to an increased impact of livestock diseases were: a reduced flow and availability of veterinary medicines and government veterinary services (Table 32); difficult access to veterinary medicines and services due to the movement restrictions described above; increased prices of veterinary medicines (Tables 33–35) and services combined with low purchasing power, with some medicines reported to be out of stock; disease transmission through raids and the effects of the re-introduced protected kraal system.

# Education

• Communities reiterated several impacts of school closures and prolonged stay of children at home, including the cost of feeding children. A major concern was increasing pregnancies in teenage schoolgirls (Table 16) and the likelihood of older girls not returning to school due to marriage or pregnancy. COVID-19 pressures on income and food security increase the risk of girls being married off for bride wealth.

#### Security

• There was an increase in insecurity due to livestock theft and raids in the three to five months before COVID-19 restrictions i.e. between October 2019 and February 2020. During COVID-19, there was a further increase in thefts and raids, reaching levels equivalent to about 50% of the levels seen in the period before disarmament (Figure 1). Particularly during COVID-19, the contributing factors were: reduced presence of security personnel because of their involvement in COVID-19 response activities; COVID-19 related movement restrictions and health guidelines that prevented communities from recovering stolen livestock; and the disruptive impacts of COVID-19 lockdown on livelihoods and incomes, providing incentives to raid.

## Family relations and gender-based violence

 The COVID-19 impacts on food and cash in households led to increases in family quarrels and separations, particularly in families with high alcohol consumption and in polygamous families with perennial quarrels (Tables 23 and 24). Domestic disputes in Karamoja are strongly associated with violence against women and girls.

# RECOMMENDATIONS

# 1. Prepare to respond to an area-wide food security crisis in Karamoja

The assessment concluded that food security and human nutrition in Karamoja are likely to decline further, especially at the start of the dry season from around November 2020. At this time—and relative to a normal year—COVID-19 will contribute to poor harvests, reduced availability of livestock milk, limited household incomes, and high costs of food and agricultural inputs.

Relative to a "normal" year, the current food security situation in Karamoja is the result of government policy interventions during COVID-19. On an area-wide basis, the greatest positive impact on food security is likely to arise from further policy interventions that enable selected market activity and travel, and that encourage markets, rural production and urban jobs to function in the COVID-19 context. There needs to be a process of dialogue with central and local government, leading to the co-design of policy interventions that enable safe and enhanced economic activity. Such policy interventions will also enable a resumption of selected or adapted activities by implementing partners in Karamoja. Policy support also needs to consider the need for livestock production and mobility in the next dry season, and the need to enable cross-border movements and economic activities.

The Karamoja Development Partners Group (KDPG) and other stakeholders in the region will need to closely monitor the food security situation in Karamoja. In addition to tracking food and commodity prices, critical indicators are livestock mortality and production, areas of land cultivated and harvests relative to a normal year.

There is a need to consider new programs and a repurposing of existing programs to support food security and livelihoods, with activities that are specifically adapted to the COVID-19 context. These programs should aim to address both immediate household food needs, and protect and build productive assets. Interventions could include: targeted food and cash transfers; facilitated access to agricultural and veterinary inputs; activities that help improve incomes and nutritional outcomes; market stimulation support, e.g., support to local wholesale and retail traders, transporters and other services providers; food and nutrition security of school-going children, with mechanisms for delivering food to children at home as schools remain closed. Much of this support will require an enabling policy environment, hence the importance of continuing partnership between government and other development partners.

## 2. Revitalize security and conflict management

Peace and security are critical for supporting livelihoods and food security in Karamoja, yet COVID-19 is associated with an increase in livestock raiding. This trend, and the reasons for raiding, are described in detail in the report.

The KDPG needs to support activities that help strengthen traditional conflict management and resolution mechanisms, and that focus on intra- and intercommunity dialogue and building relations. In the COVID-19 context, this will require innovative approaches to communication and facilitation.

In the past, the government's protected kraal system was linked to massive livestock losses in Karamoja. Yet livestock is Karamoja's most important economic resource. Dialogue with government is needed to re-examine the need for protected kraals during COVID-19.

# 3. Health responses

#### Possible health response fall into two main categories:

• Improve the health facilities' capacity and preparedness to respond to a potential health and nutrition emergencies

There is the challenge of both maintaining health services to provide care for Karamoja's many pre-existing communicable and non-communicable diseases, while also responding to COVID-19. At present, the impacts of common health problems in Karamoja far outweigh the direct impact of COVID-19.

As COVID-19 measures are reducing access to health centers, there should be more emphasis on supporting community-based health provision in villages. Such support could include: personal protective equipment (PPE) for community health workers involved in health promotion and the diagnosis and treatment of diseases; transportation of health workers and clients to access health services; and support referrals of pregnant women to access skilled and safe deliveries at hospitals. COVID-19 risk communication should continue through cultural institutions and traditional leaders; promotion of hygiene and increase access to clean water; and health information sharing through village health teams, radio messaging and broadcasting.

# • Design community-specific COVID-19 communication strategies and measures

Following the Ebola outbreaks in West Africa in 2014 to 2016, there was increasing recognition in the health sector that effective epidemic disease control programs require community partnerships and inputs from communities on how to design and tailor health communication. This has led to an increasing role for medical anthropologists and approaches such as participatory epidemiology (PE) in epidemic disease programs. These approaches are not currently visible as part of the COVID-19 measures in Karamoja, and as a result, there is widespread "noncompliance" with these measures. Uganda has practitioners and academics who are experienced in community-based approaches and PE, such as those trained and supported under USAID's global Emerging Pandemic Threats program. Part of health sector capacity building in Karamoja is building capacity in community-based epidemic disease control.

#### 4. Education responses

Education actors need to design a strategy to keep families and students interested and motivated in education in Karamoja.

The closure of schools posed multiple challenges to both the students and the families. Families are experiencing increased expenses of feeding children for longer periods than usual in the difficult context of COVID-19 restrictions and food price increases, as well as the need to pay school fees next year. The extended closure of schools and staying at home expose schoolgirls to early sexual relationships and communities expressed concerns of potential teenage pregnancies and sexually transmitted diseases (STDs).

# **KEY FINDINGS AND RECOMMENDATIONS**

At present, there is no clear strategy for motivating families of students on education. A strategy needs to be developed and could include: incentives and awareness raising on teenage pregnancies and STDs, e.g., by using role models in communities; interventions such as take-home food supplies; and distance learning through radio and TV broadcast, and print materials. The provision of education material per se is not particularly appreciated by communities.

# I. INTRODUCTION AND ASSESSMENT DESIGN

## I.I BACKGROUND TO THE COVID-19 CRISIS IN UGANDA

In response to the global COVID-19 pandemic, in March 2020 the Government of Uganda introduced various measures to contain disease transmission and reduce health impacts. These measures included border controls and self-quarantine for people entering Uganda, and internal travel restrictions and social distancing. The President of Uganda declared COVID-19 a national emergency on March 18, 2020 and since then lockdown and social distancing measures have been in place. The first case of COVID-19 in Uganda was reported on March 21, 2020. Up to May 4, 88 cases had been confirmed, with most cases in people returning from the United Arab Emirates and the United Kingdom, and cross-country truck drivers from Kenya and Tanzania.

The country-wide Local Development Partners Group focuses on sectoral priorities, and much of the attention around COVID-19 has been on the health sector. It is recognized that there are existing vulnerabilities that will be exacerbated by COVID-19, as well as new vulnerabilities. There are ongoing conversations, especially on social protection and prioritization of target groups such as the elderly, children, or people who have become redundant. However, there is very limited discussion on geographic prioritization, e.g., the Karamoja sub-region.

COVID-19 is a health crisis with major impacts on livelihoods and economies, especially for poorer and more vulnerable households. The Karamoja Development Partners Group (KDPG) has advocated for the adoption of a "multisectoral, all of society crisis and all of government response" approach. KDPG recognizes the need to support immediate responses to COVID-19 in Karamoja, while also strategizing for medium- and long-term responses. A rapid assessment was proposed by the Karamoja Resilience Support Unit (KRSU) to document the current impacts of the crisis for KDPG, forecast how these impacts will affect livelihoods over the next six to eight months (to early 2021) and indicate priority areas for livelihoods support to more vulnerable households.

## **1.2 ASSESSMENT APPROACH**

The assessment was a rapid technical assessment of conditions and issues associated with COVID-19 restrictions and measures. The assessment approach prioritized

compliance with COVID-19 measures in Uganda and used a KRSU staff member who was living in Karamoja as well as three local assessment assistants. The assessment team both practiced COVID-19 measures and used interaction with communities to raise awareness of these measures.

Key aspects of the assessment approach were as follows:

- The assessment was undertaken over a six-week period from mid-June to the end of July 2020.
- The assessment team raised awareness about COVID-19 and observed Government of Uganda Standard Operating Procedures (SOPs) for COVID-19. In addition:
  - o The assessment team received letters of support from the Resident District Commissioners, who also chaired the COVID-19 District Task Forces in the respective districts, as well as consent from the Local Council 1 Chairman (LC1) in the respective villages.
  - o Research team wore masks, used their own chairs, and observed social distancing.
  - o The team demonstrated to communities the need to wash hands with soap and use sanitizer; they carried water, soap and sanitizer.
- The assessment prioritized the views and perspectives of community members, and made frequent use of small-size focus group discussions (FGDs) and adapted participatory methods:
  - o FGDs considered a mix of gender (women, men), age (youth, older) and livelihood groups (livestock producers, farmers, traders). The meetings were restricted to a maximum of five people according to Government of Uganda health guidelines and a Presidential Directive.
  - o Collection of price data, e.g., for food types, livestock and livestock products, agriculture and agriculture products.
  - o Participatory Likert-type scale rating with focus groups was used to develop scenarios in the order of severity on the effect of COVID-19. Community members discussed and agreed on the level of effect they fall into as a community and provided the reasons for the level chosen.<sup>2</sup>

<sup>2</sup> Raphael Lotira Arasio, Brigitte Kaufmann, Oliver Vivian Wasonga, and David Jakinda Otieno. (2020). Socio-cultural and Governance Foundations of Successful Income-generating Groups in Pastoral Societies: Evidence from Northern Kenya. *Community Development*, 1-26.

#### I. INTRODUCTION AND ASSESSMENT DESIGN

- o Other participatory methods used with focus groups include impact scoring, seasonal scoring, ranking.<sup>3</sup>
- o To some extent, findings from participatory methods were triangulated against objective data, e.g., on food and commodity prices.
- The assessment also included key informant interviews with commodity transporters, agrovet owners/attendants, District Health Officers (DHOs), District Veterinary Officers (DVOs), and health center data officers, and the assessment team viewed health center records. The interviews were conducted face-to-face while observing social distancing and/or by phone.
- The methods outlined above produced assessment findings that are presented in three main ways in the report:
  - o **Price data**, especially showing prices before and during COVID-19, and taking account of seasonal price trends during normal years.
  - Ranks or scores of items or issues, often comparing the situation before and during COVID-19, and taking account of seasonal trends during normal years.
  - o **Narrative** that provides further details and explanations.
- The assessment aimed to cover Karamoja's main livelihood activities, so three districts were selected:

Amudat District, representing pastoralism with very high dependency on livestock but also some crop production; Moroto District, representing agropastoralism, with high dependency on livestock, followed by crop production; Abim District, with high dependency on crop production, but also using livestock. Diversified livelihood activities are widely used in all three of these districts. Moroto Municipality was also selected to represent an urban and peri-urban population.

• Across the three districts, the assessment covered 17 sub-counties, in which 55 villages and 271 people (138 women, 133 men) were interviewed as shown in Table 1.

# **1.3 STRUCTURE OF THE REPORT**

The report comprises:

- Key Findings and Recommendations—a summary of the main immediate and likely long-term impacts of COVID-19, with emphasis on livelihoods and food security impacts.
- Assessment Findings—comprising two main sections, viz. impacts of COVID-19 across all three of the districts covered by the assessment and impacts specific to livelihood activities— livestock, crop production and diversified activities.

For the purpose of providing rapid information to the KDPG and other stakeholders, the report does not include a discussion section.

District	Sub-counties	No. of villages	Number of	f people interviewed
_			Female	Male
Amudat	Amudat, Loroo, Karita, Kongorok	17	34	47
Abim	Awac, Magamaga, Alerek, Lotuke,	17	47	42
	Morulem, Kiru Town Council,			
	Nyakwae, Abim			
Moroto	Rupa, Nadunget, Tapac, Katikekile	19	51	40
Moroto Municipality	South Division	2	6	4
Total		55	138	133

#### Table 1. Locations covered in the assessment

<sup>3</sup> Andy Catley. (1999). Methods on the Move: A Review of Veterinary Uses of Participatory Approaches and Methods Focussing on Experiences in Dryland Africa. International Institute for Environment and Development, London, UK.

# 2.1 RISK FACTORS FOR COVID-19 TRANSMISSION

Communities were asked to reflect on the way they live or pursue livelihoods and state the community practices (factors internal to the community) that would spread the disease faster if it occurs, including community activities or practices that bring many people together. Information was also gathered on external factors that would increase the risk of the disease being introduced from outside (threats from outside). As shown in Tables 2 and 3, some of the risk factors were cross-cutting while others were specific to communities. Understanding these factors is important for designing cross-cutting and communityspecific messages for COVID-19 awareness and prevention.

## Table 2. Risk factors for COVID-19 transmission related to communal or group activities

Factor	Amudat District (pastoralists)	Moroto District (agropastoralists)	Abim District (agriculturalists)
Youth responding to a raid	1	1	1
Village gatherings to assist the sick	1		
Condoling a bereaved family as a village	✓		
Traditional marriages ( <i>Ekitan, Ekichul, Edepar</i> )	1	1	1
Pastoral production system—mobile livestock camps (kraals) <sup>4</sup>	1	1	
Village meetings to administer justice, e.g., discipline a wrongdoer	1	1	1
Traditional dances	1	1	1
Rituals and elders' feasts (Akiriket)	1	1	
Community meetings, e.g., for peace ( <i>Ekokwa</i> )		1	
Church prayers	1	1	1
Fundraising <sup>5</sup>	1		
Initiation ceremonies (Athapan)	1	1	
Merry-go-round groups <sup>6</sup>	1		
Group farming, including wage labor in gardens (planting,	1	1	1
weeding, harvesting)			
Mukanda <sup>7</sup> including savings and loans groups	1	1	1
Burials	1	1	1
Building a hut as a group			1
Women celebrating a newborn child	1	1	1
Youth outdoor games, e.g., football			1
Traditional homesteads (ngireria)—several households under		1	
one fence and overcrowded			
Greeting by shaking hands	✓	<b>√</b>	1

Continued on next page

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<sup>4</sup> Shepherds are together in the grazing areas and watering points.

- <sup>5</sup> This includes *Lopeikirep* (in Pokot language), a church activity for fundraising for the poor, the elderly and orphans. Support is in form of money, animals (cattle, goats, chickens), buying land, paying school fees for an orphan, food (maize).
- <sup>6</sup> Monthly rotational contribution of money to a member of a group.
- <sup>7</sup> A group of 10–12 women pool money, buy household items from a cheaper source and give to a member. This is rotational on a monthly basis.

Continued from previous page

Sniffing tobacco (own and shared)	1	1	
Visiting relatives <sup>8</sup>	1	1	1
Polygamy	1	1	1
Poor hygiene	1	1	
Overcrowding at water points (common water sources)	1	1	1
Sharing food and local brew ( <i>kwete</i> , <i>marwa</i> )	1	1	1
Gambling by the youth			1
Crowding at health centers			1
Shepherds bathing from the same point	1	1	1
Shops <sup>9</sup>	1	1	1
Money outlets such as banks and mobile money vendors	1	1	1
Use of motorbike transport despite restrictions—crisscross	1	1	1
villages and districts			
Livestock raiders from the neighboring communities	1	1	1
Security personnel (police, army, Local Defence Units (LDUs)) <sup>10</sup>	1	1	1
Political campaigns	1	1	1
Mining <sup>11</sup>		1	

# Table 3. External factors related to COVID-19 transmission

Factor	Amudat District (pastoralists)	Moroto District (agropastoralists)	Abim District (agriculturalists)
Corruption <sup>12</sup>	1		
Cross-border movements (to and from Kenya) <sup>13</sup>	1	1	
Kenyan government lifting lockdown on June 6	1		
Motorbike operators (bodabodas) who relocated to work	1		
in Kenya			
Closeness to main roads used by cross-border trucks	1		1
Visitors—returning family members	1	1	1
Reopening operations of public transport (taxis, buses)	1	1	1
Non-governmental organization (NGO) or government	1	1	1
service providers			
Merchants (trucks and motorbikes) selling foodstuffs in	1	1	1
the villages			
Karamoja kraals in Turkana (Kenya)—fled insecurity		$\checkmark$	

<sup>8</sup> Traditionally, all relatives do not stay in the same village.

- <sup>9</sup> One shopkeeper serving many customers; handling money from unknown source.
- <sup>10</sup> Patrol different areas; arrest different people; change of duty stations.
- <sup>11</sup> For instance, gold mining at Nakabaat—difficult to control movement of gold buyers into and out of the area. Miners composed of people from different origins.
- $^{\rm 12}\,$  People from outside may bribe the police and be allowed to enter.
- <sup>13</sup> Moving on foot through pedestrian paths at the porous borders.

## 2.2 IMPACTS OF COVID-19 ACROSS LIVELIHOOD ZONES

The general impacts of COVID-19 restrictions and media reporting of COVID-19 are summarized in Table 4.

Other impacts include family disagreements including gender-based violence and reduced social support and sharing of food.

# 2.2.1 Hunger and food security

A critical impact of COVID-19 was an increase in hunger and food insecurity across districts, with clear indications that a major food crisis was emerging in Karamoja. In addition to poorer and vulnerable households in rural areas practicing pastoralism, agropastoralism or agriculture, often supported by diversified livelihood activities, were specific categories of people affected. These included people hired by traders to trek animals or help when trucking animals to markets; people loading or off-loading commodities in markets; poor women who survived on casual labor in towns and villages, including those hawking commodities for big traders in towns; children and pregnant women from poor families who perennially get nutrition support from external agencies. Other groups included motorbike transport (*bodaboda*) drivers, the disabled, orphans and the elderly.

The specific causes of hunger were: closure of market days; poor access to towns for food; reduced flow and availability, and high prices of foodstuffs; inability to visit relatives for support; loss of income from employment, businesses, livestock-based livelihoods, crop-based livelihoods and diversified livelihood activities; low prices of livestock due to closure of markets; arrest and quarantine of family heads; increased selfishness (Edinget) and reduced social support, with people reserving the little they have for their immediate families; relatives and neighbors are constrained by the disruptive effects of COVID-19 on livelihoods; loss of animals to recent raids (less milk available—also due to reintroduction of protected kraals system); low stocks of food from people's own gardens (from previous harvest).

# 2.2.1.1 The flow and availability of food and other essential commodities

The flow and availability of commodities in major towns and during market days is usually higher in the dry season and lower in the wet season. This includes commodities both from outside and from within Karamoja. After

Community concern	Average rank		
	Amudat District	Moroto District	Abim District
	(n = 2)	(n = 5)	(n =4)
Fear of and uncertainty about COVID-19	1	1	1
Hunger, e.g., from loss of income and employment,	3	2.4	2.5
market closure, closure of businesses			
Increased prevalence of human diseases, e.g., malaria;	3	5.2	3.3
new diseases—cholera, scabies, rashes in children			
Increased prevalence of livestock diseases	4.5	4.4	5
Effect on crop production, e.g., inadequate labor plus		6.8	
other production constraints such as fall army worm,			
rodents, poor rains, desert locusts			
Increased livestock theft/raids	3.5	4.8	2
Increased child malnutrition	6		
Effects of school closure, e.g., teenage pregnancies;	6	4.8	4
high cost of feeding children amid food and income			
scarcity and high prices			
Effects of church closure, e.g., return to alcoholism	7	6.6	
Closure of transport			5.8

## Table 4. Community ranking of COVID-19 impacts and concerns

Ranks: 1 = most important; 7 = least important n = number of focus groups

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Indicator	Town or village level	Location	Normal dry season	Normal wet season	COVID-19 wet season	Change in normal wet season vs. COVID-19 wet season
Flow of commodities	To major towns	Amudat-Sikotai-Karita	7	3	1	-2 (67%)
—major suppliers		Abim-Kotido-Alerek	8	2	1	-1 (50%)
with trucks		Moroto-Lotirir-Nadunget	8	2	1	-1 (50%)
	To village level by trucks	Amudat-Sikotai-Karita	8	2	0	-2 (100%)
	and motorbikes	Moroto-Lotirir-Nadunget	8	2	1	-1 (50%)
Availability of food	In major towns or	Amudat-Sikotai-Karita	8	2	1	-1 (50%)
and other essential	during market days	Abim-Kotido-Alerek	8	2	1	-1 (50%)
commodities		Moroto-Lokeriaut-Nadunget	5	5	2	-3 (60%)
	In the village	Amudat-Napao-Amudat	6	4	2	-2 (50%)
		Abim-Kotido-Alerek	8	2	1	-1 (50%)
		Moroto-Lokeriaut-Nadunget	5	5	1	-4 (80%)
		Moroto-Nakonyen-Tapac	7	Э	1	-2 (67%)
		Moroto-Kosuroi-Tapac	6	4	3	-1 (25%)
	In the village	Amudat-Sikotai-Karita	8	2	0	-2 (100%)
Access (movement to buy)	To major towns-men	Amudat-Sikotai-Karita <sup>14</sup>	2	8	0	-8 (100%)
	To major towns-women	Amudat-Sikotai-Karita <sup>15</sup>	6	1	0	-1 (100%)
		Abim-Kotido-Alerek	8	2	2	0 (0%)
		Moroto-Lotirir-Nadunget	1	6	4	-5 (56%)
	Inter-village	Amudat-Sikotai-Karita	5	5	5	0 (0%)
		Abim-Kotido-Alerek	5	2	5	0 (0%)
Prices of commodities (high)		Abim-Kotido-Alerek	3	7	6	+2 (29%)
		Moroto-Lotirir-Nadunget	1	6	17	(%90) 8+
Prices of own maize/		Abim-Kotido-Alerek	3	7	9	+2 (29%)
sorghum (high)		Moroto-Lotirir-Nadunget	د	8	13	+5 (63%)

season. They were asked to compare the normal wet season to the current COVID-19 wet season and use stones to show current observations. At this point, they could choose to use more stones (>10) as needed when considering the current COVID-19 wet season.

<sup>14</sup> Movement of men to towns is limited in the dry season because of being preoccupied with herding.

<sup>15</sup> Movement of women to towns is limited in the wet season because of being preoccupied with garden work.

harvest, locally produced foods are abundant in the market, and some are even bartered with outside goods (e.g., in Kotido village, Alerek Sub-county, Abim District, sorghum is exchanged for salt). In the wet season, availability is usually low because of bad roads, high transport cost and higher prices at the source. The same pattern of flow and availability of commodities is usually observed in the village shops. In addition to the above restricting factors in the wet season, at the village level, most local traders are preoccupied with farming activities (including some of their business profits and capital being invested in farming). This reduces their involvement in commodity trade and further reduces availability of commodities at the village level. In pastoralist and agropastoralist communities, the availability of animal milk and wild vegetables reduces the need for purchased foodstuffs in the wet season. However, market days cushioned fluctuations in the flow, availability and prices of commodities between seasons. Essential commodities that communities mostly need from outside include maize flour (posho), rice, sugar, cooking oil, salt, soap, clothes, vegetables (cabbages, tomatoes, onions), maize, sorghum and beans, among others.

During COVID-19, the flow and availability of food and other commodities decreased both in the major towns and in the village shops (Table 5). Considering the time of the year, COVID-19 restrictions worsened the impact of constraints usually experienced in the wet season (bad roads, high transport cost, higher prices at the source, distance, etc.). Worse still, the markets were closed.

The impact was more pronounced at the village level. Other explanations for a much depressed availability of commodities at the village level (or closure of some shops) were claims that local traders had channelled some of their capital to the upkeep of their own families during COVID-19 (in addition to investing in farming) and so did not have enough money to restock their businesses. Business capital had also been tied to credit and in animals that were purchased before COVID-19. Already, some villages (particularly those in more remote locations) are experiencing severe shortage of groceries and commodities such as salt, sugar and clothes. There is limited variety of foodstuffs both in major towns and in the village shops.

Despite a Presidential directive that the flow of commodities should continue in Uganda, supplies to Karamoja were affected by challenges faced by transporters en route, especially harassment by police and high unofficial fees paid at the multiple roadblocks. Transporters and local traders reported an increase in the number of roadblocks compared to the period before COVID-19. Consequently, transporters further raised transport costs (usually higher in the wet season) while local traders further raised the prices of commodities (usually higher in the wet season) to cover the risks involved. There were also claims that prices of commodities have increased at the source, for instance in Mbale.

# 2.2.1.2 Access to food and other essential commodities

Typically, access to food in major towns is lower in the wet season as people are preoccupied with farming and prices of foods are higher. In some villages, insecurity is higher in the wet season (e.g., Kotido village, Alerek Sub-county, Abim District). The COVID-19 movement restrictions in this year's wet season have led to a general further reduction in food access. Furthermore, there is the requirement of the use of a mask when in town, but masks are scarce and expensive.

Amudat District was particularly affected in terms of access to major towns for food and essential commodities during COVID-19. First, people walking to town centers, as well as motorbikes sent to purchase commodities, are unnecessarily arrested by police and LDUs, and sometimes quarantined without knowledge of their relatives in the guise of being Kenyans and suspected to have COVID-19. In the quarantine centers, conditions and services were reportedly horrible, as explained by a community member: *"In the quarantine centers in Amudat town, people are mixed yet others might be having COVID-19, there is no beddings, feeding is poor."*<sup>16</sup> These problems were also faced by people at Kosuroi (Moroto District) on the Kenyan border.

Second, the few motorbikes that continued operations charged exorbitantly for transportation of goods (Table 6). This was attributed to the risks involved, including bribing the police at the roadblocks. Increase in motorbike transport costs was also reported in other districts.

In Nakonyen village, Tapac Sub-county (Moroto District), people were fearful and did not buy unpacked commodities such as vegetables (e.g., tomatoes, onions), fruits and items in small quantities (e.g., sugar, beans).

**2.2.1.3** Availability of food from people's own gardens The availability of own-produced staple crops varies during a typical year, and so the impact of COVID-19 partly depends on the time of year when restrictions are in place.

<sup>&</sup>lt;sup>16</sup> FGD, Lomerae village, Loroo Sub-county, June 10, 2020.

Commodity transported	District	Route (one way)	Charges before COVID-19 (Ugandan shilling (UgX))	Charges during COVID-19 wet season (UgX)	Change normal wet season vs. COVID-19 wet season	% increase
Sugar (90 kg)	Amudat	Amudat town to Napao village (Amudat Sub- county (S/C))	5,000	10,000	+5,000	100%
Assorted goods	Abim	Olem town center to Kotido village (Alerek S/C)	Dry season 20,000 Wet season 30,000	40,000	+10,000	33%
	Moroto	Kosuroi to Moroto	10,000– 20,000	50,000	+30,000– 40,000	200%
Passenger alone	Abim	Achangali to Orwamuge town	1,000–2,000	3,000	+2,000	100%
	Moroto	Nakonyen to Moroto	20,000	30,000	+10,000	50%
	Moroto	Nakonyen to Tapac	10,000	20,000	+10,000	100%
	Moroto	Nakabaat to Moroto	20,000	30,000	+10,000	50%
Passenger + goods	Moroto	Moroto to Nakabaat	40,000	60,000	+20,000	50%

#### Table 6. Impact of COVID-19 on the cost of transporting goods from major towns by motorbike

People were first asked to describe the level of cereals in their granaries during different months of the year, and when the harvest is good (Table 7). Amudat District mainly produces maize, Abim District mainly produces maize, sorghum, simsim (sesame), groundnuts, beans and cassava, while Moroto District mainly produces sorghum. COVID-19 occurred at a time of the year (wet season) when food stocks from own gardens are usually lower, demand for purchased foodstuffs is higher and prices of purchased foods are higher. This further increases vulnerability to hunger at this time of COVID-19.

The harvest time slightly differs between communities, and so does the level of food stocks in the different months of

the year. At the beginning of COVID-19 restrictions, most communities were at 25–50% cereal stock levels. Between June and August, cereals stocks from the previous harvest reach zero; this is a time of hunger. During COVID-19, this situation is exacerbated by low availability, poor access and high prices of purchased foods. Worse still, the purchasing power of communities has been reduced by loss of incomes from jobs, businesses and sale of own agricultural produce—people cannot sell crops and livestock due to closure of markets. The situation is worse in communities where many families do not have animals for milk, as production increases in the wet season.

In addition, it is predicted that this year's harvest will not

#### Table 7. Normal availability of own-produced cereals

Location Amount of cereals available					
	100%	75%	50%	25%	<b>0%</b> <sup>17</sup>
Amudat-Sikotai-Karita (maize)	Sept–Oct	Nov-Dec	Jan–March	April–June	July–Aug
Abim-Kotido-Alerek (maize)	July–Aug	Sept-Oct	Nov-Dec	Jan–March	April–June
Moroto-Lotirir-Nadunget (sorghum)	Oct–Dec	Jan–Feb	March–May	June	July (nicknamed as
					Lokanikarei)

<sup>17</sup> In this period, people start buying food.

be good due to the impact of COVID-19 restrictions on farming activities, and in Abim District, the desert locust invasion in March 2020 destroyed the early crops. Poor rains at the beginning of the season, fall army worm and rodents have also been reported in all three districts. These are indicators of a possible food and nutrition crisis in the near future.

# 2.2.1.4 Impact on prices of food and other essential commodities

Prices of commodities are usually lower in the dry season and higher in the wet season<sup>18</sup> due to low availability (shortages), higher prices at the source and higher transport costs in the wet season. These factors have worsened during COVID-19 and have led to a further increase in prices amid low purchasing power, also associated with COVID-19 restrictions and loss of income (Tables 8, 9 and 10).

# Table 8. COVID-19 impacts on food and commodity prices in major towns in Amudat District

Commodity (amount)	Price in normal dry season (UgX)	Price in normal wet season (UgX)	Price after four months of COVID-19 (UgX)	Change in prices (UgX) (normal wet season vs. COVID-19 wet season)
Sugar (25 kg)	65,000–70,000	65,000–70,000	90,000	+20,000 (29%)
Sugar (50 kg)	150,000	150,000	180,000	+30,000 (20%)
Cooking oil (20 L)	90,000–97,000	90,000–97,000	110,000–120,000	+30,000 (33%)
Cooking oil (10 L)	47,000	47,000	55,000	+8,000 (17%)
Cooking oil (3 L)	17,000	17,000	20,000	+3,000 (18%)
Cooking oil (1 L)	7,000	7,000	7,000	+0 (0%)
Sugar (1 kg)	3,000-3,500	3,000-3,500	4,000	+1,000 (33%)
Salt (500 g)	700	700	2,000	+1,300 (186%)
Salt (200 g)	400	400	1,000	+600 (150%)
Soap – 1 bar of Chapa	2,000	2,000	2,000	+0 (0%)
nyota brand				
Maize (3 kg)	1,500-2,500	5,000	3,000	-2,000 (40%)
Cooking oil (60 ml –	100	100	150	+50 (50%)
1 scoop)				

# Table 9. COVID-19 impact on food and commodity prices in village shops in Amudat District

Commodity (amount)	Location	Price in normal dry season (UgX)	Price in normal wet season (UgX)	Price after four months of COVID-19 (UgX)	Change in prices (UgX) (normal wet season vs. COVID-19 wet season)
Sugar (1 kg)	Amudat-Kapetawoi	3,000	3,000	4,000	+1,000 (33%)
	Amudat-Napao	2,500-3,000	3,500	5,000	+1,500 (43%)
	Abim-Kotido-Alerek	2,000	2,000	5,000	+3,000 (150%)
Cooking oil	Abim-Kotido-Alerek	1,500	1,500	4,000	+2,500 (167%)
(300 ml)					
Salt (500 g)	Abim-Kotido-Alerek	800	800	2,000	+1,200 (150%)
Soap (1/5 bar)	Abim-Kotido-Alerek	1,000	1,000	2,000	+1,000 (100%)
Posho (300 g)	Abim-Kotido-Alerek	500	500	1,200	+700 (140%)
Beans (300 g)	Abim-Kotido-Alerek	800	800	1,500	+700 (88%)
Beans (500 g)	Abim-Bolokome	600–700	1,100–1,200	1,500	+400 (40%)
Simsim (300 g)	Abim-Kotido-Alerek	1,000	1,000	2,000	+1,000 (100%)

<sup>18</sup> Looking at actual commodity prices, a real change in prices between the wet and dry season is hard to detect. However, local traders adjust quantities of commodities unsuspectedly, e.g., 1 kg of sugar becomes 0.75 kg but is sold at the same price as 1 kg.

# Table 10. COVID-19 impact on food and commodity prices in Moroto District

Commodity	Location/ source of info.	Price in the normal dry season (UgX)	Price in the normal wet season (UgX)	Price after 4 months of COVID-19 (UgX)	Change in prices (normal wet vs. COVID-19 wet)
Wholesale prices in m	ajor towns or supplie	r prices at village le	evel or on market da	ys	
Sorghum (100 kg) –Karamojong type	Moroto	70,000–75,000	80,000–90,000	95,000–150,000	+5,000–70,000 (44%)
Sorghum (100 kg)	Moroto	50,000-60,000	65,000–75,000	80,000–120,000	+5,000-55,000 (43%)
–foreign type ( <i>Ekabir</i> )	Lotirir, Nadunget	50,000-60,000	85,000-90,000	120,000	+30,000-35,000 (37%)
Maize (100 kg)	Lokaal, Rupa	80,000-85,000	90,000–95,000	120,000-130,000	+25,000-40,000 (35%)
2	Lotirir, Nadunget	75,000-80,000	100,000-120,000	160,000–170,000	+40,000-60,000 (46%)
Cassava flour (100 kg)	Moroto	50,000-60,000	70,000–75,000	80,000–120,000	+5,000-50,000 (38%)
	Lotirir, Nadunget	50,000-55,000	3 kg = 2,000	3 kg = 4,000	+2,000 (100%)
Sugar (25 kg)	Moroto (Nakonyen)	80,000-85,000	80,000-85,000	90,000–100,000	+5,000-20,000 (15%)
Cooking oil (20 L)	Moroto (Nakonyen)	85,000	85,000	110,000	+25,000 (29%)
Retail prices in major	towns				
Salt (500 g)	Moroto	600–700	600–700	1,500–3,000	+800-2,400 (246%)
C C	Tapac, Moroto	700-800	700-800	3,000	+2,200-2,300 (300%)
	Lotirir, Nadunget	600–700	600–700	3,000	+2,300-2,400 (360%)
Salt (200 g)	Tapac, Moroto	400–500	400–500	1,000–2,000	+500-1,600 (230%)
	Lotirir, Nadunget	300-400	300-400	1,500	+1,100–1,200 (329%)
Maize (3 kg) – <i>Ekabir</i>	Moroto	3,000	2,000	4,000	+2,000 (100%)
Sorghum (3 kg)	Lotirir, Nadunget	3,500	3,500	4,000	+500 (14%)
Sugar (1 kg)	Lotirir, Nadunget	1,700	1,700	2,000	+300 (18%)
Bedsheet – 1 pc.	Moroto (Nakonyen)	23,000	23,000	23,000	0
Tire sandals – 1 pc.	Moroto (Nakonyen)	10,000	10,000	12,000	+2,000 (20%)
Cooking oil – 3 L	Lokaal, Rupa	15,000	15,000	20,000	+5,000 (33%)
Cooking oil – 0.5 L	Lokaal, Rupa	2,500	2,500	2,800–3,000	+300–500 (16%)
	Lotirir, Nadunget	2,500	2,500	3,000	+500 (20%)
Beans (0.5 kg)	Lotirir, Nadunget	800–900	900	1,200	+300 (33%)
Retail prices at village	shops	1			
Rice (1 kg)	Kosuroi, Tapac	3,000	3,000	6,000	+3,000 (100%)
Sugar (250 g)	Kosuroi, Tapac	1,500	1,500	2,000	+500 (33%)
Salt (500 g)	Kosuroi, Tapac	700	700	2,000	+1,300 (186%)
Maize (3 kg)	Kosuroi, Tapac	1,000–2,000	1,000–2,000	3,500	+1,500-2,500 (133%)
Soap (a bar)	Kosuroi, Tapac	1,500	1,500	3,000	+1,500 (100%)
Beer (Eagle brand)	Nakwabuil,	2,000	2,000	3,000	+1,000 (50%)
	Katikekile				

As reported in Napao village of Amudat District, food prices are moving towards the prices seen in the drought of 1989.<sup>19</sup> However, compared to other districts, prices of commodities in Amudat District are stabilized by cheaper supplies from Kenya (moved informally through bush routes). Without the Kenyan supply, prices of commodities in Amudat would be much higher during COVID-19 (wet season) compared to the other districts. If movement restrictions continue, prices are expected to further increase into the next dry season, when prices are usually lower.

# 2.2.2 Health and nutrition impacts

The health impacts of COVID-19 are related to: the awareness and presence of COVID-19; access to health services in the government health centers; access to referral hospitals within and outside Karamoja sub-region; availability and cost of other health services; impact of restrictions on the prevalence of the existing human diseases; and impacts on child nutrition.

# 2.2.2.1 Awareness and presence of COVID-19

People were aware of COVID-19. In Amudat District, people received awareness messages through Kale FM radio in Kenya (there is no FM radio station in Amudat District), local government and NGOs. However, in Amudat District, communities reported conflicting messages from local leaders on the presence of COVID-19, with some leaders disputing results of the four confirmed cases.

In Abim District, people received messages from Luo FM radio in Pader, government medical personnel and subcounty authorities, MTN and Airtel companies, *Rupiny* newspaper (the Luo language version of the *New Vision* newspaper), Radio Karibu and Karamoja, posters, television stations such as NTV, and NGOs/communitybased organizations (CBOs). In Moroto District, the local government, local leaders and NGOs/CBOs played a great role in awareness raising.

However, compliance was said to be difficult with containment measures that:

• Require changing behaviors and practices that are rooted in the people's traditions and culture: for instance, social distancing at markets and places of drinking local brew; sharing of local brew; sniffing tobacco; greeting by shaking hands; traditional marriages.

- Require financial resources: use of soap and sanitizers, jerricans with a tap, use of masks (which are expensive). The price of a bar of soap (Chapa nyota soap) has increased from UgX 2,500 to 3,500 in some areas, while that of 20 liter empty water jerrican (to fix a tap to for washing hands) has increased from UgX 3,000 to 5,000. The Local Council 1 chairman (LC1) of Naburiakwei village (Loroo Sub-county, Amudat District) reiterated his own efforts to provide soap for use by people coming for water at the boreholes. A face mask costs UgX 3,000 to 5,000 while sanitizers cost between UgX 15,000 and 70,000 in Moroto town.
- Require water availability such as washing hands regularly. Problems include lack of clean water and inadequate boreholes (leading to overcrowding at the water points).

With regard to the presence of clinical COVID-19, people are living in fear and uncertainty about COVID-19: *"COVID-19 is now more terrifying than HIV/AIDS."*<sup>20</sup> People are hearing that COVID-19 has no cure, kills many people within a short time, has symptoms that are not clearly distinctive from those of other diseases such as malaria and flu, and that someone can be sick but not show symptoms (asymptomatic cases).

COVID-19 was also likened to insecurity due to raids: "This disease is like livestock raids before disarmament because it is said to kill many people."<sup>21</sup> To further illustrate the fear of COVID-19, communities said that, "If white people who stay in cleaner environments and who can afford medication have died in large numbers, what about us who stay in such difficult environment?"<sup>22</sup> Additionally, people fear visiting sick relatives and neighbors in hospitals and at home due to fear of contracting COVID-19. People also move with fear because, "You cannot tell who has this disease and who does not. This is because we see healthy people in quarantine centers."<sup>23</sup>

Interviews with Department of Health staff in the different districts revealed that:

• In Amudat District, by June 11, 2020, 91 people had been quarantined, out of which 4 were confirmed COVID-19 positive. They also revealed various capacity challenges to managing or responding to the pandemic (case management, surveillance, and risk communication and community mobilization/

- <sup>20</sup> FGDs, Napao village, Amudat Sub-county, Amudat District, June 8, 2020.
- <sup>21</sup> FGD, Lokeriaut village, Nadunget Sub-county, Moroto District, June 13, 2020.
- <sup>22</sup> FGD, Kotaruk village, Nadunget Sub-county, Moroto District, June 18, 2020.
- <sup>23</sup> FGD, Lokaal village, Rupa Sub-county, Moroto District, June 12, 2020.

<sup>&</sup>lt;sup>19</sup> In the drought of 1989, 1 kg of sugar was sold at UgX 6,000 in Amudat town and at UgX 7,000 in the villages.

engagement). These include inadequate screening equipment, inadequate personal protective equipment (PPE) (400 vs. target of 10,000 per month), inadequate personnel (28% staffing level), poorly equipped quarantine centers (food, bedding, lighting), lack of a radio station in the district (for community mobilization and sensitization), inadequate allowance for staff welfare (20% of the UgX 165 million received), and delays in results of samples taken for testing (takes 4 days to 3 weeks).

• In Moroto District, by August 14, 2020, there were no COVID-19 positive cases but Moroto regional and referral hospital managed 2 positive cases from Amudat District. Cumulatively, 61 people had been quarantined. Some of the challenges encountered in responding to the pandemic include low community compliance with health guidelines, inadequate motivational allowance for staff, inadequate staff (56% staffing level, i.e., 232 staff), inadequate transport (6 vehicles and 3 motorbikes vs. target of 9 vehicles and 6 motorbikes).

#### 2.2.2.2 Impact on access to health facilities

The fear of and movement restrictions related to COVID-19 impacted negatively on community's access to health services in the government health centers and referral hospitals, and private clinics, in different ways. This is in addition to the expected impact of distance, security, and season<sup>24</sup> on access and use of health facilities. Better access to health facilities is needed at the time of the year (wet season) when the incidence of diseases such as malaria peaks, especially in children.

The impact on access to health facilities/services differed across districts. In Moroto and Abim Districts, there was panic and fear, and tension in the first two weeks of COVID-19 restrictions but this was reduced by subsequent awareness campaigns. However, in Amudat District, difficult access to services was prolonged. Communities described various health access problems:

- People with flu, sneezing, cough and high temperature feared going to health centers owing to reports of similar cases being suspected to be COVID-19 and so people were quarantined, as reported in all three districts.<sup>25</sup>
- Someone could not visit a sick relative in the health center or in a distant village to offer support.
- Very few or no motorbikes were available for hire to transport sick people to the health centers. The few motorbikes that were available faced a number of challenges in their operations. These included:
  - o Paying bribes to the police at the roadblocks (Table 11).
  - o Being harassed, arrested, and quarantined if not willing and ready to pay the bribe. Sometimes the motorbike operator, the sick person and the caregiver were all arrested.
  - o The motorbikes could not carry sick people after the curfew hour (5 pm). $^{26}$

As a result of the numerous operational difficulties, motorbike operators increased transport charges by 11% to 400% (Table 12). The charges were doubled at night, especially in insecure places. To observe social distancing, two motorbikes were hired to take a sick person to the health center, one for the patient and the other for the caregiver.

• Closure of livestock markets (for livestock and agricultural products) reduced people's ability to pay for transport as well as private health services. For critical cases for referral (especially from poor families), the relatives and the entire community contributed money for travel, medicines and upkeep. Relatives also got loans from Village Savings and Loan Associations (VSLAs) for medical care.

- <sup>25</sup> Reported in Kongorok Sub-county, Amudat District; Aringobom East, Alerek Sub-county, Abim District; and Lokaal village, Rupa Sub-county, Moroto District.
- <sup>26</sup> FGD, Kotaruk village, Nadunget Sub-county, Moroto District, June 18, 2020.

<sup>&</sup>lt;sup>24</sup> Nagoliet village, Kongorok Sub-county, Amudat District. Use of the health centers was mainly in the wet season (scoring: 8/10) because of high disease prevalence despite impassable roads (scored 7/10 as level of impassability in the wet season). The use during COVID-19 (wet season) reduced from 8/10 (normal wet season) to 3/10 (during COVID-19). Factors contributing to reduction in use during COVID-19 include fear of COVID-19, increased charges for motorbike transport, fear of moving at night because of insecurity.

District	Village, sub-county reported	Unofficial fees (UgX)		
		At roadblock—to be allowed to pass with the patient	At police station if motorbike is detained	
Amudat	Nagoliet, Kongorok	30,000	100,000	
Abim	Loka, Lotuke		50,000-80,000	
Moroto	Kosuroi, Tapac, Moroto	A total of 70,000 between	200,000	
		Kosuroi and Moroto town		

#### Table 11. Unofficial fees for releasing a motorbike at a roadblock or police station

## Table 12. Motorbike transport charges before and during COVID-19

District   Sub-county   Route (one way)			Motorbike transport charges (UgX)			
			Previous dry	Previous wet	COVID-19	Change:
			season	season	wet season	previous wet
						season vs.
						COVID-19
						wet season
Amudat	Kongorok	Nagoliet to Loroo town	15,000	18,000	20,000	11%
Abim	Awach	Aroo to Awach center	2,000	5,000	7,000	40%
Abim	Awach	Aroo to Abim town	15,000	15,000	30,000	100%
Abim	Alerek	Kotido to Alerek town	5,000	5,000	20,000-	300-400%
					40,000	
Abim	Magamaga	Ulela to Morulem	5,000	7,000	15,000	114%
Abim	Abim	Geregere North to Abim town	5,000	5,000	10,000	100%
Moroto	Тарас	Nakonyen to Tapac	20,000	20,000	50,000	150%
Moroto	Тарас	Kosuroi to Moroto	40,000	40,000	60,000	50%

In order to continue transporting patients, motorbike operators used certain tricks to avoid the police. They passed through the bush and dropped patients at some points where they can walk to the health centers or be picked up after the roadblock. However, the police discovered this practice and deployed the LDUs to patrol the bush routes. In some locations, motorbike operators refused to pick up or carry sick people to the health centers for fear of contracting COVID-19.<sup>27</sup> Motorbikes rarely picked up patients at night, especially in insecure areas.<sup>28</sup>

The difficult access to health centers, as well as lack of services in the centers, was reportedly more worrying and scary for cases of tuberculosis (TB), HIV/AIDs, snake bite, high blood pressure, difficulty in giving birth, and referral cases to hospitals within Karamoja (Matany and Moroto) and outside the sub-region (Mbale, Tororo and Mulago in Uganda; Amakuriat, Kapenguria, Kitale and Eldoret in Kenya). Referral conditions included anemia, cases that require surgery (e.g., chronic eye infection, difficult birth), chronic typhoid (especially in pregnant mothers), and X-ray/scanning services and further laboratory tests.

The findings indicated that health care access problems were more pronounced in Amudat District compared to Abim and Moroto. In Amudat District, people who managed to access a referral hospital (for instance, Moroto) risked travelling through the bush amid insecurity, with some being returned at the border with Nakapiripirit and Nabilatuk Districts by the police, who accused them of being Kenyans with COVID-19. The costs of accessing referral hospitals also increased substantially in Amudat District. For example, motorbike hire costs increased from UgX 140,000 to 245,000 (one way) from Loroo to Matany hospital. These costs were amplified by bribes paid at each roadblock despite having a movement permit from local authorities; there were reports of arrest and forceful quarantine if bribes were not paid. Ambulance charges

- <sup>27</sup> Amudat District—Namosing village, Loroo Sub-county; Abim District—Ulela South, Magamaga Sub-county; Aringobom East, Alerek Sub-county.
- <sup>28</sup> E.g., Kotido village, Alerek Sub-county, Abim District.

reportedly increased from UgX 350,000 to 700,000 (one way) in addition to the prolonged process<sup>29</sup> of acquiring an ambulance. Lack of public transport and lack of money due to closure of markets, including traders not giving credit, aggravated the situation. Overall, people in Amudat scored access to referral hospitals as 9/10 (in the normal wet season), and only 4/10 during the current COVID-19 wet season.

In Amudat District, it was also more difficult to get a travel/movement permit from the district local authorities to allow a sick person to access health services within and outside the district. The procedure was said to be long and impractical, particularly if a health emergency occurs at night and especially for people living in places far from the source of the permit. Conversely in Moroto District, the procedure was said to be easier while in Abim District, a travel permit was only necessary when going to referral hospitals outside the district. In Moroto District, Village Health Teams (VHTs) and LC1s were given telephone contacts of ambulances and were able to call them based on need. Priority for ambulance services was given to mothers in labor, cases of snake bite, and people with chronic illnesses such as TB and HIV/AIDS. People with other health needs such as pregnant mothers going for

antenatal care, and cases of malaria and typhoid, among others, were allowed to walk to the health centers regardless of the long distances, for instance in Nakonyen, Tapac Sub-county, and Nakabaat, Rupa Sub-county. Motorbikes carrying sick people were not harassed by the police, and in some locations, NGOs reportedly paid for transportation of pregnant mothers to the health centers through a voucher system (reported in Tapac Sub-county). Even when people might easily access referral hospitals such as Moroto and Matany, there was still the main challenge of lack of money due to closure of livestock markets.

To illustrate further the impact of COVID-19 restrictions on access to health services and facilities, data were collected from health centers for January to June 2020 on cases presented (Table 13). The results revealed a general reduction in the number of people who visited the health centers after the introduction of COVID-19 measures in March 2020 through April 2020. There was then a general increase in visits from May 2020 after awareness campaigns. For diseases such as malaria, an increase in cases would normally be seen in March and April due to the onset of rains.

Cases	District	Facility	Before C	OVID-19	During C	OVID-19	After av	vareness
			measures	5	measures		campaig	gns
			Jan	Feb	March	April	May	June
Malaria	Amudat	Loroo HC III	231	196	139	108	319	
	Moroto	Nadunget HC III	652		255	277	560	391
Respiratory	Amudat	Loroo HC III	338	314	296	135	127	
tract								
infection								
(RTI)								
Antenatal	Amudat	Loroo HC III	64	64	43	24	75	
care (first	Moroto	Nadunget HC III	31	27	31	37	38	33
visits)								
Birth	Amudat	Loroo HC III	35	21	24	10	19	
deliveries	Moroto	Nadunget HC III	7	17	6	19	15	8
Outpatient	Amudat	Loroo HC III	763	672	769	492	639	
general	Moroto	Nadunget HC III	1,192	1,072	804	791	1,577	1,290
cases								

## Table 13. Cases presented to health centers (HC) III<sup>30</sup>, 2020

RTI cases include non-pneumonia cases such as sneezing, cough, flu.

<sup>&</sup>lt;sup>29</sup> A movement permit from local authorities is needed before requesting an ambulance. Obtaining a permit involves travelling to Amudat town to get one from the Resident District Commissioner's (RDC's) office.

<sup>&</sup>lt;sup>30</sup> There are different levels of health centers. At the village level (i.e. the lowest administrative unit) are Health Center I; Health Center III are at the sub-county headquarters/level.

#### 2.2.2.3 Impact on availability and cost of health services

With regard to service availability in the health centers, some communities reported delays while others could not get services. For example, in Amudat District, delays in service delivery was attributed to the shift of attention of health workers to COVID-19 quarantine centers (a situation experienced in Amudat health center) as well as detailed interrogation of patients at health centers. This situation was also reported in Abim District.<sup>31</sup> Only people with masks were allowed into the health centers<sup>32</sup>—and this forced patients to share masks—a very risky practice that could encourage disease spread. Conversely, the situation seemed to be better in some health centers in Moroto District where some communities reported that it took a shorter time to be served at health centers during COVID-19 compared to the time before COVID-19: "There are no crowds at the health centers like before."33

In Amudat District, the lack of services was attributed to patients being ignored by health workers due to the suspicion that they are from Kenya and have COVID-19 (reported mainly by villages in Loroo Sub-county). The same experience of being neglected by nurses was reported in Kosuroi village, Tapac Sub-county, Moroto District (this village is located at the Kenyan border).

The delay or lack of services compelled some patients to seek services in private clinics (where they exist) and incur huge costs.<sup>34</sup> Other people tried to travel to more distant health centers (e.g., from Ulela to health facilities in Morulem, Alerek or Abim town), or return home and use traditional remedies, e.g., the use of herbs to treat malaria, typhoid and brucellosis, or gin whisky to treat typhoid. Births were more likely be handled by traditional birth attendants. In Moroto District, people discovered free sources of medical services—the Uganda People's Defence Force (UPDF) and police clinics in Moroto town.

In some health centers, medicines and testing facilities for diseases such as typhoid and brucellosis were lacking (e.g., in Ulela South, Magamaga Sub-county, Abim District): *"Drugs for diseases such as brucellosis are lacking in the health*  centers. We are being referred to private clinics, yet we do not have money at this time because of closure of livestock markets."<sup>35</sup>

Additionally, the old type of HIV/AIDS drugs was reportedly out of stock in some health centers, e.g., in Gulupono South East, Lotuke Sub-county, Abim District, and patients were given a new type of drug that showed side effects. In some locations, HIV/AIDS drugs were out of stock and no alternatives were available, e.g., in Geregere North, Abim Sub-county. A shortage of anti-malarials and inhalers was also reported, e.g., in Abim District: Loka, Lotuke Sub-county; Geregere North, Abim Sub-county, and in Moroto District: Kosuroi, Tapac Sub-county. Diseases such as asthma, gonorrhea and sickle cell anemia were reportedly neglected, e.g., in Geregere North, Abim Sub-county.

Some locations did not have government health centers and the only service providers were private clinics (Aringobom East, Alerek Sub-county, Abim District). In some villages (e.g., Ulela South, Magamaga Sub-county; Geregere North, Abim Sub-county), there was delayed resupply of VHTs with basic medicines<sup>36</sup> while in others, they had not been resupplied (Kotido village, Alerek Sub-county, Abim District). Due to social distancing, the VHTs attended to only a few people per visit, a situation that made some people despair and seek alternatives such as local remedies.

Ambulance services were lacking in some areas, e.g., in Abim District: Ulela South, Magamaga Sub-county; Aringobom East, Alerek Sub-county. In some health centers, the number of health workers was reduced, e.g., in Achorchor, Amudat District, from four to two) while in others, the health workers were rarely found. The community of Gulupono South East village, Lotuke Sub-county, Abim District reported that a mother in labor pains could not find nurses in the health center, delivered alone and died; mothers are now scared and do not want to go to the health center.

<sup>31</sup> Ulela South, Magamaga Sub-county; Gulupono South East, Lotuke Sub-county; Geregere North, Abim Sub-county.

- <sup>32</sup> Reported in Amudat District, Nagoliet village, Kongorok Sub-county; Abim District, Gulupono South East, Lotukei Sub-county; and Moroto District, Lotirir village, Nadunget Sub-county.
- <sup>33</sup> FGD, Namus village, Nadunget Sub-county, June 15, 2020.

<sup>34</sup> Typhoid and brucellosis tests in Morulem cost UgX 5,000 each. Prices of family planning pills increased (Geregere North, Abim Sub-county, Abim District). Prices of inhalers increased from UgX 10,000 to 15,000 (Geregere North, Abim Sub-county, Abim District). Cost of malaria treatment in private clinics in Kosuroi increased from UgX 10,000–20,000 to UgX 160,000–200,000 (Kosuroi village, Tapac Sub-county, Moroto District). In Kosuroi, there were claims that the private clinics are owned by government health workers. Some of the workers in the private clinics in Kosuroi were said to be unqualified. The cost of treating brucellosis in a private clinic in Moroto town ranged from UgX 80,000–85,000.

- <sup>35</sup> FGD, Lokeriaut village, Nadunget Sub-county, Moroto District, June 13, 2020.
- <sup>36</sup> These include zinc and oral rehydration salt/solution (ORS) for diarrhea; Coartem for malaria; amoxicillin for pneumonia; malaria rapid diagnostic test (RDT) kits; and reporting forms.

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Disease	Location	Relative age	٢	Proportional	l change in ob	served cases		Ranking of obse	rved cases 19	
		Children	Adults	Normal dry	Normal wet	COVID-19	Change: normal wet season vs.	Amudat District	Abim District	Moroto District
				season	season	wet season	COVID-19 wet season	(n = 1)	(n = 3)	(n = 3)
Malaria	Amudat-Achorchor	5	S	3	7	15	+8 (114%)	1	1.3	1
	Abim-Ulela South	7	3	3	7	6	+2 (29%)			
	Moroto-Natedewoi	7	3	4	6	7	+1 (17%)			
	Moroto-Nakabaat	7	3	2	8	14	(%62/) 9+			
Typhoid	Amudat-Achorchor	2	8	2	8	16	+8 (100%)	2	5.3	4
	Abim-Ulela South	3	7	5	5	5	(%0) 0			
	Moroto-Natedewoi	1	9	5	5	5	0 (0%)			
	Moroto-Nakabaat	4	6	3	7	12	+5 (71%)			
Scabies	Amudat-Achorchor	9	1			10	+10	3	2	
	Abim-Ulela South	8	2			10	+10			
Cholera	Moroto-Namus					10	+10			2
Skin rashes	Moroto-Lokaal					10	+10			2
Flu/cough	Amudat-Achorchor	7	3	1	6	14	+5 (56%)	4	5.3	Z
	Abim-Ulela South	9	1	8	2	2	0 (0%)			
	Moroto-Natedewoi	7	3	5	5	5	0 (0%)			
Brucellosis	Amudat-Achorchor	4	6	2	8	10	+2 (25%)	5	6.3	4.3
	Abim-Ulela South	0	10	3	7	7	0 (0%)			
	Moroto-Nakabaat	2	8	5	5	5	0 (0%)			
Malnutrition	Amudat-Achorchor	8	2	7	3	4	+1 (33%)	6	6	
	Abim-Ulela South	8	2	2	8	13	+5 (63%)			
	Abim-Geregere North	7	3	2	8	13	+5 (63%)			
Tuberculosis	Amudat-Achorchor	0	10	3	7	6	+2 (29%)	7	1	
	Moroto-Nakabaat	2	8	3	7	6	+2 (29%)			
Jiggers	Abim-Ulela South	5	5	8	2	2	0 (0%)		7.3	
	•				,					

stones. They were then asked to compare diseases and rank diseases in order of observed cases; 1 = most observed. normal wet season to the current COVID-19 wet season and use stones to show current observations of disease. Informants could then choose to increase (>10 stones) or decrease the number of Method: Informants were asked to divide a pile of 10 stones to represent the proportion of observed cases of a disease in a normal dry season vs. normal wet season. They were asked to compare the

n = number of villages.

2.2.2.4 The changing impact of other human diseases

The fear of visiting health facilities and movement restrictions related to COVID-19 led to an increase (17%–114%) in untreated cases of some diseases and was also associated with disease outbreaks; this situation was most evident in Amudat District (Table 14). New disease outbreaks included scabies (in all three districts), associated with the return of children when schools closed in March 2020 due to COVID-19. There was also a cholera outbreak in Moroto District but this was traced to a construction site that did not have toilet facilities.

The incidence of many endemic diseases is seasonal in Karamoja, and the COVID-19-related challenges (difficult access, etc.) occurred at the time of the year (the wet season) when many diseases peak in incidence. This disease pattern has important implications, especially if children are already malnourished. This year, the disease situation was worsened due to outbreaks of scabies and cholera in the wet season.

In all three districts, the most pronounced change was an increase in malaria cases. This increase was attributed to a shortage of mosquito nets, as government and NGOs did not distribute them this year. However, there were also reports of misuse of the previously distributed mosquito nets. Ulela South village, Abim District reported that mosquito nets were used as ropes in the construction of huts, for wrapping corpses, for making chicken houses, and for carrying, drying and threshing sorghum.

In Amudat District, child deaths due to malaria and anemia were reported in Kongorok and Loroo Subcounties. In Abim District, Aringobom East village (Alerek Sub-county) and Geregere North village (Abim Sub-county), there were reported deaths of children due to malaria. In Moroto District, deaths in villages were reported during COVID-19, but with no known cause (Kanyodongor village, Nadunget Sub-county). In all three districts, the fear of COVID-19 and its impacts on access to health services led to stress and depression.

Table 14 shows the common human diseases, their seasonality and susceptibility by age, and priority ranking.

#### 2.2.2.5 Impact on child nutrition

As explained by communities, child malnutrition in agropastoralist (Moroto District) and pastoralist (Amudat District) communities usually peaks in the dry season (mainly due to little or no animal milk at this time) while in agrarian communities (Abim District) it peaks in the wet season (mainly due to decline in food stocks from the previous harvest—sorghum, maize, cassava, green grams, sweet potatoes, beans, peas, simsim, groundnuts; few people keep cattle). All three districts reported an increase in child malnutrition during COVID-19 (Table 15). The most affected families included the poor, families with high alcohol consumption and those who perennially receive nutrition support from external agencies, e.g., for children with HIV/AIDS.

The increase in the prevalence of child malnutrition was attributed to several factors. The main cross-cutting factor mentioned by all communities was difficult access to food, which was attributed to: closure of markets for commodities and livestock; movement restrictions and limited transport; shortage of food in the market (including limited varieties); and increase in food prices (coupled with lack of money).

Other cross-cutting factors associated with malnutrition included: closure of schools, where children receive food; neglect of children due to increased alcohol consumption (linked to idleness and rumors that alcohol is a sanitizer against COVID-19<sup>37</sup>); increase in family break-ups due to COVID-19-related problems such as lack of food and other basic needs; and difficulty in accessing, or lack of, nutrition kits from external agencies (the kits contain sugar, soya flour, peanuts, cooking oil, beans).

Location	cation   Livelihood   Relative prevalence scores				
_		Normal dry season	Normal wet season	Change: normal wet season vs. COVID-19 wet season	Proportional change
Amudat-Achorchor	Pastoralism	7	3	4	33%
Abim-Ulela South	Agriculture	2	8	13	63%
Abim-Geregere North	Agriculture	2	8	13	63%
Moroto-Kotaruk	Agropastoralism	8	2	5	150%

#### Table 15. COVID-19 impacts on child malnutrition

Method: see Table 14.

 $<sup>^{\</sup>rm 37}\,$  Use of part of the alcohol to sanitize hands.

In addition, there were community-specific factors, related to livelihood systems, as described below.

i. Pastoralist and agropastoralist communities

Food shortages in the wet season are usually mitigated by sale of livestock to buy food and the availability of animal milk. However, livestock markets were closed, and availability of milk was reportedly low in some places due to a reintroduction of the protected kraal system and loss of animals to raids and livestock diseases in the recent past. The community in Nakonyen (Tapac Sub-county, Moroto District) reported that they are sharing milk with relatives and with the poor, that the milk is now plenty due to lack of a market, but that access by the needy is restricted by COVID-19-related movement restrictions.

Communities in Amudat District reported that some people have families (children and wives) on the Kenyan side of the border and are facing difficulties taking milking animals to them. COVID-19 restrictions found them (youth and men) on the Ugandan side where they were grazing animals in the dry season. There is fear that child malnutrition might appear in those families (despite having animals) if movement restrictions continue.

In Moroto District, the Matheniko herds that fled from recent insecurity and moved to Turkana are restricted from entry until the situation normalizes, so family members who remained in Uganda cannot access milk.

Overall, in the pastoralist and agropastoralist communities, the impact of COVID-19 restrictions on milk and food availability in the current wet season may lead to a major food and nutrition crisis in the upcoming dry season if not addressed.

ii.Agrarian communities

COVID-19 disruptive impacts occurred during the wet season when food stocks from people's own gardens (from the previous harvest) are at their lowest, and so children have increased vulnerability to child malnutrition. In Abim District, livestock markets had been closed since November 2019 due to outbreaks of foot and mouth disease (FMD), and the COVID-19 measures aggravated the impact of pre-existing FMD market closures. Also, insecurity led to displacement of some communities in Abim District in December 2019 (Kobulin and Oyatogo villages of Nyakwae Sub-county), and some food granaries were burnt. It is predicted that this year's harvest will be reduced due to the impact of COVID-19 restrictions on farming activities, e.g., limited movement of people to work on their own plots or work on other people's plots. In addition, the desert locust invasion in March 2020 destroyed the early crops. These are pointers of a possible food and nutrition crisis in the near future.

# 2.2.3 Education

# 2.2.3.1 Impacts

Communities described several impacts of school closures and prolonged stay of children at home:

- First, there is the increased expenses of feeding children for periods longer than usual, amid low incomes, increased food prices and low stocks of food from the previous harvest.<sup>38</sup> There was a concern that hunger might force girls from home and into illicit behavior (e.g., prostitution) or compel boys to steal. Some families were reduced to providing 1–2 meals instead of 3 meals per day.
- Second, possible delays for finalist learners to finish school, i.e., children in Primary 7 and secondary school Forms 4 and 6; these children might lose hope in education and have limited future prospects.
- Third, some children might drop out of school. This possibility is discouraging and a retrograde step for communities that have lacked education opportunities for a long time.
- Fourth, paying school fees for the next term will be challenging as parents have moved most of the resources to the upkeep of children. Worse still, after the lockdown, getting support for school fees from relatives will be difficult as they will also be constrained by the aftereffects of COVID-19 restrictions.
- Fifth, teenage school-going boys and girls are idle and turning to drinking alcohol.
- Sixth, increasing disrespect and indiscipline means schools will have a difficult task to restore the discipline of learners when schools reopen. Overall, parents are stressed by the ramifications of school closure.

<sup>38</sup> An example given by a family in Kosuroi (Tapac Sub-county, Moroto District) with three children is that they used to spend on food UgX 150,000 per month during school holidays, but they are now incurring this expense because children are at home in term time.

## 2.2.3.2 Teenage pregnancies

Besides the above impacts, communities expressed major concern about pregnancies in teenage school-going girls. At the time of the assessment, some of the interviewed communities were in a state of fear while others were already seeing pregnancies in schoolgirls.<sup>39</sup> Moroto Municipality and Amudat District recorded the highest incidence of teenage pregnancies followed by Abim District, while Moroto District recorded the lowest (Table 16).

Particularly in pastoralist communities such the Pokot in Amudat, their main concern was that it has taken many years to convince parents to take girls to school. Teenage pregnancies discourage parents and might lead to a return to the old practice of resisting education of girls and reserving them for marriage, and receipt of bride wealth. Besides pregnancies, there was also a fear of girls contracting STDs such as HIV/AIDS.

Where cases of early pregnancies have been reported, there are already discussions between parents of the suitor (boy) and the girl seeking "compensation" (for instance, in Amudat District, UgX 2 million for a girl in secondary school) or marriage and bride wealth (an average of 35 cows and 15 goats in Amudat District). Parents who were previously encouraged to take girls to school now have a chance to discontinue their education and pursue their initial interests, i.e., marrying off girls for bride wealth. This behavior is further encouraged due to the problems of hunger and general livelihood pressures because of COVID-19.

Several factors contribute to teenage pregnancies or make it difficult for parents to know if a school-aged girl might become pregnant during the extended stay at home. Cross-cutting factors relevant to all communities included:

- Some girls have lost hope in education and don't wish to return to school.
- Although garden work keeps girls busy, it also provides opportunities for drinking the alcohol offered for group farming.
- They use letters and phones, and sometimes possess phones without parents' knowledge to arrange meetings with suitors, and speak in English, a language that most parents do not understand.
- Some girls stay with relatives (aunts and uncles) or friends (*Akijok ngide*), so it's difficult for parents to monitor them.
- Food problems make girls disappear from home and fall prey to people with money (with the possibility of engaging in prostitution).
- Despite movement restrictions, night dances (discos) take place in the neighborhood.
- Irresponsible parents (e.g., alcoholics) do not have time to monitor and advise their children.
- The dressing code exposes girls to male "predators."40
- "Bad company" of girls and boys predisposes a girl to early love relationships, alcoholism, and being disrespectful and resistant to advice.
- Parents beat or quarrel with children rather than advising them.

#### Table 16. The problem of teenage pregnancies

District	Villages expressing fear of teenage pregnancies	Villages where teenage pregnancies reported
Amudat (n = 17 villages)	6 (35%)	11 (65%)
Abim (n = 17 villages)	8 (47%)	9 (53%)
Moroto (n = 19 villages)	17 (89%)	2 (11%)
Moroto Municipality (n = 2 villages)	0	2 (100%)

<sup>39</sup> Pregnancies are caused mainly by fellow youth (male counterparts).

<sup>40</sup> Informants felt that girls dressed in a provocative manner, that attracts men.

Below are the predisposing factors mentioned by specific communities.

**Amudat District:** It is now the season for night traditional dances (*Naleyo, edonga*) organized by male youth (herders). They are back with animals in the villages, free from herding and full of energy from taking milk (now in plenty). Separate huts for girls increase their chances of meeting boyfriends in a way that is not easy to discover, especially those whom they share a school or a class or a village with.

<u>Abim District:</u> Married girls convince others to follow suit. Some girls escape from home due to being overworked.

**Moroto District:** A girl may be engaged in incomegenerating activities (IGAs) that are prone to abuse such as casual work in town and selling alcohol.

In villages or families where teenage pregnancies have not occurred, parents are trying their best to protect their daughters by keeping them busy with garden work, constantly advising them, e.g., reminding them of disciplined, educated and hardworking girls in the community (role models), advising them not to prioritize marriage and to avoid bad company. The advice is extended to friends of the daughter when they visit; giving them hope; reminding them of self-efforts and that of parents towards a better life in the future; and establishing a close bond with the daughter. Other measures include: parents being watchful and keenly monitoring movements of their daughters; investigating if they see the daughter with expensive items of unknown source; providing for their basic needs; engaging them in child-friendly IGAs that enable them to generate their own school fees such as selling foodstuffs (e.g., mandazi) but warning against bad interaction with male adult customers; and restricting ownership and use of the phone. Parents also advise boys not to ruin their future life by engaging in early love relationships and causing pregnancies, which will lead to loss of family assets (livestock) through penalties. The affected families can learn from these successful families.

Parents appealed for special support for girls, e.g., the provision of essentials such as sanitary pads, clothes and food to avoid the risks of abuse. Parents recounted the important role played by schools in protecting girls and craved schools reopening soon. They also proposed that organizations that campaigned for girl's education should resume their activities. This should be combined with plans to support the affected girls to continue with education afterwards and apply punitive measures against perpetrators of girls' pregnancies. Other proposals include: teachers should organize teaching at village level for small groups of children; and government should distribute food to schoolgoing children while at home.

<sup>41</sup> FGD, Aringobom East Village, Alerek Sub-county, July 3, 2020.

When asked about the availability of learning materials distributed by the Department of Education for use by learners during the closure period, some villages reported that their children have received adequate materials (e.g., Rupa, Nadunget, and Katikekile Sub-counties of Moroto District). Others said they have received limited materials (e.g., Amudat Sub-county, Amudat District) while others said they have not received anything (e.g., Loroo and Karita Sub-counties of Amudat District). Nonetheless, the parents had reservations over the utility of the learning materials. First, when using the materials, children's concentration is low. Second, the materials are not useful for children in Primary 1 and 2 as most of these children do not know how to read and write, and parents cannot guide them because they are illiterate. However, siblings in upper classes are providing some guidance.

## 2.2.4 Security

In the three surveyed districts, livestock theft and raids are the common forms of insecurity. Only in Abim District was stealing of food in the granaries and gardens mentioned.

Communities redefined livestock theft and raids based on the current realities, particularly with regard to the presentday livestock holdings vis-à-vis the number of animals taken. In Amudat and Moroto Districts, communities redefined theft as involving one to six animals while a raid involves more than eight to ten animals taken at once. Communities in Abim District mentioned lower figures (due to low livestock holdings) and redefined theft as involving one to four animals while a raid involves at least five animals. The impact of livestock theft/raids was partly defined in terms of the percentage of animals recovered after a raid/theft. The recovery levels were indicated as 0%, 25%, 50%, 75% and 100%.

The communities interviewed recounted the number of livestock raids they experienced during COVID-19 (between April and June 2020) and the proportion of livestock recovered (Table 17). The number of livestock thefts were said to be countless. In all the incidents, the attackers were armed with at least one gun and many arrows. Some communities ranked insecurity due to livestock raids and thefts as the priority problem during COVID-19 (e.g., Achorchor village, Amudat Sub-county, Amudat District; Aringobom East village, Alerek Subcounty, Abim District). In Abim District, livestock owners have devised a strategy of chaining cows at night on huge poles. Cows are important for ploughing in Abim District. In the same district, "Sheep and goats have found their own way to escape thefts/raids—by going up the mountain in the evening and only return to the homesteads in the morning."41 In these communities, low value is attached to sheep and goats.

Attempts were also made to understand the seasonality of livestock raids as well as the age and gender commonly involved (Table 18). The findings show that male youths are the main perpetrators. Raids decrease when the different communities are staying together and increase when communities are far apart. Staying together was seasonal, and the push factors were mainly availability of pasture and the need to graze away from gardens during the farming season. For instance, the attacks on the Abim communities by the Jie decrease in the dry season when the Jie move to Abim District in search of food (for humans) and pasture for livestock, and increase in the wet season when the Jie move back to their homeland. Raids between the Jie and the

## Table 17. Livestock raids during COVID-19

Matheniko decrease in the wet season when they are grazing together at Naroo—grazing away from gardens—and they increase in the dry season when each community migrates in a different direction. Overall, proximity and the pressure to share a resource promotes peace.

In most villages, a participatory analysis of livestock theft and raids trends in the recent past revealed an increase in insecurity in the three to five months before COVID-19 (between October 2019 and February 2020) and a further increase during COVID-19 to levels equivalent to about 50% of those seen in the period before disarmament (Figure 1).

Location	Total armed raids	Raids by proportion of animals recovered				
		0%	25%	50%	75%	100%
Amudat-Achorchor-Loroo S/C	7	4				3
Abim-Aringobom East-Alerek S/C	3	2		1		
Moroto-Kanakol-Rupa S/C	9	8		1		

Location	Age involved		Gender involved		Seasonality			
	Youth	Adult	Women	Men	Previous	Previous	COVID-19	Change
	(younger)				dry	wet	wet season,	
					seasons	seasons	to July 2020	
Amudat-Achorchor- Loroo S/C	8	2	0	10	5	5	10	+5 (100%)
Abim-Aringobom	9	1	0	10	1	9	19	+10 (111%)
East-Alerek S/C								
Moroto-Lokeriaut-	6	4	0	10	9	1	6	+5 (500%)
Nadunget S/C								
Moroto-Kanakol-	8	2	0	10	8	2	7	+5 (250%)
Rupa								
Moroto-Apeitirir	5	5	0	10	8	2	7	+5 (250%)





# Figure 1. Trends in insecurity before and during COVID-19.

Method: Informants scored the level of insecurity using up to 20 stones for each period.

Below are reasons given by the different communities for the levels of insecurity in the different periods.

## Before/during disarmament 42

The different districts provided similar reasons for the high level of insecurity in the period before or during disarmament. There was heavy presence of small arms-in a family, a father and all sons had guns-and the guns were cheaper. Raids involved large groups of armed people. Long-lasting "pain" induced by continuous attacks and revenge led to indiscriminate and massive killing of both humans and animals to an extent that revenge was regarded as "normal." Pregnant women were mostly targeted as they were viewed as a source of males for future onslaughts. Gardens were destroyed by burning. Revenge activities extended to vehicle attacks. Vehicles were also attacked to get food and money to sustain the attackers in the bush before the offensive. Some attacks were also planned to "raid guns" from the neighboring communities. The government response to raids was weak before disarmament.

It was mentioned only in Abim District that some attacks were aimed at displacing them from Kotido District; by then they were sharing the district with the Jie community.

#### After disarmament

After disarmament, various actions were responsible for maintenance of peace and stability in the Karamoja subregion for about 10 years (between 2008/2011 and October 2019). These include continued presence of the army and paramilitary (or LDUs), including regular security patrols, peace dialogues between communities, the role of the church, IGAs and alternative livelihoods<sup>43</sup> introduced for the reformed warriors, and full recovery/compensation of raided/stolen animals (including a penalty applied on the raiders or their communities).

Despite relative peace after disarmament, some raiding still occurred. The reasons were:

• Mentioned in all three districts: i) successful raiders/ thieves (*Ta lonetia*) convinced others to go for raids; ii) stealing/raiding to settle household needs such as home slaughter, restocking (e.g., with milking animals), payment of debt (within community); iii) repayment of government loans<sup>44</sup> (e.g., youth loans introduced by government in 2015/2016). However, some communities said that this was just an excuse; iv) attacks with only arrows (no guns); v) revenge due to delayed or no recovery of animals; vi) the strategy of compensating the raided families/community those losing animals innocently, plan to go for a raid—the compensation strategy was said to be unfavorable and instead encourages raids; vi) thieves not being punished. They continue to steal/raid.

- Only mentioned by communities in Abim District: as alluded to by communities, generally insecurity in Abim is not receiving adequate attention. It was said to be endemic. Agencies focus more on the "epidemiclike" types of insecurity such as those happening in other parts of Karamoja. Other reasons include: i) school-going boys from the neighboring community (caught with school identity cards) steal or raid for school fees; ii) raiding to sell for investment<sup>45</sup> or for commercial slaughter (Lokome-Ebu was mentioned as an example of a market with the cheapest meat in Kotido District, yet the prices of live animals are much higher); iii) raiding animals to sell and buy guns from South Sudan; iv) taking advantage of animals grazing without herders or with unarmed herders; v) Abim-Kotido Districts' border dispute; vi) rearmament from South Sudan; vii) the neighboring community is addicted to meat (Ringo othalagi); viii) delayed or sometimes no action from government, or security personnel getting overwhelmed by the frequent incidents; ix) lack of a military barrack in the area; x) gradual withdrawal of paramilitary personnel since 2015 (they were three per village); xi) a grudge harbored by the neighboring community after a minor disagreement, e.g., in alcohol drinking places or when their animals destroy crops. This is evidenced by the common warning phrases: *toothik toteup;* toothik kilim; toothik kirioun. All mean, "Wait for the rainy season and we will take revenge."
- Only mentioned by communities in Moroto District was "greed," e.g., the Turkana admire the sheep of the Jie while the Jie admire the large Turkana bulls.

- <sup>44</sup> There is the attitude that government loans are free money. Business risks such as raids and livestock diseases (for livestock trade) lead to losses before the loan is repaid. Government was also blamed for pushing for loan repayment even before the business stabilizes. Additionally, fears and difficulties of loan repayments were not fully discussed with communities at inception and favorable recovery strategies were not agreed upon.
- <sup>45</sup> Some communities were said to be more advanced in pursuing this objective than others.

<sup>&</sup>lt;sup>42</sup> Disarmament phase 1 was in 2001–2002; phase 2 was in 2003 to 2010.

<sup>&</sup>lt;sup>43</sup> Activities recognized by communities include: i) IGAs for men (livestock trade) and women (local brew known as *Achiere*) started with government loans; ii) VSLAs; iii) cash-for-work programs planting trees, opening or repairing roads, constructing water pans; iv) agricultural activities such as seed and tool distribution and demonstration farms; v) food relief at difficult times such as drought; vi) Social Assistance Grants for Empowerment (SAGE) program for the elderly and disabled.

# Three to five months before COVID-19

Several factors led to the increase in insecurity in the three to five months before COVID-19:

- It started as thefts, and perpetrators were either not pursued to recover the animals or animals were returned but penalties were not applied as stipulated in the Nabilatuk resolution.<sup>46</sup> Instead, a lesser penalty was introduced: a calf for an adult animal stolen.
- Most LDUs were away for further training as well as for control of desert locusts at this time and only a few remained in the barracks, reducing the number of LDUs, e.g., in Achorchor, Amudat District from 20–30 to 1–2 per parish. Even where LDUs were sufficient, they were overwhelmed by the frequent and widespread incidents.
- There was a decline in security patrols.
- The period was close to election time, and political leaders became reluctant to warn their people for fear of losing votes; instead the leaders were seen to trade blame rather than resolving the conflict.
- Insecurity escalated from retaliatory attacks between the Turkana (of Kenya) and the Jie in the Kobebe grazing area.
- There is suspicion that the Karamojong are rearming themselves from South Sudan and Turkana, Kenya.
- Revenge attacks occurred resulting from killing and raping of women going for firewood/charcoal.
- People wanted to take advantage of the situation (confusion) to raid some animals before peace and order is restored.
- Retaliatory attacks due to delayed or no recovery of raided animals, and successful raiders encouraged others to go for raids.

# During COVID-19

Insecurity due to livestock theft/raids further increased during COVID-19 for the following reasons:

• Reduced presence of security personnel because of involvement in COVID-19 response activities. For

example, in Amudat District, the Pokot LDUs were moved to the Kenyan border for COVID-19 activities and were replaced with Karamojong LDUs to provide security in the villages. The Karamojong LDUs are suspected of collaborating or colluding with Karamojong raiders. The raiders abducted LDUs and forced them to reveal the locations of animals. LDUs were reluctant or demanded to be paid to pursue raided animals (a bull is given upfront), including hiring a motorbike for them at UgX 400,000 and telephone airtime of UgX 350,000–700,000.

- COVID-19-related movement restrictions and health guidelines; and the disruptive impacts of COVID-19 lockdown on livelihoods. People feared responding to raids as a group for fear of contracting COVID-19 and due to movement restrictions. In Amudat District, the communities reported that youths who attempted to pursue raided animals were either beaten by the security personnel for violating movement restrictions or dismissed by the security personnel and the neighboring Karamojong community as being Kenyans and suspected to have COVID-19.
- Raiders believed that everyone, including the security personnel, were scared of COVID-19 and cannot follow raided animals; successful raiders influenced others to go for raids.
- The security personnel were said to reluctantly arrest raiders for fear of congesting police stations or prisons and aiding in the spread of COVID-19.
- The youths who used to participate in petty businesses (e.g., motorbike transport) and wage labor in towns were idle and turned to raids. There was increased hunger due to loss of income, market closures, etc.

Only mentioned in Abim District were increased raids due to closure of schools as a result of COVID-19. Many school boys from the neighboring Jie community are getting involved in theft/raids. In Moroto District, men who were scattered from the villages by a military operation in response to the incidents in the months before COVID-19 stayed in the bush, planning and executing raids/thefts.

<sup>&</sup>lt;sup>46</sup> Resolution—((n\*2) + 1) — "You steal one cow, it is applied to a formula which is ((n\*2) + 1). The result of the double is given to the owner of the cow initially stolen. The extra (+1) is eaten by the elders or those who pursued the thieves, usually members of a peace committee and the armed officers that supported the recovery." Karamoja Development Forum. (2020). The Karamoja Pastoralist. Issue No. 3, Jan. 2020.

#### 2.2.5 Church activities

COVID-19 has led to closure of churches, which served important roles in communities. Through the church, Christians supported the poor, the elderly and orphans by providing food, building houses for them and cultivating their gardens. Christians prayed for the sick and provided counselling services to families and the youth. The church supported members to start IGAs and helped polygamous families to stay in harmony. The church encouraged repentance and forgiveness in case of any wrongdoing. Only mentioned in Amudat District is the role played by the church in reducing alcoholism and the related vices such as fights, crime (mostly livestock raids by the youth), disrespect and promiscuity. Lokeriaut village of Moroto District recounted the role of the church in making them remember the days of the week (Sunday being a day of church service).

Despite the fact that people now pray at home as families, in most of the visited villages (for instance, 16 out of 17 villages in Amudat District), there was fear that if church closure continues the recently converted Christians will return to bad deeds while in a few villages (e.g., 1 out of 17 villages in Amudat District), cases of bad deeds were already reported. Praying at home was said not to be as satisfying/fulfilling or guiding as when they pray or receive teachings in the church. Church closure delays graduation to the next levels of Christianity such as baptism. Church activities such as Bible study groups, sanctifying marriages, and funeral rites/memorials have been stopped yet are important for spiritual growth and sustainability. People fear that they will forget Christian teachings and values and will also lose hope and drop out.

There was general concern that people would return to alcoholism, prostitution, family quarrels/separation and fights, and crimes such as livestock raids and stealing of maize in the granaries and gardens. People feel that they are being denied the freedom of worship. Without prayers, the community speculates that strange diseases might appear in humans and livestock. Closure of the church also delays development; for instance, completion of church premises. There was the question of why the government has closed churches yet alcohol drinking places and depots are open (the question was raised by Christian communities in Amudat and Abim Districts). In their view, eventually, *"Satan will take over,*<sup>267</sup> which will manifest through widespread disorder and evil deeds in the community.

#### 2.2.6 Movements and travel

# 2.2.6.1 Internal movements, social support and communal activities

i. Importance of internal movements and social support

Intra- and inter-community visits have been stopped/been restricted. They were important in several ways. Members of a polygamous family stay in different villages; regular visits led to unity and feelings of being loved. Maintenance of the relationship with in-laws including visiting your daughter (taking food or an animal or other form of gift) was through visits. People visited neighbors, friends and relatives to borrow food, money, a milking animal, seeds, and animals for bride wealth and rituals. People also travelled to seek loans/credit (in form of food, cash, an animal) from traders. Loans/credit were more necessary during household emergencies such as lack of food, medical referrals or an outbreak of a livestock disease. Visits facilitated recovery of debts (in form of food, cash and animals). Relatives and friends could travel to support the sick (at home or in the hospital) or the elderly, support a woman who has just given birth (including taking gifts such as soap, sugar, clothes), help in garden work and resolve family conflicts. People moved to buy and sell commodities (animals, agricultural produce, food) or to buy business items. Social gatherings such as drinking local brew together (Marwa) facilitated sharing of information/ideas and reflection on a number of issues. People travelled to look for jobs, and others travelled for leisure.

#### ii. Travel for communal activities

Social gatherings and communal activities have been suspended or restricted, but are also important. Activities such as traditional dances and child games, market days, clan meetings, fundraising, merry-go-round, savings and loans schemes, traditional marriages<sup>48</sup> (handing over the bride, receiving bride wealth, dancing, praying for the newly married, giving gifts, *ekichul, edepar*), burials and funeral rites, female genital mutilation (where it exists), performing rituals, and celebrating and praying for a newborn involve people from different villages. Women supported each other as groups in the cutting of local poles and construction of houses. As groups, youth provided services such as cleaning school compounds, cutting bushes along the road and helping the elderly. Cash-for-

<sup>&</sup>lt;sup>47</sup> FGD, Pemkworo village, Awac Sub-county, Abim District, July 1, 2020.

<sup>&</sup>lt;sup>48</sup> In Abim District, traditional marriages mainly take place in the dry season when there is not much garden work and when there is a lot of harvest for celebration.
work activities such as clearing or opening roads were done in groups. Other activities done in groups include youth outdoor games such as football, gambling by the youth, meetings organized by NGOs and government at village level, and church activities such as family meetings and prayers.

In Abim District, *Ametho, Atuko* and *Tedo-kidi* are important traditional gatherings. For instance, *Ametho* is organized by elders to feast, advise/instil discipline to youth and other community members, administer justice, set by-laws, share information, or preside over an initiation ceremony. *Tedo-kidi* (literally translated as "cooking stones") is a ceremony where all types of foods are cooked. As illustrated by one elder, "*It is a chance to eat a variety of foods.*"<sup>49</sup>

iii. Seasonality, age and gender involved in the different types of internal movements

There is variation in the age and gender involved in the different types of internal movements (Table 19). Movement restrictions therefore affect different ages and gender differently. The season determines the need and availability of a certain age and gender to travel for a certain reason. For instance, pastoralist men mainly move to visit sick relatives or move to town to buy veterinary medicines in the wet season when they do not have many herding commitments while women mainly travel in the dry season when they do not have much garden work.

In this assessment, we noted changes in the seasons during which certain activities are undertaken, thus changes in the season to travel. For instance, in the past, marriages were common in the wet season, and were mostly celebrated using ghee and milk. Nowadays, in some places, there is a shift to conducting marriage ceremonies towards the end of the wet season or at the beginning of the dry season. This is when food from harvest is plenty, when it is easy to provide or prepare local brew for the ceremony (alcohol is becoming mandatory), when lactating animals are dry and can be given out for bride wealth, and when women are free from garden work. There is a need for a study to understand seasonal shifts in the organization of the various traditional events (past vis-à-vis the present) and their drivers. Such a study would help in understanding socio-cultural transformations among communities and their implications for resilience.

Although general travels/movements decreased due to COVID-19, movement restrictions impacted more negatively on activities that are usually actively done in the wet season, such as borrowing or sale of milk among the pastoralists and agropastoralists.

iv. Negative effects of restricted movements and communal activities

With restricted movements, people foresee or already have encountered a number of problems. These include: suffering of distant family members (particularly pregnant women, women with newborn babies) and relatives (especially the sick and the elderly) and their feelings of neglect; strained family relations; hunger and diseases due to lack of access to support from relatives as well as poor recovery of debts;<sup>50</sup> stress (*ngatameta*) if you cannot visit a sick relative (particularly a sick parent) or a child who stays with grandparents. The situation is more stressful in areas without (or with a weak) a mobile telephone network and where there is poor or no access to a mobile money transfer system. Traders have stopped giving credit (cash, commodities) for fear of delayed or lack of repayment due to uncertainties related to COVID-19.

Suspension of traditional marriages delays the intended benefits such as bride wealth. Suspending clan meetings will lead to a breakdown in the traditional governance system and mechanisms in the longer term. Travel restrictions make it difficult to access jobs such as working in security firms in major cities and working on plantations. Public transport amid COVID-19 is expensive, e.g., the bus fare from Magamaga in Abim District to Kotido town has increased from UgX 7,000 to UgX 20,000. Cargo transport faces numerous challenges en route, and these lead to reduced flow and availability of commodities and price increases. With restricted movements, youth cannot travel to look for or pursue alternative livelihoods, which may lead to increased crime. Relatives trapped in other villages and in major cities such as Kampala cannot travel back home and are complaining of difficult living conditions. The stay-home directive has increased idleness and consequently alcohol consumption and non-spaced pregnancies. In the longer term, if people cannot move out of their communities to pursue love relationships, incest may occur.

In spite of these negative consequences and the related stresses, some community members regarded the COVID-19 movement restrictions positively. They said that they would rather not travel, in order to not spread the disease to their loved ones. Market closure was also accepted; some said that they would rather die of hunger than of COVID-19.

<sup>&</sup>lt;sup>49</sup> FGD, Pemkworo village, Awac Sub-county, Abim District, July 1, 2020

<sup>&</sup>lt;sup>50</sup> Difficult to recover debts at this time of COVID-19 because of movement restrictions and lack of money in the population due to closure of markets.

Table
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movements

Reason for travel	Location	Relative age	involved	Relative gend	er involved	Relative seaso	nality		
		Younger	Older	Women	Men	Normal dry	Normal wet	Change: normal	Proportional
		adults (youth)	adults			season	season	wet season vs. COVID-19	change
Borrow or sell milk	Amudat, Nagoliet	2	8	10	0	2	8	3 (0) <sup>51</sup>	-5 (-8) (63%)
Borrow food	Abim, Geregere South	2	8	8	2	3	7	5	-2 (29%)
	Moroto, Kanyodongor	8	2	5	5	2	8	5	-3 (38%)
Sell maize from own garden	Amudat, Nagoliet	1	9	2	8	8	2	1	-1 (50%)
Get a baby sitter	Amudat, Nagoliet	0	10	10	0	5	5	2	-3 (60%)
Visit a sick parent (by men)	Amudat, Nagoliet	8	2	1	6	1	6	2	-7 (78%)
+ buy veterinary medicines									
Visit a sick parent	Amudat, Nagoliet	8	2	6	1	8	2	1	-1 (50%)
(by women)	Abim, Geregere South	2	8	8	2	5	5	3	-2 (40%)
	Moroto, Kanyodongor	5	5	8	2	5	5	3	-2 (40%)
Ametho	Abim, Geregere South	7	3	2	8	8	2	1	-1 (50%)
Attend a marriage ceremony	Moroto, Kanyodongor	2	8	5	5	8	2	1	-1 (50%)

# Table 20. Impact of COVID-19 on cross-border movements

Barter trade	Buy shop items: sugar, soap, cooking oil, salt, etc.	Sale of maize (by local traders and progressive producers)	Trade: cattle, camels <sup>52</sup>	Trade: chicken	Trade: shoats, donkeys	Reason for travel
Moroto, Apeitirir	Amudat, Apamito	Amudat, Apamito	Amudat, Apamito	Amudat, Apamito	Amudat, Apamito	Location
8	2	2	3	7	8	Relative age i Younger adults (youth)
2	8	∞	7	3	2	Older adults
0	∞	7	0	7	3	Relative gend Women
10	2	co	10	3	7	er involved Men
8	8	2	∞	5	5	Relative sease Normal dry season
2	2	8	2	5	5	nality Normal wet season
0	3	4	1	0	1	Change: normal wet season vs. COVID-19 wet season
-2 (100%)	+1 (50%)	-4 (50%)	-1 (50%)	-5 (100%)	-4 (80%)	Proportional change

 $^{\rm 51}\,$  Zero for sales and 3 for borrowing of milk.

v. Avoiding or coping with movement restrictions (including shifts in the use of the different means of transport)

To cope with or manoeuvre within movement restrictions, people devised ways to communicate with their distant relatives, although with some difficulties. Mobile phones work only where the communication network is good<sup>53</sup> and airtime vouchers are available and affordable; people without phones can borrow from their neighbors. Notwithstanding, some locations reported a shortage of airtime vouchers (e.g., Nagoliet village, Kongorok Subcounty, Amudat District; Kosuroi village, Tapac Subcounty, Moroto District) while in other locations traders hoarded them and increased prices. Mobile money transfer charges were increased (e.g., from UgX 1,000 to 2,000 for sending UgX 100,000 in Kosuroi village, Tapac Subcounty). Kale FM in Kenya (with a network spread across Amudat District) allocates time for people to pass messages to their distant relatives, especially during this time of COVID-19 but the communication line is often jammed by callers. Where these communication opportunities were absent, people travelled through the bush routes at the porous Uganda-Kenya border despite the risk of being arrested and quarantined. People also used motorbikes but with tricks to avoid the police; for instance, dropping the passenger at a certain point in the bush, then picking them up after the roadblock.

Also noted were shifts in the use of the different means of transport (moving on foot, bicycles, motorbikes and transport vehicles) as shown in Table 21. Restrictions on the use of motorbikes and vehicles led to an increase in the use of bicycles (despite slippery roads in the wet season) and moving on foot. It was reported that people were repairing old bicycles and buying new ones. Seasonality determined the use and availability of the different means of transport (Table 21), with most means of transport usually being more available and used in the dry season due to the good condition of the roads. People moved more in the dry season because of less garden work and also because it is easier to do business (commodity marketing and trade) in the dry season. The travel restrictions will therefore have greater impact if restrictions continue into the upcoming dry season. Moving on foot was mainly in the wet season because the weather is cool.

#### 2.2.6.2 Cross-border movements

Cross-border movement restrictions were examined at two border points: between Amudat District (Uganda) and Kenya (West Pokot County); and between Moroto District (Rupa Sub-county) and Kenya (Turkana County). Crossborder movements to Kenya have been restricted or stopped but are important for livelihoods.

In the case of the Amudat-Kenya border, the Pokot have families, livestock and gardens on both the Kenyan and the Ugandan side of the border. In normal times, people accessed better markets for livestock on the Kenyan side (organized on designated market days, e.g., Alale and Amakuriat), better schools, cheaper commodities during market days, better referral health facilities (e.g., Amakuriat Catholic hospital) and cheaper veterinary medicines. The majority of traders (for livestock, maize and those who supply commodities) who come to markets in Amudat District are from Kenya; transactions in Amudat District are commonly done in Kenya shillings.

For the Rupa-Kenya border, the relationship between the Matheniko (Uganda) and the Turkana (Kenya) is longstanding and strengthened by the Lokiriama Peace Accord of December 1973. There are intermarriages and

Means of transport	Location	Normal dry season score	Normal wet season score	Change: normal wet season vs. COVID-19 wet season	Change
Movement on foot	Moroto-Kanyodongor-Nadunget	2	8	13	+5 (63%)
Taxis, buses	Abim-Pemkworo, Awac	7	3	0	-3 (100%)
	Moroto-Kanyodongor-Nadunget	5	5	0	-5 (100%)
Vans/trucks	Abim-Pemkworo, Awac	8	2	1	-1 (50%)
Motorbikes	Abim-Pemkworo, Awac	8	2	1	-1 (50%)
	Moroto-Kanyodongor-Nadunget	5	5	2	-3 (60%)
Bicycles	Abim-Pemkworo, Awac	8	2	1	-1 (50%)
	Moroto-Kanyodongor-Nadunget	7	3	7	+4 (133%)

#### Table 21. Relative COVID-19 changes in the use and availability of the different means of transport

<sup>53</sup> No mobile telephone network in places like Nakabaat in Rupa Sub-county (Moroto District).

friendship ties between the Turkana and the Matheniko, and they graze their animals together, with the Turkana staying almost permanently in Matheniko land. However, it is uncommon for the Matheniko to move to Turkana except in difficult situations such as in search of food relief during drought, or as seen in the recent months when the Matheniko moved to Turkana to escape insecurity. There is barter trade between the Turkana and the Matheniko. The Matheniko take gin whisky (*ngabaanae*), tire shoes, clothes, tobacco and tents to Turkana in exchange for goats.

The relative importance of the different reasons for crossborder movements to Kenya is illustrated in Table 22 and differs between border communities.

Movement restrictions affect people by ages and gender, and season determines the need and availability of a certain age and gender to travel for a certain reason (Table 20). Although there was an overall reduction in travel, COVID-19 had particular impacts on activities that typically take place during the wet season, e.g., sale of maize by local traders.

With restricted movements between Amudat District and Kenya, people cannot cultivate gardens on the Kenyan side, people cannot visit to seek or provide support to relatives, and they cannot access commodity/food and livestock markets. The resultant effect is hunger. Livestock diseases and death will increase due to lack of access to cheaper drugs. Children will drop out of school (particularly girls due to pregnancies) if they continue staying at home. People who try to cross to and from Kenya are arrested and quarantined. At the Turkana-Matheniko border, people complained mainly of a discontinued source of livelihood, the barter trade.

#### 2.2.7 Family relations and gender-based violence

With regard to family relations, including specific issues such as gender-based violence, communities described three scenarios and changing numbers of households associated with each scenario due to COVID-19. The final scenario of family separation was linked to disagreements over the scarcity of food and cash for other basic needs (Table 23).

Generally, there is an increase in family quarrels and separations (divorces; gender-based violence) particularly in places/families with high alcohol consumption, and in polygamous families with perennial quarrels, but mainly due to lack of food and cash for other basic needs. In some places (e.g., Sikotai village, Karita Sub-county), bride wealth has been returned as a result of separations. Alcoholism was reported to have increased due to several factors: idleness, breakdown of Christian values due to church closure and the rumor that part of the alcohol consumed can be used to sanitize hands against COVID-19. In Amudat District, the lower level of alcoholism in younger families and in women was attributed to the influence of the Church.

Other factors associated with family quarrels include infidelity, young women described as lazy (especially if just married and "untrained"), and loss of family assets and conjugal rights at a time when the baby is still very young.

Also contributing to the increase in domestic, gender-based violence was the confidence among perpetrators that they won't be arrested, especially due to COVID-19 restrictions on crowding at police stations and prisons. The police and the community response to reports of domestic violence was also noted to have reduced. Infidelity in some locations increased (e.g., men engaging schoolgirls) while it reduced in others (e.g., due to fear of contracting COVID-19 through body contact). While every family worked hard to feed the school-going children, polygamy-related quarrels have increased, partly due to men engaging schoolgirls. The types of quarrels and disputes and their relative importance before and during COVID-19 are shown in Table 24.

Rank	Reason for cross-border movement	
	Amudat-Apamito-Amudat S/C	Moroto-Apeitirir-Rupa S/C
1	Livestock marketing and trade (cattle, camels, sheep, goats, chicken, donkeys)	Barter trade
2	Commodity supplies from Kenya (including selling own maize)	Visit a relative
3	Cheaper veterinary medicines	Borrow an animal from a friend
4	Education: better schools for children	Migration to Turkana
5	Better referral health facilities	
6	Livestock grazing	
7	Families and assets (gardens, livestock, businesses) on the Kenyan side	

#### Table 22. Livelihoods and cross-border movements

Ranks: 1 = most important; 7 = least important

Location	Level of quarrel/dispute	Before COVID-19	During COVID-19	Change
Amudat-Sikotai	No blame or quarrel with relatives and husbands	14	12	-2 (14%)
	Families quarrelling but still together	1	3	+2 (200%)
	Families separated	0	5	+5 (500%)
Abim-Geregere South	No blame or quarrel with relatives and husbands	3	3	0
	Families quarrelling but still together	7	10	+3 (43%)
	Families separated	5	7	+2 (40%)
Moroto-Nakonyen	No blame or quarrel with relatives and husbands	10	10	0
	Families quarrelling but still together	5	5	0
	Families separated	0	0	0
Moroto-Nakabaat	No blame or quarrel with relatives and husbands	4	3	-1 (25%)
	Families quarrelling but still together	11	15	+4 (36%)
	Families separated	0	8	+8 (800%)
Moroto-Nakwabuil	No blame or quarrel with relatives and husbands	5	5	0
	Families quarrelling but still together	8	8	0
	Families separated	2	2	0

Table 23	. Changing	family	relations	immediately	before	and	during	COVID-	19
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Method: Informants were asked to divide a pile of 15 stones to represent the proportion of households in the village in the three levels of dispute before COVID-19. They were asked to compare the before situation to the current COVID-19 time and use stones to show current observations of households. At this point, informants could then choose to either increase or reduce the number of stones (e.g. >15).

#### Table 24. Domestic disputes before and during COVID-19

Cause of dispute	Location	Before	COVID-19 (change)
Quarrels due to alcoholism	Amudat, Apamito	0 (0%)	+2
	Abim, Aninata South	10 (25%)	+5
	Moroto-Nakwabuil	11 (44%)	+5
Quarrels due to lack of food and cash for basic needs,	Amudat, Apamito	0 (0%)	+11
e.g., health, including loss of income from jobs and	Abim, Aninata South	9 (23%)	+6
businesses	Moroto-Nakwabuil	8 (32%)	+4
Infidelity	Amudat, Apamito	11 (37%)	+0
	Abim, Aninata South	6 (15%)	-1
	Abim, Geregere South	6	+2
	Moroto-Nakwabuil	1 (4%)	+0
Untrained and lazy young brides	Amudat, Apamito	6 (20%)	+2
	Abim, Aninata South	3 (8%)	-1
Quarrels associated with polygamy: unequal love; lack	Amudat, Apamito	1 (3%)	+4
of basic needs	Abim, Aninata South	2 (5%)	+2
	Moroto-Nakwabuil	3 (12%)	+0

Continued on next page

Quarrels due to loss of family assets to compensate	Amudat, Apamito	12 (40%)	+6
commodities (livestock) stolen by a family member			
(especially youth)			
Disagreements over sale of family assets (land, animals,	Abim, Aninata South	4 (10%)	-1
crops) without consulting			
Resisting family planning	Abim, Aninata South	5 (12%)	+0
Conjugal rites	Abim, Aninata South	1 (2%)	+0
	Moroto-Nakwabuil	2 (8%)	+0

#### Continued from previous page

Method: Informants were asked to divide a pile of 30-45 stones (5 stones to represent each cause of dispute if occurring equally) to represent the level of each cause of dispute in the village before COVID-19. They were asked to compare the before situation to the current COVID-19 time and use stones to show current observations of the causes of dispute. At this point, informants could then choose to either increase or reduce the number of stones.

The prevalence and impact of the different reasons for domestic disputes, before and during COVID-19, varies by age of the family and gender, and by season, as well as within and between districts (Table 25). In general, there is an increase in the prevalence and impact of these reasons.

Interesting to note is the seasonal shift in quarrels resulting from lack of food in the pastoralist/agropastoralist communities. These quarrels used to be common in the dry season when cereal stocks decline (January to March) and when there is no milk for children. The expected increase in quarrels due to further decline in cereal stocks in the wet season just before harvest (April to August) was mitigated by availability of animal milk and wild vegetables, and the sale of animals to buy food. However, due to reduction in livestock numbers, nowadays there is an increase in quarrels in the wet season. This is further fuelled by the recent upsurge of livestock raids just before and during COVID-19, which resulted in the return of the protected kraals system, a system that is reported to have depressed milk production and availability. Worse still, people's capacity to buy food at this time of COVID-19 has been affected by closure of livestock markets; people cannot sell animals and use the cash to buy food.

Cause	Location	Age of fan	nilies—	Gender—	-where	Season	ality	
		where con	imon	common	(cause)	<b>D</b>	****	
		Younger	Older	Women	Men	Dry	Wet	COVID-19
						season	season	(wet season)
Lack of food/cash	Amudat-Sikotai	8	2	2	8	8	2	7 (+5) (250%)
	Abim-Geregere South	6	4	3	7	3	7	10 (+3) (43%)
	Moroto-Nakwabuil	7	3	3	7	2	8	12 (+4) (50%)
Alcoholism	Amudat-Sikotai	0	10	1	9	5	5	6 (+1) (20%)
	Abim-Geregere South	8	2	3	7	7	3	8 (+5) (167%)
	Moroto-Nakwabuil	8	2	5	5	5	5	9 (+4) (80%)
Infidelity	Abim-Geregere South	7	3	3	7	6	4	5 (+1) (25%)
	Abim-Aninata South					6	4	3 (-1) (25%)
Resisting family planning	Abim-Geregere South	8	2	2	8	5	5	7 (+2) (40%)
Polygamy-related quarrels	Abim-Geregere South	6	4	7	3	3	7	7 (+0) (0%)
Selling animal/land	Abim-Geregere South	4	6	3	7	2	8	6 (-2) (25%)
without consulting								
Selling crops without	Abim-Geregere South	7	3	6	4	8	2	1 (-1) (50%)
consulting								

Method: Informants were asked to divide a pile of 10 stones to represent the proportion of families where the cause of a domestic dispute is common (younger vs. older), gender that mainly causes a domestic dispute (women vs. men) and the proportion of observed cases of a domestic dispute in a normal dry season vs. normal wet season. They were asked to compare the normal wet season to the current COVID-19 wet season and use stones to show current observations of domestic disputes. Informants could then choose to increase (>10 stones) or decrease the number of stones.

#### 2.3 COVID-19 IMPACTS BY LIVELIHOOD ACTIVITY

#### 2.3.1 Livestock ownership and production

#### 2.3.1.1 Livestock market access and livestock prices

i. Livestock marketing and trade before COVID-19

Before COVID-19, all the surveyed districts had a vibrant livestock marketing system. Livestock marketing and trading activities took place on designated market days in weekly markets (Table 26) and involved a meshwork of producers, and local and external traders. External traders were both from within and outside Uganda, and so animals were moved to various destination markets (Table 26).

Besides buying livestock from the designated markets and on designated market days, in some places, external traders (with trucks) and local traders also bought livestock from villages on non-market days. On non-market days, external traders mainly used their connections with local traders/ agents. For instance, in the peak demand/supply period (July to December), the community in Namosing village of Loroo Sub-county (Amudat District) reported that external traders loaded six to eight trucks per week from Namosing and the neighboring villages, with each carrying 25 large bulls. Livestock barter trade between the Karamojong and the Turkana of Kenya was also reported; the Karamojong take heifers to Turkana and exchange them for bulls. Generally, in the surveyed districts, livestock involved in the transactions included cattle, sheep, goats, pigs and chickens. However, most villages reported that livestock producers only sell to traders at the village level when they have an emergency need; they prefer to sell during market days because of better prices.

Some local traders had direct access to destination markets in Uganda and external markets in Kenya and South Sudan. Locally, livestock trade mainly involves men. However, there is a recent development in which women do livestock trading as a group; this development requires further investigation to understand its drivers and opportunities, as it is contrary to common practice. Most traders were said to belong to the middle-class wealth group, and they aspire to become rich.

The household decision to sell an animal is a consultative process between family members (the husband, wife and sons). Widows consult sons or male relatives of the husband. Poor and middle-class producers were said to invest more in herd growth, and they rarely sell.

Livestock owners and traders used income from the sale of livestock<sup>54</sup> to buy food, educate children (pay school fees), pay for health care, buy veterinary medicines, capitalize businesses, support farming activities (buy seeds and tools, pay for labor, provide food and local brew), pay debts, and acquire assets such as permanent houses and land, among others.

ii.Impact of COVID-19 restrictions on livestock marketing and trading activities

Livestock markets have been officially closed since the introduction of COVID-19 measures. Livestock marketing and trading activities generally stopped in the first month due to harassment and arrests by the police. Afterwards, despite the market closure, some out-of-market operations resumed in some areas, albeit with difficulty and at lower prices. Livelihood pressures, especially because of COVID-19, pushed livestock producers and local traders to devise ways to continue with marketing and trading activities. These pressures include critical needs such as food, health care, veterinary care and farming inputs.

District	Weekly markets and designated market days	Origin of external traders (or destination markets)
Amudat	• Loroo (Thursday)	• Kenya (Kapenguria, Nairobi, Eldoret, Kitale)
	• Amudat (Saturday)	• Uganda (Soroti, Mbale, Kampala, etc.)
	• Karita ( Friday)	
Abim <sup>55</sup>	• Oreta/Nyakwae (Tuesday)	• Uganda (Teso region, Acholi region, Kampala)
	• Makathin/Abim town (Friday)	• South Sudan (Juba)
	• Baatanga/Orwamuge (Monday)	
Moroto	• Moroto (Monday)	• Uganda (Soroti, Mbale, Kampala, etc.)

#### Table 26. Major livestock markets and designated market days, pre-COVID-19

<sup>54</sup> This was said to be the major source of income.

<sup>55</sup> In Abim District, livestock producers and traders also sold livestock in markets in the neighboring districts; for instance, in Adipala market in Kapelibiong District (on Mondays).

At the village level, livestock producers sell livestock mainly to itinerant traders but only a few of them are operating. A few producers who are trying to restock also buy animals. In major towns, itinerant traders and livestock producers sell livestock to big local traders (for live animals) and butchers (for slaughter), but at lower prices. The traders are taking advantage of the lower prices and are buying animals and rearing them with the hope of getting better prices if the situation normalizes. However, there is a high risk of losing animals to the rising livestock raids/thefts and livestock diseases. The few operating local traders reportedly have networks with their colleagues locally and at external markets, and coordinate purchases and sales through phone calls. These traders were also said to share ethnic identity (clans), have friendship ties, have longer experience in the livestock trade and are willing to take risks. Local traders meet external traders at agreed locations in the bush, finalize transactions and load the animals on trucks.

During COVID-19, the most affected type of trade is the cattle trade because it is heavily dependent on external buyers.

Livestock traders and producers faced a myriad of challenges during COVID-19. Livestock producers complained about the few operating local traders taking advantage of distress sales and offering very low prices.

Challenges faced by local traders include:

• The unofficial fees (bribes) paid at multiple roadblocks erected by police between the villages

and en route to major towns, with traders in the villages farthest from the major towns being more affected to such an extent that some of them have stopped trading.

- The rearing traders risk losing (some have already lost) animals to the rising livestock raids/theft and livestock diseases during COVID-19.
- Before COVID-19 restrictions, some traders had bought animals. They now cannot sell those animals, resulting in capital being tied up.
- Traders with business capital at hand risk using (or already have used) it for the increasing family needs (especially food needs) during COVID-19 and will face capital challenges when the situation normalizes.
- In Abim District, COVID-19 restrictions worsened the impact of a pre-existing foot and mouth disease quarantine on markets. The quarantine was imposed on November 15, 2019.
- Lower prices offered by butchers and big local traders (to itinerant traders) and external traders (to the local traders).

Table 27 compares the seasonal availability of the different types of livestock buyers before (dry and wet season) and during COVID-19, and Table 28 shows the proportional dependence on the different buyers before (wet and dry season) and during COVID-19.

Type of buyer	Location	Normal dry season score	Normal wet season score	COVID-19 wet season score	Change in availability
External traders	Amudat, Apamito	8	2	0	-2 (100%)
	Abim, Abuur/Nyakwae	8	2	1	-1 (50%)
	Moroto-Lotirir	8	2	1	-1 (50%)
Local traders	Amudat, Apamito	8	2	0	-2 (100%)
	Abim, Abuur/Nyakwae	3	7	4	-3 (43%)
	Moroto-Lotirir	5	5	2	-3 (60%)
Producers (restock)— animals from	Amudat, Apamito	5	5	0	-5 (100%)
within	Abim, Abuur/Nyakwae	2	8	4	-4 (50%)
	Moroto-Lotirir	5	5	2	-3 (60%)
Producers (restock)—animals from	Amudat, Apamito	7	3	0	-3 (100%)
outside	Abim, Abuur/Nyakwae	8	2	0	-2 (100%)
	Moroto-Lotirir	0	0	0	0

#### Table 27. Relative availability of the different types of livestock buyers before and during COVID-19

Period	Location	External	Local	Producers
		traders	traders	(restocking)
Dry season—market/non-market days	Amudat, Apamito	7	5	3
(the buyer who is most available)	Abim, Abuur/Nyakwae	10	3	2
	Moroto-Lotirir	10	3	2
Wet season—market/non-market days	Amudat, Apamito	2	10	3
(the buyer who is most available)	Abim, Abuur/Nyakwae	2	8	5
	Moroto-Lotirir	3	10	2
COVID-19 wet season—the buyer who	Amudat, Apamito	0	13	2
is most available	Abim, Abuur/Nyakwae	1	10	4
	Moroto-Lotirir	2	12	1

Table 28. Relative dependence on the different types of buyers before (wet and dry season) and during COVID-19

The results revealed that, in the normal times, external traders' availability was higher in the dry season. Explanations given were that: they are less preoccupied with own garden work; roads are passable; and the high livestock sales by producers between October and January, e.g., for school fees in January (for Amudat District) and February (for Moroto and Abim Districts). Livestock producers were also seen to buy many animals in the dry season despite the higher prices. Reasons given were: animals from within Karamoja and also from outside (e.g., the Teso region) were highly available in the market at this time of the year; buyers have high income from the sale of agricultural produce; in Abim District, they reported that this is the time of the year when most people receive dividends from VSLAs (December); many people sell land in the dry season for school fees and use the balance of the money to restock; people buy for marriages, which mainly take place in the dry season.

In the normal wet season, the main buyers of livestock were the local traders. They were reportedly opportunistic buyers who take advantage of distress sales by producers, buy livestock at lower prices, and rear and sell the livestock in the dry season when prices are higher. Livestock producers and local traders who aim to restock (mainly with heifers) also bought animals at this time of the year. In Abim District, in addition to heifers, farmers bought young males (oxen) for ploughing. They also bought animals and kept them for marriage in the dry season.

During COVID-19, external traders were not available, mainly due to movement restrictions but also because it was not yet the time of the year for their usual availability. This means that the business of both external and local traders will be greatly affected if the restrictions continue into the dry season, which is the time of the year when livestock trading usually booms.

In the course of COVID-19, livestock producers depended

highly on local traders (including butchers who were mainly buying goats) as well as other livestock producers who buy to restock. Local traders bought animals to either sell immediately if they have connections with external traders, or bought them to rear with the hope of selling at a better price if the situation normalizes. Livestock producers seen to buy animals in these difficult times were those who have sold land, were involved in casual work in construction sites, or were involved in the NGO/ government cash-for-work programs (such as opening and repairing village access roads). In Abim District, it was reported that the increase in the fees for hiring agricultural laborers pushed some farmers to instead save the cost by buying oxen for ploughing at this time of very low prices. The cost of hiring an ox-plough had increased, and this was an additional motivation. However, lack of money meant many farmers could not exploit this opportunity.

# iii.Impact of COVID-19 restrictions on livestock prices and household incomes

As mentioned, livestock prices are usually higher in the dry season and lower in the wet season. In terms of specific months, good prices are realized between July and December (with much higher prices received in the months just before or immediately at the start of dry season because animals are in good body condition). Between January and June, livestock prices are lower. The higher prices in the dry season were attributed to high availability of external traders (high demand) and higher prices in the destination markets within Uganda, in Kenya and in South Sudan. Reasons for the lower prices in the wet season include fewer external traders. However, it was mentioned that livestock market days stabilized or prevented major fluctuations in livestock prices between seasons.

Producer motivation to sell animals in the dry season at good prices was mainly to raise enough money to pay school fees at the beginning of the year. This also indicates that livestock producers are responsive to live animal market demands and to better prices.

Several factors compelled livestock producers to sell livestock (especially goats) in the wet season, despite the lower prices. These include hunger, medical care (especially for malaria), veterinary care, debt payment, and support for farming activities (buying seeds and tools, paying for labor, providing food).

Tables 29 and 30 compare the seasonality of livestock and livestock product sales and prices before and during COVID-19. Considering the time of the year (wet season), COVID-19 restrictions have generally further depressed livestock prices at a time of the year when they are usually low. However, in some few locations (e.g., Lotirir village, Nadunget Sub-county, Moroto District; Bolokome village, Morulem S/C, Abim District), there were reports of opportunistic and exceptionally higher prices during COVID-19 occasioned by the surprising presence of external traders in the bush locations amid low supply of animals. In Moroto District, one of the bush markets is in Nakadelio village, west of Moroto town.

If COVID-19 restrictions continue into the upcoming dry season (specifically, between July and December), the livestock producers and traders will not benefit from the usually higher prices. This indicates an impending major livelihood crisis in Karamoja. Overall, the closure of markets has reduced people's incomes from livestock marketing and trade,<sup>56</sup> and so their ability to pay for essential goods and services, and acquire assets. Priority now is given to food, medical care, veterinary medicines and support for farming. In some places, to mitigate the effects of low incomes, it was reported that some people are selling land to cater to basic needs. In addition, people are taking loans from the VSLAs to cater to basic needs with the hope of repaying the loans (through livestock sales) when the situation normalizes. Therefore, VSLAs are already facing dormancy due to depleted savings. However, this demonstrates the important role of VSLAs (or generally livelihood groups) during and in addressing household emergencies.

Other businesses that were highly dependent on livestock markets have either closed or are operating minimally, meaning people have lost jobs and incomes. These include: the sale of ready foods (cassava, tea, chapati, *githeri*<sup>57</sup>); selling of medicines (human and veterinary); sale of alcohol (commercial and local brew); sale of fresh foods, groceries and other commodities (food and non-food items); sale of milk; sale of chicken and eggs. Other effects include loss of jobs and income by service providers such as market workers (security personnel, revenue collectors), loaders, motorbike transport operators and motor vehicle (cars, motorbikes) repair services.

Type of livestock and livestock products	Location	Normal dry season	Normal wet season	COVID-19 wet season	Change: normal wet season vs. COVID-19 wet season
Prices of livestock (high)	Amudat, Apamito	7	3	1	-2 (67%)
Cattle, sheep and goats—	Abim, Abuur/Nyakwae	8	2	1	-1 (50%)
high sales and prices	Moroto-Lotirir	8	2	8	+6 (300%)
Chicken/eggs—high sales	Abim, Abuur/Nyakwae	5	5	2	-3 (60%)
and prices	Moroto-Lotirir	5	5	2	-3 (60%)
Pigs—high sales and prices	Abim, Abuur/Nyakwae	2	8	3	-5 (63%)
Milk prices (high)	Abim, Abuur/Nyakwae	8	2	1	-1 (50%)
	Moroto-Lotirir	5	5	2	-3 (60%)
Milk sales (high)	Abim, Abuur/Nyakwae	2	8	3	-5 (63%)
	Moroto-Lotirir	1	9	0	-9 (100%)

#### Table 29. Relative COVID-19 impacts on livestock and livestock product sales and prices

Method: Informants were asked to divide a pile of 10 stones to represent the level of sales/prices in a normal dry season vs. normal wet season. They were asked to compare the normal wet season to the current COVID-19 wet season and use stones to show current observations of sales/prices. Informants could then choose to increase (>10 stones) or decrease the number of stones.

<sup>56</sup> Livestock sales were said to be the main source of household income for pastoralist and agropastoralist households.

<sup>57</sup> *Githeri* – a meal made of maize and beans

Livestock or product type	Location	Normal dry season producer price (UgX)	Normal wet season producer price (UgX)	COVID-19 wet season producer price (UgX)	Change in producer price <sup>58</sup>
Bull — big	Amudat-Napao	1.3 to 1.5 million	800,000–900,000	400,000-600,000	-200,000–500,000 (41%)
size	Abim-Oliabong	1.4 to 2 million	700,000-800,000	400,000–500,000	-200,000-400,000 (40%)
	Abim-Abuur	1.4 to 1.5 million	800,000–1,000,000	600,000–700,000	-100,000-400,000 (28%)
	Moroto-Lokaal	1.2 to 1.5 million	1.2 to 1.5 million	600,000	-600,000–900,000 (56%)
	Moroto-Napusligoi	750,000–900,000	1 to 1.3 million	400,000	-600,000–900,000 (65%)
	Moroto-Lotirir	1.05 to 1.2 million	1 to 1.1 million	1.5 million	+500,000 (48%)
Bull –	Abim-Abuur	600,000–700,000	400,000-500,000	300,000-400,000	-100,000–200,000 (33%)
medium size	Moroto-Lokaal	700,000-800,000	700,000-800,000	300,000-400,000	-300,000–500,000 (53%)
Buck (goat) –	Amudat-Napao	150,000–200,000	90,000–120,000	70,000–90,000	-30,000–50,000 (38%)
big size	Abim-Oliabong	250,000-300,000	160,000–180,000	80,000-100,000	-60,000-80,000 (41%)
	Abim-Abuur	100,000-120,000	80,000–90,000	40,000-50,000	-30,000-50,000 (47%)
	Moroto-Natedewoi	150,000–200,000	150,000–200,000	60,000–70,000	-80,000–140,000 (63%)
	Moroto-Kotaruk	80,000–100,000	120,000–150,000	40,000	-80,000–110,000 (70%)
	Moroto-Lotirir	100,000–120,000	90,000–100,000	150,000	+50,000-60,000 (58%)
Buck (goat) –	Abim-Bolokome	70,000–90,000	70,000–90,000	100,000–150,000	+10,000-80,000 (56%)
medium size	Abim-Abuur	60,000–75,000	40,000–50,000	30,000-40,000	-10,000–20,000 (33%)
	Moroto-Natedewoi	70,000-80,000	70,000-80,000	20,000-30,000	-40,000-60,000 (67%)
Chicken –	Amudat-Sikotai	15,000–20,000	15,000-20,000	10,000–12,000	-3,000–10,000 (37%)
cock	Abim-Bolokome	20,000-25,000	15,000	18,000–20,000	+3,000–5,000 (27%)
	Abim-Oliabong	25,000-30,000	25,000–30,000	20,000–25,000	-5,000–10,000 (27%)
	Abim-Abuur	18,000–20,000	18,000–20,000	14,000–15,000	-3,000-6,000 (24%)
	Moroto-Lotirir	15,000–20,000	15,00020,000	7,000–8,000	-7,000–13,000 (57%)
Chicken – hen	Amudat-Sikotai	10,000–12,000	10,000–12,000	5,000–7,000	-3,000–7,000 (45%)
Pig – big size	Abim-Abuur	200,000-300,000	300,000-400,000	180,000200,000	-100,000–120,000 (31%)
	Abim-Umlonge	250,000-300,000	250,000-300,000	200,000	-50,000–100,000 (27%)
Milk (0.5 L)	Abim-Abuur	700	500	300	-200 (40%)
– fresh	Moroto-Lotirir	500	500	500	0 (0%)
Milk (0.5 L) – sour	Moroto-Kotaruk	300	300	300	0 (0%)

## Table 30. Prices of livestock and livestock products before and during COVID-19

<sup>58</sup> Normal wet season vs. COVID-19 wet season.

# 2.3.1.2 Livestock diseases and access to veterinary services

i. Impact on the flow, availability and access to veterinary medicines/services

Movement restrictions have impacted negatively on the flow, availability, and access to veterinary medicines and services (Table 32). It is usually in the wet season that the flow, availability, and access to veterinary medicines and services is increased to respond to the increased disease incidence. However, COVID-19 measures this wet season are associated with both increasing disease incidence and limited access to veterinary medicines.

Typically, livestock markets have been a cheap source of veterinary medicines and played a role in stabilizing availability and prices. During COVID-19, some important drugs were reported to be unavailable or out of stock, including: antibiotics such as penicillin-streptomycin, oxytetracycline and Tylosn; anti-protozoal medicines such as Butalex and imidocarb dipropionate; and insecticides and high-quality acaricides.

With restricted movements, people either cannot access veterinary medicines in the major centers or can access them but with difficulty. Motorbike transport costs have increased (Table 6). In Amudat District, there were reports of unnecessary police harassment, arrests and quarantine, including demands for bribes to be allowed to cross a roadblock (with or without a passenger on the motorbike). Reportedly, the detained motorbikes are used by the police for transport business, or they remove some essential parts and replace them with cheaper, inferior parts. People cannot access the Kenyan markets for cheaper veterinary medicines.

When trying to access the government veterinary services, people are told: *"Wait until COVID-19 ends."*<sup>59</sup> Private veterinary consulting fees<sup>60</sup> also increased, and access was limited. Another challenge is limited affordability caused by the disruptive effect of COVID-19 on people's main sources of income, such as livestock sales. The recent upsurge of insecurity also limited access. Access problems were worsened by the pre-existing lack of veterinary drug outlets in some locations. People who used to depend on markets to buy drugs had problems locating the alternative outlets in towns.

# ii. Impact of COVID-19 restrictions on livestock diseases

COVID-19 restrictions have caused increased livestock disease incidence and mortality. In Achorchor village (Loroo Sub-county, Amudat District), a new disease<sup>61</sup> was also reported. Considering the time of the year (wet season) when COVID-19 restrictions were applied, increased incidence was seen in diseases that usually occur in the wet season. The most important cattle diseases reported were East Coast fever (*Lokit*), anaplasmosis (*Lopid*) and contagious bovine pleuropneumonia (CBPP). In sheep and goats, the most prevalent were contagious caprine pleuropneumonia (CCPP) and peste des petits ruminants (PPR) (Table 31). In Abim District, there is a pre-existing FMD quarantine in place since November 15, 2019.

The increase in disease incidence was mainly attributed to: i) insufficient or lack of government services such as routine vaccinations and response to disease outbreaks; ii) poor access to private veterinary drug shops in major towns to buy medicines (Table 32); iii) an increase in the prices of veterinary medicines and some medicines reported to be out of stock; iv) inability or delayed response to disease outbreak reports from herders due to difficulty in accessing drugs, lack of money to buy drugs and lack of mobile phone airtime as emphasized by a community member: "Livestock diseases have increased. It was easy to deal with them before when livestock markets were open because money was available for purchase of drugs;"62 v) increased costs of consulting veterinary personnel (which includes transport cost and service fee); vi) reintroduction of the protected kraal system due to the recent resurgence of livestock theft/raids has led to high disease spread in overcrowded herds; vii) disease spread promoted by the increased raids in the recent past and the subsequent livestock recoveries and compensations. Because of high prices of veterinary medicines and limited affordability, communities have resorted to traditional remedies such as the use of cow's urine to treat Emara (assumed to be overgrown hooves) in cattle. For Loukoi, they use a traditional herb called Emukoa. However, access to places with Emukoa is difficult due to movement restrictions.

Regarding the management of sheep and goat diseases in Abim District, the community said that less attention is given to sheep and goats compared to cattle, and so they have less knowledge about managing diseases of sheep and goats. Keen attention to cattle diseases was attributed to the value attached to cattle, including their use in ploughing, marriages, house construction (dung is used), milk, hides for sleeping, cultural ceremonies (initiation, funeral rites) and as payment for penalties for disrespecting elders.

- <sup>60</sup> For instance, the transport cost from Rogom to Agule (Nyakwae Sub-county, Abim District) has increased from UgX 5,000 to 10,000 while the veterinary service fee for treating one animal, for instance suffering from anaplasmosis (*lopid*), has increased from UgX 10,000 to 20,000.
- <sup>61</sup> The post-mortem signs include yellowish/reddish meat, swollen heart and damaged lungs.
- <sup>62</sup> FGD, Lokeriaut village, Nadunget Sub-county, Moroto District, June 13, 2020.

<sup>&</sup>lt;sup>59</sup> FGD, Achorchor village, Loroo Sub-county, Amudat District, June 29, 2020.

Table 31. Relative impact of COVID-19 on observed livestock disease incidence

Disease	Location (local name of disease)	Age		Observa	tions of d	isease by peri	po	Disease rai	nk during (	01-01V0
		suscepti	bility					(1 = most e	commonly	observed)
		Young	Adults	Normal dry season	Normal wet season	COVID-19 wet season	Change: normal wet season vs. COVID-19 wet season	Amudat District	Abim District	Moroto District
East Coast fever	Amudat-Achorchor ( <i>Lokit</i> )	6	1	∞	2	5	+3 (150%)	-		2
	Moroto-Lokeriaut (Lokit)	2	8	1	6	17	+8 (89%)			
Anaplasmosis	Abim-Agule/Nyakwae ( <i>Opidi</i> )	2	8	3	7	6	+2 (29%)		1	1
	Moroto-Lokeriaut (Lopid)	2	8	1	6	15	+6 (67%)			
CBPP	Amudat-Achorchor (Loukoi)	7	3	8	2	7	+5 (250%)	2	2	3
	Abim-Agule/Nyakwae (Oukoi)	2	8	3	7	7	0 (0%)			
	Moroto-Lokeriaut (Loukoi)	2	8	1	6	13	+4 (44%)			
Trypanosomosis	Amudat-Achorchor ( <i>Plis</i> )	3	7	8	2	6	+4 (200%)	5		
Heartwater	Amudat-Achorchor ( <i>Chemulei</i> )	1	6	2	8	12	+4 (50%)	3	4	
	Abim-Agule/Nyakwae (Awerawich)	2	8	7	3	2	-1 (33%)			
FMD	Amudat-Achorchor (Ngorion)	8	2	2	8	12	+4 (50%)	4		
	Abim-Agule/Nyakwae (Ajota)	8	2	3	7	7	0 (0%)		3	
Overgrown hooves	Moroto-Lokeriaut (Emara)	2	8	0	10	10	0 (0%)			4
CCPP	Amudat-Achorchor (Loukoi)	5	5	2	8	13	+5 (63%)	1	2	2
	Abim-Agule/Nyakwae (Oukoi)	2	8	3	7	6	+2 (25%)			
	Moroto-Lokeriaut (Loukoi)	1	6	2	8	15	+7 (88%)			
PPR	Amudat-Achorchor (Losir/Lochii)	5	2	8	2	6	+4 (200%)	2	3	-
	Abim-Agule/Nyakwae (Olieo)	3	7	2	8	10	+2 (25%)			
	Moroto-Lokeriaut (Lomoo)	3		2	8	14	+6 (75%)			
Mange	Moroto-Lokeriaut ( <i>Emitina</i> )	2	8	1	6	15	+6 (67%)			3
	Amudat-Achorchor (Simbirion)	0	10	2	8	12	+4 (50%)	3		
Orf	Abim-Agule/Nyakwae (Ngitubukae)	8	2	2	8	10	+2 (25%)		4	
Anaplasmosis	Abim-Agule/Nyakwae ( <i>Opidi</i> )	2	8	3	7	6	+2 (29%)		1	
Method: Informar were asked to com	tts were asked to divide a pile of 10 stor are the normal wer season to the curre	nes to repre	sent the F	Proportion	of observe	ed cases of a d	isease in a normal dry	season vs. no	rmal wet se	ason. ]

choose to increase the number of stones (>10). They were then asked to compare diseases and rank them in order of observed cases: 1 = most observed. In each district,

the method was used only once.

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Indicator	Level	Location	Normal dry	Normal wet	COVID-19	Change
			season	season	(wet season)	(normal wet vs.
						COVID-19 wet)
Flow of veterinary medicines	To major towns	Amudat-Achorchor-Loroo	ŝ	7	2	-5 (71%)
(major suppliers with vehicles)		Abim-Agule-Nyakwae	3	7	4	-3 (43%)
		Moroto-Loodoi-Nadunget	3	7	4	-3 (43%)
		Moroto-Atedewoi-Nadunget	5	5	1	-4 (80%)
	To village level (e.g., on motorbikes)	Amudat-Achorchor-Loroo	2	8	0	-8 (100%)
Availability of veterinary	In major towns	Amudat-Achorchor-Loroo	2	8	4	-4 (50%)
medicines		Abim-Agule-Nyakwae	2	8	3	-5 (63%)
		Moroto-Loodoi-Nadunget	3	7	5	-2 (29%)
		Moroto-Atedewoi-Nadunget	5	5	1	-4 (80%)
	In the village shops/vendors	Amudat-Achorchor-Loroo	2	8	2	-6 (75%)
Availability of government	At village level	Amudat-Achorchor-Loroo	2	8	0	-8 (100%)
veterinary services		Abim-Agule-Nyakwae	3	7	4	-3 (43%)
(vaccinations, etc.)		Moroto-Loodoi-Nadunget	2	8	0	-8 (100%)
Access (movement to buy)	To major towns	Amudat-Achorchor-Loroo	2	8	1	-7 (88%)
		Abim-Agule-Nyakwae	1	9	3	-6 (67%)
		Moroto-Loodoi-Nadunget	2	8	5	-3 (38%)
Prices of veterinary		Amudat-Achorchor-Loroo	8	2	9	+7 (350%)
medicines (high)		Abim-Agule-Nyakwae	2	8	11	+3 (38%)
		Moroto-Loodoi-Nadunget	5	5	8	+3 (60%)

could choose to use more stones (>10) as needed when considering the current COVID-19 wet season. wet season. They were asked to compare the normal wet season to the current COVID-19 wet season and use stones to show current observations. At this point, they Method: Informants were asked to divide a pile of 10 stones to represent the proportion of flow, availability and access of medicines in a normal dry season vs. normal

# iii. COVID-19 impact on prices of veterinary medicines and services

COVID-19 restrictions have caused an increase in the prices of veterinary medicines, with some dramatic increases seen in veterinary drug outlets in Moroto town and in the villages. The price increases were as a result of shortages in the country, increased transport cost<sup>63</sup> from the source (e.g., Kampala) to the destination (e.g., Moroto)

and an increase in prices of drugs at the source.<sup>64</sup>

Only Abim District reported increases in prices in the normal wet season. This increase was said to be due to high demand as a result of high incidence of diseases.

Before COVID-19, prices of medicines were stabilized by availability in the weekly market days (including supply by distributors/wholesalers). Thus there were no major fluctuations between seasons.

Medicine	Location: village, Sub-county	Normal dry season price (UgX)	Normal wet season price (UgX)	COVID-19 wet season price (UgX)	Change in prices (normal wet season vs. COVID-19 wet season)
Prices in major towns					
Oxytetracyline 10% – 100 ml	Amudat town	7,000	7,000	8,000	+1,000 (14%)
Tylosin – 100 ml	Amudat town	17,000	17,000	18,000	+1,000 (6%)
Tylosin – 50 ml	Amudat town	10,000	10,000	10,000	0
Ivermectin – 100 ml	Amudat town	18,000	18,000	18,000	0
Ivermectin – 50 ml	Amudat town	10,000	10,000	10,000	0
Diminazene Diaceturate –	Amudat town	1,500	1,500	1,500	0
2.36 g/sachet					
Samorin – 125 mg/sachet	Amudat town	5,000	5,000	5,000	0
Novidium – 1 tablet	Amudat town	3,000	3,000	3,000	0
Albendazole 2.5% – 1 L	Amudat town	10,000	10,000	10,000	0
Penstrep – 250 ml	Amudat town	35,000	35,000	35,000	0
Penstrep – 100 ml	Amudat town	16,000	16,000	16,000	0
Penstrep – 50 ml	Amudat town	10,000	10,000	10,000	0
Supertix 10% EC – 100 ml	Amudat town	15,000	15,000	15,000	0
Supertix 10% EC – 50 ml	Amudat town	10,000	10,000	10,000	0
Supertix 10% EC – 20 ml	Amudat town	4,000	4,000	4,000	0
Butalex – 50 ml	Amudat town	60,000	60,000	60,000	0
Butalex – 20 ml	Amudat town	30,000	30,000	30,000	0
Prices in the villages					
Alamycin 5% – 100 ml	Kapetawoi, Karita	3,000	3,000	7,000	+4,000 (133%)
Butalex – 20 ml	Kapetawoi, Karita	25,000	25,000	40,000	+15,000 (60%)
Penstrep – 50 ml	Kapetawoi, Karita	10,000	10,000	12,000	+2,000 (20%)
Diminazene diaceturate – 2.36 g	Cheptapoyo, Karita	1,500	1,500	1,800	+300 (20%)
Albendazole 2.5%– 1 L	Cheptapoyo, Karita	10,000	10,000	12,000	+2,000 (20%)

#### Table 33. Prices of veterinary medicines in Amudat District

<sup>&</sup>lt;sup>63</sup> The cost of transporting 1 box of assorted drugs from Kampala to Moroto has increased from UgX 20,000 to 50,000 (source: Sterns Agrovet Enterprises, Moroto).

<sup>&</sup>lt;sup>64</sup> In Kampala, the price of a bottle of penstrep (100 ml) has increased from UgX 10,000 to 15,000.

Table	34.	<b>Prices</b>	of	veterinary	medicines	in	Abim	District
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Medicine	Location: village, Sub-county	Normal dry season price (UgX)	Normal wet season price (UgX)	COVID-19 wet season price (UgX)	Change in prices (normal wet vs. COVID-19 wet) (UgX)
Prices in major towns					
Imidocarb (for Lopid) – 50 ml	Agule, Nyakwae	50,000	75,000	75,000	0
$\frac{1900 \text{ ml}}{\text{Acaricide (Alfapor)} - 100 \text{ ml}}$	Agule, Nyakwae Agule, Nyakwae	10,000	10,000	15,000	+5,000 (50%)
Penstrep – 100 ml	Agule, Nyakwae	17,000	22,500	22,500	0
Oxytet 20% – 100 ml	Agule, Nyakwae	10,000	10,000	12,000	+2,000 (20%)
Eye/wound powder – 25 g	Agule, Nyakwae	15,000	15,000	20,000	+5,000 (33%)
Dewormer – Albendazole – 1 L	Agule, Nyakwae	20,000	20,000	25,000	+5,000 (25%)

Table 35. Prices of vetering	ry medicines in Moroto	District (source: Sterns A	grovet Enterprise	s, Moroto town)
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Medicine	Location: village, Sub-county	Normal dry season price (UaX)	Normal wet season price	COVID-19 wet season	Change in prices (normal
		(UgA)	(UgA)	price (UgA)	COVID-19 wet)
Prices in major towns					
Hi–tet 120 (0xytet 10%) – 100 ml	Moroto town	15,000	15,000	18,000	+3,000 (20%)
Limoxin 20LA (Oxytet 20%) – 100 ml	Moroto town	10,000	10,000	12,000	+2,000 (20%)
Ivomec 1% – 50 ml	Moroto town	13,000	13,000	15,000	+2,000 (15%)
Ivermectin 1% – 100 ml	Moroto town	20,000	20,000	25,000	+5,000 (25%)
Penstrep 100 ml	Moroto town	17,000	17,000	25,000-	+8,000-13,000
				30,000	(62%)
Butalex (Buparvaquone) – 50 ml	Moroto town	50,000	50,000	50,000	0
Syringe 20 ml	Moroto town	1,000	1,000	1,500	+500 (50%)
Albenol bolus 2500	Moroto town	1,000	1,000	1,500	+500 (50%)
Tryponil (Diminazene aceturate)	Moroto town	3,000	3,000	3,000	0
2.36 g sachet					
Wormicid 150 bolus	Moroto town	200	200	300	+100 (50%)
Cevacide 1 L 1.5% (dewormer)	Moroto town	20,000	20,000	20,000	0
Erazole 2.5 (1 L dewormer)	Moroto town	20,000	20,000	20,000	0
Albafas 2.5% 120 ml (dewormer)	Moroto town	5,000	5,000	6,000	+1,000 (20%)
Albafas 10% 120 ml	Moroto town	5,000	5,000	6,000	+1,000 (20%)
Milbitraz (spray dip) 100 ml	Moroto town	10,000	10,000	13,000	+3,000 (30%)
DuoDip EC 55% (spray dip) 20 ml	Moroto town	5,000	5,000	8,000	+3,000 (60%)
Amitix (spray dip) 100 ml	Moroto town	10,000	10,000	13,000	+3,000 (30%)

# 2.3.1.3 Access to common grazing areas and watering points

In almost all villages, there was no effect of COVID-19 restrictions on mobility of pastoral herds. One elder asked: *"Why ask about restrictions in livestock movements? Do animals have COVID-19?"*<sup>55</sup>

Currently, it is wet season; animals are back in the villages and are grazing within the geographical boundaries of a community. The main hindrance to mobility (access to water and pasture) at this time of the year is insecurity. However, as alluded to by communities, the situation might change in the upcoming dry season. Usually, migrations beyond community boundaries are common in the dry season, and so COVID-19 restrictions may have devastating effects if they continue into this season.

Only one village in Amudat District (Napao village, Amudat Sub-county) reported that inter-village and inter-community movements have been restricted for fear of herders mixing and contracting COVID-19, as well as the fear of arrests and quarantine of herders when they cross boundaries. Every family was instructed to graze and water animals in different directions, said to be achievable in the current wet season because of abundant pasture and water. They have been restricted from crossing into the neighboring Karamojong areas. However, they feared that these movement restrictions might have adverse effects in the dry season amid the usual scarcity of water and pasture, and might be worsened by the recent upsurge in livestock theft and raids between the Pokots and the Karamojong.

In Moroto District, there were reports of Matheniko animals having crossed into Turkana (Kenya), as they fled the recent resurgence of insecurity just before COVID-19 restrictions were imposed. These herds have been restricted from entry until the situation normalizes.

Abim District is mainly agricultural and does not experience seasonal livestock movements; the animals move within the confines of a community boundary throughout the year. Insecurity is the main factor that restricts internal movements.

#### 2.3.2 Crop production

# 2.3.2.1 Impact of COVID-19 restrictions on farming activities

COVID restrictions have affected farming activities (clearing of gardens, planting, weeding, harvesting) in different ways:

- People could not access distant gardens because of movement restrictions.
- Community members used to do rotational farming activities in groups of 10–30 people, with the owner of the garden providing only food;<sup>66</sup> this is now restricted by COVID-19 measures. Ten to twenty people cultivated one acre per day while thirty people could dig two acres in a day. Overall, a group could cultivate two to four acres per household. Due to COVID-19 restrictions, most households now have to struggle with the available family labor, as illustrated by a community member: *"I have a family of four and we dug one acre of land for three weeks."*<sup>67</sup>
- In most places, casual laborers were either less available or could not be hired due to restrictions on gatherings and movements. However, some locations (e.g., Oliabong and Gulupono South East villages, Abim District) reported an increase in availability of casual labor. This was attributed to presence of school children and the increase in the number of people whose sources of income had been affected, and so were in need of cash for basic needs. An increase in wages also attracted people (see below). Additionally, many other sources of income had been affected by COVID-19 restrictions, and the only rescuer at this time of the year was casual work in gardens. Restricted movements had also created labor surpluses in some villages.
- The sources of income to support farming activities (e.g., buying seeds and tools, paying casual laborers, providing food and local brew for laborers and family members) were affected. Table 36 shows the different sources of income to support farming activities and how they have been affected during COVID-19. For instance, the sale of own produce (goats, maize, vegetables, milk, chicken and eggs) has been affected primarily by closure of markets *(see report sections on agricultural output markets, and livestock marketing and trade)*. With regards to livestock sales, sale of goats was the main source of income for farming activities.

<sup>65</sup> FGD, Lokeriaut village, Nadunget Sub-county, Moroto District, June 13, 2020.

- <sup>66</sup> Amount and cost of food as reported by a community member in Kahelap village, Karita Sub-county, Amudat District: sugar 25 kg; maize and beans (*githeri*) 3 kg per day; wheat flour 4 packets of 2 kg each. In Moroto District, only local brew was provided (*Agumakin*).
- <sup>67</sup> Community member, Kahelap village, Karita Sub-county, June 9, 2020.

Source of income	Abim Distric	t, Loka village,		Moroto District, Naachuka village,		
	Lotuke Sub-	county		Nadunget Su	b-county	
	Score before COVID-19	Score during COVID-19 (change)	% change	Score before COVID-19	Score during COVID-19 (change)	% change
Sale of livestock (cattle, goats,	2	0 (-2)	-100%	12	4 (-8)	-67%
products (milk, eggs)						
Profit from business	9	6 (-3)	-33%	3	2 (-1)	-33%
(e.g., livestock trade)						
Sale of agricultural produce	10	5 (-5)	-50%			
Sale of firewood/charcoal	3	2 (-1)	-33%	7	3 (-4)	-57%
Loans from VSLAs (and traders)	5	3 (-2)	-40%	2	0 (-2)	-100%
Sale of shea nut oil	1	0 (-1)	-100%			
Cash remittances from relatives						
Sale of local brew				5	3 (-2)	-40%
Casual work in town				1	0 (-1)	-100%

#### Table 36. Impact of COVID-19 on sources of income to support farming activities

Method: Informants were asked to divide a pile of 30 stones to represent the level of each source of income in the village before COVID-19. They were asked to compare the before situation to the current COVID-19 time and use stones to show current observations of the level of each source of income. At this point, informants could then choose to either increase or reduce the number of stones.

• The cost of most agricultural inputs increased (Table 37). However, the cost of labor was reported to have decreased in some locations while it had increased in others. The decrease was attributed to the fact that people were desperately looking for cash for basic needs. Despite the decrease in the cost of labor, the size of land cultivated still remained small due to lack of money. The increase in the cost of labor was attributed to: i) restricted movements that led to low supply vis-à-vis high demand; ii) laborers nearer to town matched the cost of labor with the cost of food and other basic needs during COVID-19 (which had increased); iii) laborers took advantage of low availability of tractors; and iv) the size of land cultivated by one person was increased to take into account social distancing. In Moroto District, cash payment for labor is rarely practiced in the villages. Instead, garden owners provide local brew (Agumakin).

With regard to tractors, the increase in hire costs was attributed to low availability vis-à-vis high demand and unofficial payments to police at the roadblocks. For instance, in Amudat District, most of the tractors used to come from Kenya; only a few were provided by the local people and the District Agriculture Office. The few tractors that managed to come from Kenya during COVID-19 paid hefty fees at roadblocks mounted by police on the Kenyan and Ugandan sides. There were also claims that prices of fuel and other tractor accessories had increased. Prices of seeds were reported to have increased in some locations while a price reduction was reported in others (e.g., for simsim in Loka village, Lotuke Subcounty, Abim District). The reduction was said to be due to lack of outside buyers, with sales only within the village.

- Households used to buy enough food to allow some members of the family to relocate and stay in the garden during the planting and weeding period. Due to inadequate food, the amount of time spent by families in the gardens decreased.
- People who used to hire additional land for cultivation could not do so because of lack of money.
- There was reduction in the flow, availability and access to agricultural inputs as shown in Table 38. Usually, the availability of seeds from outside is high in the wet season despite the seasonal challenges (bad roads, etc.). During COVID-19, the availability of seeds from outside decreased, and farmers mainly used seeds from their own previous harvest. In normal times, farmers accessed seeds in major towns and market days mainly in the wet season, despite

Table 37. COVID-19 in	pacts on the o	cost of agricultur	al inputs
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Input	Location	Cost (UgX)		
		Before	COVID-19 time	Change
Labor (cost per person per day)	Amudat-Kahelap-Karita	5,000	2,500	-2,500 (50%)
	Amudat-Kukaim-Amudat	5,000	10,000	+5,000 (100%)
	Abim-Gulupono South East	2,000–2,500	3,000	+500-1,000 (23%)
	Abim-Loka-Lotuke	2,000	3,000	+1,000 (50%)
	Abim-Abim town	3,000	4,000	+1,000 (33%)
	Abim-Nyakwae	3,000	2,500	-500 (17%)
	Abim-Oliabong-Kiru	3,000	4,000	+1,000 (33%)
	Abim-Aroo-Awach	4,000	2,500-3,000	-1,000–1,500 (31%)
	Moroto-Lokaal-Rupa	3,500	4,500	+1,000 (29%)
Tractor hire (cost per acre)	Amudat-Kapetawoi-Karita	100,000	130,000	+30,000 (30%)
	Amudat-Napao-Amudat	105,000	120,000	+15,000 (14%)
	Amudat-Kahelap-Karita	120,000	130,000	+10,000 (8%)
	Amudat-Kukaim-Amudat	100,000	150,000	+50,000 (50%)
	Moroto-Lokaal-Rupa	100,000	130,000	+30,000 (30%)
Panga (1 piece)	Amudat-Napao-Amudat	10,000	14,000	+4,000 (40%)
	Moroto-Lokaal-Rupa	7,000	10,000	+3,000 (43%)
Hoe (1 piece)	Amudat-Napao-Amudat	10,000	15,000	+5,000 (50%)
	Moroto-Lokaal-Rupa	10,000	15,000	+5,000 (50%)
Axe (1 piece)	Moroto-Lokaal-Rupa	13,000	20,000	+7,000 (54%)
Slasher (1 piece)	Moroto-Lokaal-Rupa	8,000	10,000	+2,000 (25%)
Ox-plough (1 piece)	Abim-Loka-Lotuke	250,000	280,000	+30,000 (12%)
	Moroto-Lokaal-Rupa	250,000	350,000	+100,000 (40%)
Seeds (local) – maize (3 kg)	Amudat-Napao-Amudat	4,000-5,00068	3,000-4,00069	-1,000–2,000 (33%)
Seeds (certified) – Kenyan	Amudat-Napao-Amudat	8,000	13,000–14,000	+5,000-6,000 (69%)
maize (2 kg)				
Seeds (certified) –	Amudat-Napao-Amudat	9,000	17,000	+8,000 (89%)
Ugandan maize (3 kg)				
Seeds – simsim (500 g)	Abim-Loka-Lotuke	2,000	1,000	-1,000 (50%)
Seeds – beans (500 g)	Abim-Loka-Lotuke	1,000	1,200–1,300	+200-300 (25%)
	Moroto-Lokaal-Rupa	1,000–1,500	2,000	+500-1,000 (60%)
Ox-plough hire for one day	Abim-Gulupono South East	15,000	20,000	+5,000 (33%)
(old garden – <i>Okang</i> )	Abim-Oliabong-Kiru	25,000	30,000	+5,000 (2%)
Ox-plough hire for one day	Abim-Gulupono South East	20,000	25,000	+5,000 (25%)
(new garden – Olum)	Abim-Oliabong-Kiru	30,000	35,000	+5,000 (17%)

<sup>68</sup> The harvest was poor in 2018. Farmers use both local and certified maize seeds but prefer local seeds because of quantity.

 $^{\rm 69}\,$  The harvest was good in 2019, and seeds for sale were plentiful.

Indicator	Level	Location	Normal dry	Normal wet	COVID	Change (normal
			season	season	(wet season)	wet vs. COVID-19
						wet
Flow of seeds and tools	To major towns	Amudat-Kukaim-Amudat	0	10	0	-10 (100%)
(major suppliers with trucks)		Abim-Gulupono South East	5	5	2	-3 (60%)
	To village level by trucks	Amudat-Kukaim-Amudat	0	0	0	0
	and motorbikes					
Availability of seeds and tools	In major towns or during	Amudat-Kukaim-Amudat	2	8	3	-5 (63%)
	market days	Abim-Gulupono South East	5	5	1	-4 (80%)
	In the villages	Amudat-Kukaim-Amudat	0	0	0	0
Access (movement to buy)	To major towns	Amudat-Kukaim-Amudat	2	8	3	-5 (63%)
		Abim-Gulupono South East	7	3	1	-2 (67%)
	Inter-village	Amudat-Kukaim-Amudat	0	0	0	0
Availability of agricultural labor	In the villages	Amudat-Kukaim-Amudat	0	10	4	-6 (60%)
		Abim-Gulupono South East	5	5	3	-2 (40%)
Availability of tractors	In the villages	Amudat-Kukaim-Amudat	0	10	2	-8 (80%)
Prices of seeds and tools (high)		Abim-Gulupono South East	2	8	12	+4 (50%)
Cost of labor (high) per person	In the villages	Abim-Gulupono South East	5	5	7	+2 (40%)
per day						
Use of oxen for ploughing	In the villages	Abim-Gulupono South East	2	8	7	-1 (13%)

Table 38. COVID-19 impacts on the flow, availability and access to agricultural inputs

season. They were asked to compare the normal wet season to the current COVID-19 wet season and use stones to show current observations. At this point, they could choose to use more stones (>10) as needed when considering the current COVID-19 wet season. Method: Informants were asked to divide a pile of 10 stones to represent the proportion of flow, availability and access of items in a normal dry season vs. normal wet the bad roads and too much garden work. During COVID-19, access was reduced by movement restrictions and unnecessary harassment and arrests by police, as well as possible quarantine.

- The increase in the incidence of malaria and scabies (nicknamed as "I'm busy" because of frequent scratching) during COVID-19 reduced the amount of time and effort on farming.
- The curfew time reduced the number of hours spent in the gardens.
- Due to COVID-19 restrictions, NGOs and government either did not distribute seeds (e.g., in Naachuka village, Nadunget Sub-county, Moroto District) or only distributed to a few places, and the supply was inadequate. Most people used or shared seeds from the previous harvest or used those that they bought just before COVID-19 restrictions.

Other non-COVID-19-related challenges reported to have affected farming this year include:

- Poor rains at the beginning of the season led to reluctance to cultivate (reported in Atedewoi village, Nadunget Sub-county, Moroto District).
- Insecurity restricted access to distant gardens, and oxen for ploughing were raided.
- Seeds did not germinate due to unknown reasons.<sup>70</sup>
- Elephants destroyed crops in Kotido village of Alerek Sub-county, Abim District.
- Fall army worm damaged maize crops.
- An invasion of desert locusts in March/April in Abim District destroyed the early crops such as millet, simsim and peas.

- In addition to the pre-existing FMD quarantine, closure of livestock markets led to difficulty in purchasing bulls for cultivation (Abim District).
- There were delays in bringing oxen to the villages for ploughing because of drier conditions (reported in Atedewoi village, Nadunget Sub-county, Moroto District).
- Rodents were a problem. Rats eat planted seeds (reported in Nakonyen village, Tapac Sub-county, Moroto District; Nakwabuil village, Katikekile Sub-county, Moroto District).

#### 2.3.2.2 Impact on the size of land cultivated

As a result of the impacts described above on farming activities, most families reported cultivation of smaller plots than usual (Table 39) and foresaw terrible hunger or famine next year. This was confirmed by a comparison of the proportion of families that cultivated bigger plots (> 2 acres) without and with difficulty vis-à-vis those that cultivated smaller plots (< 2 acres) (Table 40). Generally, those that cultivated bigger plots without difficulty had decreased while those that cultivated bigger plots with difficulty or cultivated smaller plots had increased. However, some locations in Abim District (Gulupono South East, Lotuke Sub-county) reported an increase in the size of land cultivated due to provision of labor by school children.

The situation of decrease in the size of land cultivated was said to be worse in labor-deficient families (e.g., young families) and in families mainly composed of the elderly. For example, in Amudat District, young families used to get animal contributions from relatives purposely to sell and hire labor for garden work. During COVID-19, they could not move to secure this support and had to struggle on their own. Additionally, relatives' resources were also constrained by the disruptive effects of COVID-19. Community members (particularly members of a particular church) used to come together to cultivate farms for the elderly. This rarely happened during COVID-19.

District	Village, sub-county (n = number of farmers interviewed)	Units of measurement	Average before	Average during COVID-19	Average change
Amudat	Napao, Amudat (n = 5)	Acres	2.3	1.1	-1.2 (52%)
Amudat	Lomerae, Loroo (n = 2)	Acres	3	1.5	-1.5 (50%)
Abim	Loka, Lotukei (n = 5)	Acres	3.6	1.8	-1.8 (50%)
Abim	Gulupono South East, Lotuke (n = 4)	Acres	3	3.25	+0.25 (8%)
Moroto	Lokaal, Rupa (n = 2)	Ipelu/Achaapae <sup>71</sup>	2.5	1	-1.5 (58%)
Moroto	Lokeriaut, Nadunget (n = 5)	Ipelu/Achaapae	3	1	-2 (67%)
Moroto	Naachuka, Nadunget (n = 5)	Ipelu/Achaapae	12.7	4.8	7.9 (62%)

#### Table 39. Average size of land cultivated before and during COVID-19

 $^{70}\,$  Sorghum and maize are not doing well but beans and groundnuts are doing well.

<sup>71</sup> Karamojong word for a small piece of farmland. The actual scientific dimensions are unknown. Singular-achaapae or ipelu; plural-ngachaapae or ngipelui.

Level of	Area cultivated	Location	Proportion o	Change	
impact			Before	During	
			COVID-19	COVID-19	
Ι	Cultivated bigger plots	Amudat-Kukaim-Amudat	11	3	-8 (73%)
	without difficulty	Abim-Gulupono South East	3	2	-1 (33%)
	(> 2 acres)				
II	Cultivated bigger plots	Amudat-Kukaim-Amudat	3	7	+4 (133%)
	with difficulty	Abim-Gulupono South East	10	12	+2 (20%)
	(> 2 acres)				
III	Cultivated smaller plots	Amudat-Kukaim-Amudat	1	9	+8 (800%)
	with difficulty (< 2 acres)	Abim-Gulupono South East	2	6	+4 (200%)

#### Table 40. Changes in the proportion of families cultivating different areas of land

Method: In each location, informants divided 15 stones to illustrate the proportion of families using each type of cultivation before COVID-19; they then re-divided the stones to show the situation during COVID-19.

#### Additional notes:

- The largest shift in cultivation was in families that cultivated smaller plots (< 2 acres) but with difficulty. These families included: "lazy" or the weak; drunkards; disabled; elderly; the poor; pregnant women; mothers with newborn children; single parents (e.g., widows); people without a cultivation plan/target; those in which garden work is left to the woman alone; those that do not stock food for use in the next cultivation season; those that concentrate on casual work in other people's gardens rather than working on own garden.
- Families that cultivated bigger plots (> 2 acres) with difficulty included: hardworking/determined but with limited economic capacity (e.g., limited sources of income/food; rely more on sale of Aloe vera,

gravel, firewood/charcoal); those with divided attention between different livelihood activities; hardworking but without ox-plough; with ox-plough but with limited capacity to buy seeds; families with disagreements.

• There was a decline in the proportion of families that cultivated bigger plots (> 2 acres) with ease. These families included: business people (livestock trade, clothes business, shopkeepers, sellers of milk); those with enough family labor; those that are sent money by relatives; those that are employed (government, NGOs); those that rent out extra land to get money for cultivation; those with money from a huge harvest the previous year; those with oxploughs and those that can afford seeds; families living in harmony.

District	Crops
Abim <sup>72</sup>	Maize, sorghum, simsim, groundnuts, beans, green grams, peas, millet, cassava, soya, <i>Ngor</i> (a vegetable), sunflower, <i>kalamakuka</i> (bean species), hibiscus, cabbages, tomatoes, onions, amaranthus, rice and sweet potatoes
Amudat	Maize, beans, onions, and vegetables such as sukuma wiki, cabbage and amaranthus
Moroto	Sorghum, maize and beans

#### Table 41. Crops produced in a normal year

<sup>72</sup> The priority staple crops in decreasing order include sorghum, sunflower and sweet potatoes while those that give higher incomes include sunflower, simsim, soya, onions and tomatoes.

#### 2.3.2.3 Availability and access to output markets

i. Marketing and trade of agricultural produce before COVID-19

The type and variety of agricultural outputs differs across the districts (Table 41). Abim produces a wider variety of crops compared to the other districts. These products were sold both on market and non-market days to outside buyers, local traders and local people in the villages who are buying for home consumption. It is worth noting that, despite the occupants of Amudat District being referred to as pastoralists, many have embraced farming, which calls for their redefinition in the medium or long term.

Before COVID-19, the weekly markets were a good outlet for local agricultural products. In addition to local traders, external traders with trucks also purchased produce directly from villages on non-market days. Namosing village in Loroo Sub-county (Amudat District) reported that during the peak season for maize sales (January to early April), 3–4 trucks per week (with capacity to carry 30–35 bags of 90 kg each) visited their village. In the low sales period (May to June), they filled 1–2 trucks per week. External buyers came from within Uganda (e.g., Mbale) and outside (e.g., for Amudat District: Kapenguria in Kenya).

ii. Impact of COVID-19 restrictions on the marketing and trading activities

Closure of markets and movement restrictions due to COVID-19 have caused a breakdown in the marketing and trade of the staple agricultural products. Although prices are usually higher during the wet season, the main beneficiaries of the higher prices are usually local traders and a few farmers who stock to sell in the wet season. However, it was noted that even those farmers who had reserved products for sale in the wet season did not wish to do so at this time of COVID-19. Their priority shifted to securing food for the family. Nonetheless, in a few locations (e.g., Lokaal village, Rupa Sub-county, Moroto District), those who were pushed to sell by certain emergencies such as medical care reportedly enjoyed exceptionally higher prices. In a majority of locations, prices were reportedly very low (Table 44). There were also reports that, in some locations (e.g., Kukaim village, Amudat Sub-county, Amudat District), a majority of people had sold their products just before COVID-19 restrictions and market closure in March 2020. The main worry was how they

will sell produce from the harvest of this year if COVID-19 restrictions continue.

Most producers (70%, as estimated in Kukaim village, Amudat District) sell agricultural produce in the dry season just after harvest, despite the lower prices (Table 44). This means that COVID-19 restrictions will have a substantial impact if they continue into the upcoming dry season. Several factors compel producers to sell more in the dry season in spite of lower prices: i) the need for school fees when schools reopen in January/ February; ii) to settle emergencies such as medical care and veterinary care; iii) poor storage facilities mean products are destroyed by weevils; iv) to buy essential commodities such as soap, sugar, salt and cooking oil; iv) to repay loans from VSLAs; v) urgent need for an asset such as a bicycle or motorbike; vi) to buy animals for marriage, funeral rites and for ploughing.

In general, during COVID-19 outside buyers were not visiting Karamoja (Table 42). The few buyers who managed to come at the beginning of the lockdown travelled at night and bought products at very low prices. In normal times, external buyers are mainly available in the dry season; in addition to the ease of travel because of more passable roads at the time, prices are low and the supply is high in the early dry season. Local traders buy mainly to stock up, waiting for higher prices in the wet season. However, in Abim District, local traders were reported to buy a lot of sorghum from the community in the wet season despite higher prices. The reason is that they barter sorghum with beans in Soroti, then bring the beans and sell to the community at a higher price. The main challenge to market access faced by these traders in the wet season is insecurity.

During COVID-19, local traders and producers buying for home consumption were the main buyers of agriculture products (Table 43). The local traders bought products either with cash at very low prices or bartered with commodities such as sugar, cooking oil and salt. Those traders had connections with external traders. They either delivered products to the external traders or asked them to send trucks.

In normal times, farmers who buy products in the dry season just after harvest are often described as lazy or drunkards (Table 43). While these groups are severely affected during COVID-19 because of lack of money, most community members are also affected by COVID-19 restrictions because of widespread restricted access to income.

Buyers and prices	Location and product	Normal	Normal	COVID-19	Change in
, I	1	dry season	wet season	wet season	availability
Type of buyer					
External traders	Amudat-Kukaim (maize)	6	4	1	-3 (75%)
	Abim-Bolokome (sorghum)	8	2	1	-1 (50%)
Local traders	Amudat-Kukaim (maize)	7	3	1	-2 (67%)
	Abim-Bolokome (sorghum)	7	3	1	-2 (67%)
Producers (buying for	Amudat-Kukaim (maize)	4	6	4	-2 (33%)
home consumption)	Abim-Bolokome (sorghum)	2	8	12	+4 (50%)
Sales by producers	Amudat-Kukaim (maize)	7	3	1	-2 (67%)
	Abim-Bolokome (sorghum)	8	2	1	-1 (50%)
Access to external markets	Amudat-Kukaim (maize)	2	8	0	-8 (100%)
by local traders					
Prices					
Prices of own sorghum	Abim-Bolokome (sorghum)	2	8	8	0
(high)					
Prices of purchased	Abim-Bolokome (sorghum)	2	8	8	0
sorghum (high)					

Table 42. Relative availability of buyers of agriculture products, and prices of sorghum, before and during COVID-19

#### Table 43. Relative dependence on the different types of buyers before and during COVID-19

Season	Location and product	External traders	Local traders	Producers (buying for home consumption)
Dry season—market/non-	Amudat-Kukaim (maize)	8	6	1
market days (the buyer	Abim-Bolokome (sorghum)	8	5	2
who is most available)				
Wet season—market/non-	Amudat-Kukaim (maize)	1173	3	1
market days (the buyer	Abim-Bolokome (sorghum)	3	8	4
who is most available)				
COVID-19 wet season—	Amudat-Kukaim (maize)	0	4	11
the buyer who is most	Abim-Bolokome (sorghum)	2	10	3
available				

Method: Informants were asked to divide a pile of 15 stones to represent the proportion of the type of buyer most available in the village in the normal dry season, normal wet season, and during COVID-19.

iii. COVID-19 impact on prices of agricultural outputs and household income

Notably during COVID-19, there was a reduction in the prices of agricultural products at a time of the year (wet season) when prices are usually higher, with the poorest prices being offered by local traders (who prefer barter trade). With regard to barter exchanges, Napao village

(Amudat Sub-county) reported that 5 tins of maize (3 kg per tin) were exchanged with 1 kg of sugar at community level. The current price of sugar at the village level is UgX 5,000 per kg. With better prices, the same 5 tins of maize (3 kg each) would fetch UgX 12,500–17,500, which is a 150–250% loss for maize sellers/producers if maize is bartered with sugar. The local traders claim that maize prices at the destination markets in Kenya and Uganda

<sup>73</sup> In Amudat District, there were reports of external traders still coming from Kenya.

have dropped. However, some locations reported an increase in prices of some crops during COVID-19 due to shortages, high demand and hunger, while prices of some products remained the same. So, the impact of COVID-19 on prices varies by agricultural product.

Also noted were claims that prices are usually higher on non-market days compared to market days. On market days, prices are depressed by high supply. Nonetheless, market days were said to be important as they stabilize or help to minimize major fluctuations in the prices of agricultural outputs between seasons.

Farmers used income from agricultural produce to pay school fees, save for future use, acquire assets such as houses, buy animals, use in the next cultivation season, pay for medical care, buy animals for marriage, buy a means of transport (bicycles, motorbikes), buy additional land for farming and business, and start businesses. During COVID-19, income from agricultural products generally decreased. Thus, the use of the little available income was rationalized to mainly cater to food needs, and pay for agricultural labor, medical care and veterinary care.

#### 2.3.3 Diversified livelihood activities for income

Diversified livelihood activities in Karamoja can be categorized into two main groups, viz. activities that depend on livestock or crops (e.g., sale of livestock products, loading livestock at a market) and "other" activities that are independent of livestock or crops (e.g., sale of local brew). The main aim of all of these activities is to generate income. Activities were undertaken by individuals as well as groups, with groups additionally being involved in cattle trade, maize trade, clothing businesses and salon businesses. In all districts, the range of other diversified livelihood activities exceeds livestock or crop-based diversification.

Product and quantity	Location	Normal dry season (UgX)	Normal wet season (UgX)	COVID-19 wet season (UgX)	Change in producer price (UgX)
Maize (3 kg)	Amudat-Napao	2,500–3,500	3,000-4,000	1,000-2,000	-2,000 (57%)
	Amudat-Kukaim	2,500-3,500	4,000-5,000	4,000-5,000	0
	Moroto-Lokaal <sup>74</sup>	2,500	3,000	5,000-5,500	+2,500 (83%)
Maize (0.5 kg)	Abim-Kotido-Alerek	300	500	700	+200 (40%)
	Abim-Loka-Lotuke	500	500	600	+100 (20%)
Maize (90 kg)	Amudat town	65,000	150,000	90,000	-60,000 (40%)
	Amudat-Nagoliet	70,000	100,000	60,000	-40,000 (40%)
Sorghum (3 kg)	Moroto-Lokaal <sup>75</sup>	1,500	2,500	3,500-4,000	+1,500 (60%)
	Moroto-Lotirir	1,500	2,500	3,000-3,500	+1,000 (40%)
Sorghum (0.5 kg)	Abim-Loka	200-300	300-500	150-200	-150-300 (56%)
	Abim-Umlonge	200	300	300	0
	Abim-Bolokome	200–500	300-500	400–500	+100 (25%)
Millet (0.5 kg)	Abim-Loka	800	900	600	-300 (33%)
Groundnuts (0.5 kg)	Abim-Loka	2,000	2,000	1,500	-500 (25%)
Green grams (0.5 kg)	Abim-Loka	1,000	1,000	2,000	+1,000 (100%)
Sunflower (0.5 kg)	Abim-Loka	200	200	300	+100 (50%)
	Abim-Bolokome	200-600	300-600	400-600	+100 (22%)
Simsim (0.5 kg)	Abim-Loka	2,000	2,500	1,500	-1,000 (40%)
Sweet potatoes	Abim-Bolokome	5,000–15,000	5,000–15,000	7,000–15,000	+2,000 (20%)
(a basin)					

#### Table 44. COVID-19 impacts on the prices of agricultural products sold by producers

 $^{74}\,$  They buy maize (3 kg) from the market at UgX 3,000 (dry season) and UgX 4,000 (wet season).

<sup>75</sup> They buy sorghum (3 kg) from the market at UgX 2,500 (dry season) and UgX 3,000 (wet season).

The impact of COVID-19 restrictions on income from diversified activities is shown in Tables 45 and 46 (but also see sources of income to support farming activities in Table 36). Some of these activities were highly dependent on market days and were consequently adversely affected by COVID-19 restrictions.

In all villages, diversified livelihood activities involved very many households, indicating that a huge number of households lost (or will lose) income and employment during the COVID-19 restrictions. In turn, this creates a high level of suffering, e.g., hunger due to lack of food. Where an income-generating activity was being operated from a rental premise, the landlords demanded monthly rent despite the difficult situation. Tables 47 and 48 illustrate the impact of COVID-19 on absolute income from diversified activities.

#### Table 45. Impact of COVID-19 on income from livestock and crops

District and activity	Proportio	onal income	COVID-19 i	ncome	People affe	ected	
	Normal dry season score	Normal wet season score	Normal wet season vs. COVID-19	Proportional change	Number	Main gender	Main wealth group(s)
Amudat							
Cattle sales	8	2	1	-50%	+++++	്	W, M
Sheep and goat sales	8	2	1	-50%	+++++	₽o <b>″</b>	M, P
Milk/ghee sales	2	8	1	-75%	+++++	Ŷ	W, M
Chicken/egg sales	8	2	1	-50%	+++++	Ŷ	P, M
Honey sales	2	8	0	-100%	+++++	ੱ	P, M, W
Maize sales	8	2	1	-50%	++++	Ŷ	Р, М
Vegetable sales	8	2	0	-100%	+++++	ę	M, W
Moroto							
Cattle sales	8	2	0	-100%	+++++	ď	M, P
Sheep and goat sales	4	6	1	-83%	+++++	୵	M, W
Milk/ghee sales	2	8	4	-50%	+++++	Ŷ	M, W
Chicken/egg sales	7	3	1	-66%	+++++	Ŷ	P, M, W
Abim							
Cattle sales	8	2	1	-50%	++	Q.	M, W
Sheep and goat sales	5	5	2	-60%	+++	°,	M, W
Milk sales	2	8	6	-25%	+++++	ď	M, W
Chicken/egg sales	5	5	3	-40%	+++++	Ŷ	M, W
Pig sales	9	1	1	0%	+++++	ୖ	M, W
Sorghum sales	7	3	1	-66%	+++++	Ç	M, W

Notes:

Number of households affected: ++ = 6–10 households/village; +++ = 11–15 households/village; ++++ > 15 households/village

Wealth groups: P – poor, M – middle, W – wealthy

Gender: 9 female, 0' male

Normal dry season scoreNormal wet season scoreNormal wet season vs. COVID-19Proportional changeNumber met genderMain wet wealth groupAmudat11 <td< th=""><th>District and activity</th></td<>	District and activity
dry season scorewet season scorewet season vs. COVID-19changegenderweath groupAmudatIII	
season scoreseason scoreseason vs. COVID-19groupAmudatMotor bike transport821-50%+++++ $\sigma^{*a}$ M, WCasual work – gardens285-38%+++++ $\varphi$ PCasual work – town730-100%+++++ $\varphi$ PSale of household items821-50%+++ $\varphi$ WSale of prepared foods820-100%++ $\varphi$ M	
Amudat     Score     COVID-19     Covid-19 <thc< th=""><th></th></thc<>	
Amudat     8     2     1     -50%     +++++ $\sigma^{ra}$ M, W       Casual work – gardens     2     8     5     -38%     +++++     Q     P       Casual work – gardens     2     8     5     -38%     +++++     Q     P       Casual work – town     7     3     0     -100%     +++++     Q     P       Sale of household items     8     2     1     -50%     +++     Q     W       Sale of prepared foods     8     2     0     -100%     ++     Q     M	
Motor bike transport821 $-50\%$ $++++$ $\sigma^{*4}$ M, WCasual work – gardens285 $-38\%$ $++++$ 9PCasual work – town730 $-100\%$ $++++$ 9PSale of household items821 $-50\%$ $+++$ 9WSale of prepared foods820 $-100\%$ $++$ 9M	Amudat
Casual work - gardens285 $-38\%$ $++++$ 9PCasual work - town730 $-100\%$ $++++$ 9PSale of household items821 $-50\%$ $+++$ 9WSale of prepared foods820 $-100\%$ $++$ 9M	Motor bike transport
	Casual work – gardens
Sale of household items821-50%+++\$\$\$Sale of prepared foods820-100%++\$\$M	Casual work – town
Sale of prepared foods820-100%++9M	Sale of household items
	Sale of prepared foods
Firewood or charcoal sales731-66%+QP	Firewood or charcoal sales
Aloe vera sales     2     8     0     -100%     +++++     9     P	Aloe vera sales
Village shops sales     7     3     1     -66%     +     0"     M, W	Village shops sales
Petrol sales 7 2 1 -50% ++ 9° M, W	Petrol sales
Grinding mill     8     2     1     -50%     +     of     M, W	Grinding mill
Moroto	Moroto
Motor bike transport821-50%++++o"aP, M	Motor bike transport
Casual work – gardens     2     8     6     -25%     +++++     9     P, M	Casual work – gardens
Casual work – town     8     2     1     -50%     +++     Qa     P	Casual work – town
Local brew production,550-100%+++++QM	Local brew production,
villages	villages
Sale of local brew from821-50%+++++ $Q \sigma^{*}$ M	Sale of local brew from
towns	towns
Waragi sales     5     5     4     -20%     +++++     9     W, M	Waragi sales
$\frac{1}{\text{Mining} - \text{stones}} \qquad 8 \qquad 2 \qquad 1 \qquad -50\% \qquad +++++ \qquad Q^a \qquad P$	Mining – stones
$\frac{1}{\text{Mining} - \text{gold}} \qquad 8 \qquad 2 \qquad 2 \qquad 0\% \qquad +++++ \qquad \sigma' \qquad P$	Mining – gold
Firewood/charcoal sales 7 3 2 -33% +++++ 9 P	Firewood/charcoal sales
Abim	Abim
Motor bike transport 7 3 1 $-66\%$ + $\sigma^{*a}$ M	Motor bike transport
Casual work – gardens2811 $38\%$ +++++9P, M	Casual work – gardens
Casual work – town,821 $-50\%$ +++ $9\sigma'$ P	Casual work – town,
construction	construction
Sale of household items 8 2 1 -50% +++ 9 M. W	Sale of household items
Local brew production,821 $-50\%$ $+++++$ 9M	Local brew production.
villages	villages
Sale of prepared foods 3 7 6 -14% + 9 M	Sale of prepared foods
Bamboo sales821-50%+++++ $\sigma^*$ P.M.	Bamboo sales
Selling sand, aggregates821 $-50\%$ +++ $\sigma^*$ P. M	Selling sand, aggregates
$\frac{1}{1} = \frac{1}{1} = \frac{1}$	Charcoal sales
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Brick sales
Saving and loan schemes $5$ $5$ $3$ $-40\%$ $+++$ $9$ M W	Saving and loan schemes

#### Table 46. Impact of COVID-19 on income from other diversified activities

Number of households affected: ++ = 6-10 households/village; +++ = 11-15 households/village; ++++ > 15 households/village. Wealth groups: P - poor, M - middle, W - wealthy.

Gender: 9 female, 0' male

<sup>a</sup> Especially youth hired to ride

Table 47.	Illustrative a	bsolute losses	of income	due to CO	VID-19 for	diversified	livestock an	d crop-ba	sed
activities									

Items	Normal wet season price and notes	COVID-19 impact (wet season)			
Amudat					
Cattle – sale of large bull	Ksh 25,000–35,000	Minimal market operations; closed			
	Sell 1–2 bulls on a market day				
Sheep and goat sales, large	Purchase price – Ksh 3,000–4,000	Minimal market operations; closed			
ram or buck					
Milk – sour 0.5 L	Producer price – Ksh 15 or UgX 500	Minimal market operations; closed			
	5–8 liters sold per market day per				
	household				
Milk – fresh 0.5 L	Producer price – Ksh 10 or UgX 300;	Minimal market operations; closed			
	in some places UgX 500				
	5–8 liters sold per market day per				
	household				
Chickens	Producer price – 1 cock at Ksh	If selling minimally – 1 cock at UgX 10,000			
	400–500	to 12,000; (prices lower than that in			
		the normal wet season)			
Chicken eggs	Producer price – Ksh 10 (or	Minimal market operations; closed			
	UgX 200 to 300) per egg				
Honey	Ksh 150/L	If selling minimally – Ksh 100; 67% the			
		price in the normal wet season			
Vegetable sales	Purchase bundles from garden	Minimal market operations; closed			
	at Ksh 400 and get profit of 200				
	(50% profit); 30–40 bundles sold				
	per market day				
Moroto					
Milk – sour 0.5 L	UGX 300	Minimal market operations; closed			
Chickens	Cock UGX 10,000–15,000; hen	Minimal sales			
	UGX 5,000–6,000				
Abim					
Milk – fresh 0.5 L	UGX 500	Minimal sales			
Pigs	Large pig UGX 200,000–300,000	Minimal sales			

Activity	Wet season prices and notes	Impact of COVID-19 (wet season)		
Amudat				
Casual work (gardens)	Wage of Ksh 100/day	Ksh 50–100 /day but only 3 days in a month		
	Digging to weeding – 10 days in 2	because of restrictions		
	months; narvesting – 5 days in a month			
Casual work (town)	Ksh 50–150/day	Stopped		
Village shop	Ksh 40,000 in sales/month; Ksh	If operating minimally – Ksh 30,000 sales		
	6,000 profit/month	and Ksh 3,500 profit		
Sale of ready foods	Ksh 2000–4,000 in sales and Ksh	Markets closed		
	1,000–2,000 profit			
Firewood	Ksh 400 in sales/month; Ksh	If operating minimally – Ksh 100–200		
	50/bundle	(25–50% of the sales in the normal wet		
		season)		
Charcoal	1.5 bags sold/month at Ksh 400/bag	No sales		
Aloe vera	Ksh 400 for 10 L jerrican	Stopped – no buyers		
Petrol	Per market days, 20 L; purchase price	Markets closed		
	per 20 L jerrican is Ksh 4,000; sale			
	price per liter is Ksh 130; profit per			
	market day Ksh per 20 L			
Grinding mill	Ksh 1,500 profit/month; charge	If operating minimally – Ksh 500 profit;		
	per 2 kg maize UgX 200	charge per 2 kg maize UgX 400		
Moroto				
Motorbike transport ( <i>bodaboda</i> )	Profit of UGX 50,000 on non–marke	t UGX 10,000–30,000 profit; no market days		
(Nalukangor, Tapac)	day; UGX 60,000 on market day			
Sale of local brew (purchased	UGX 7,000 purchase price in	UGX 8,000		
from town) (Lokeriaut,	Moroto town – 20 L			
Nadunget)				
Firewood	UGX 4,000–7,000/bundle	UGX 2,000–3,000		
Charcoal	UGX 10,000–20,000/bundle	UGX 7,000–12,000		
Mining – marble	20–25 lorries loaded with marble/day	5–8 lorries		
(Kosuroi, Tapac)	Payment per lorry loaded depends on	Depending on size of lorry –		
	size of lorry – UGX 180,000;	UGX 180,000; 200,000; 240,000		
	200,000; 240,000			
Mining – gold	UGX 150,000/gram; profit UGX	UGX 100,000/g		
(Nakabaat, Rupa)	50,000-60,000			
Abim				
Casual work in gardens	Wages UGX 3,000–4,000/day	UGX 2,500–4,000		
Hire of ox-plough	UGX 25,000–30,000/day fee	UGX 30,000–35,000		
Casual work (town) –	UGX 15,000/day – wage for fundi	UGX 15,000		
construction	UGX 7,000/day – wage for helper	UGX 7,000		

## Table 48. Illustrative absolute losses of income due to COVID-19 for other diversified activities

Continued on next page

5 1 18					
Sale of household items –	UGX 50,000 profit/gross margin	UGX 20,000			
items sold at home and	per month				
village shops					
Production and sale of local	UGX 1,800/2.5 L	UGX 1,800			
brew					
Sale of ready foods	UGX 6,000–8,000 profit/ day –	UGX 2,000–3,000			
	mix of beans and maize				
	10,000/day profit – cassava chips	UGX 12,000–13,000			
Firewood/charcoal	UGX 4,000–5,000 – 1 basin	UGX 4,000–5,000			
	(5 basins = 1 sack) of charcoal				
Selling bricks	UGX 150/piece	UGX 120–130/piece			
Selling bamboo poles	UGX 20,000/20 pieces	UGX 30,000			
Sand	UGX 70,000 – large truck;	UGX 120,000 – large truck;			
	UGX 40,000 – small truck	UGX 80,000 – small truck			
Aggregates	UGX 110,000–120,000 – large truck;	UGX 110,000–120,000 large truck;			
	UGX 75,000 – small truck	UGX 75,000 small truck			
Stones	UGX 110,000 – large truck;	UGX 110,000 – large truck;			
	UGX 75,000 – small truck	UGX 75,000 – small truck			

#### Continued from previous page

In all districts, diversified activities take place more in the dry season. This implies that the impact of COVID-19 would be more disruptive if the restrictions continue into the upcoming dry season. However, those activities that are usually more active in the wet season have already recorded huge losses. These include the sale of sheep and goats, the sale of milk and honey, casual work in the gardens and the sale of Aloe vera. For instance, when going for casual work, people were being turned away, *"Go away, I don't want COVID-19 and cholera."*<sup>76</sup>

The middle-aged followed by the youth are the people who are most involved in diversified livelihood activities, and so these age groups are most affected by COVID-19 measures. Most livestock-based work involves men, most crop-based work involves women, and other diversified activities mostly involve women, meaning that women are already or will be most affected as other livelihood activities are interrupted by COVID-19. Also, the poor are most involved in other livelihood activities, meaning that the poor are already or will be most affected if other livelihood activities are disturbed by COVID-19.

Because of livelihood pressures, people found ways to avoid or manoeuver within COVID-19 restrictions—most diversified livelihoods were operating but minimally. Examples of important activities are:

- Livestock-based diversified livelihoods: sale of cattle, sheep, goats, chicken, pigs and livestock products such as milk, eggs and honey.
- Crop-based diversified livelihoods: sale of sorghum, maize and vegetables.
- Other diversified livelihoods: motorbike transport; casual work in gardens; casual work in towns; sale of household items; sale of local brew; mining; sale of *waragi*, firewood/charcoal and Aloe vera; sale of petrol; grinding mill; village savings and loans; sale of construction materials (poles, sand, gravel/ aggregates, bricks, bamboo); sale of ready foods; salon business.

#### 2.4 AVAILABILITY OF GOVERNMENT AND NGO SERVICES DURING COVID-19

In selected locations, people were asked about the provision of services and programs by government and NGOs (Table 49). There was a 25–100% reduction in availability of government and NGO services during COVID-19. Services that are usually more available in the wet season were highly affected.

<sup>76</sup> FGD, Loodoi village, Nadunget S/C, Moroto District, July 25, 2020.

Table 49. Community scoring of the impact of COVID-19 restrictions on availability of government and NGO services

Service		Location	Dry season score	Wet season score	COVID-19 wet season score	Change
1.	Health					
	- Distribution of mosquito nets	Abim-Geregere North	2	8	8	0
	- Routine immunization of children	Moroto-Lokaal	5	5	5	0
		Amudat-Loborokocha	5	5	5	0
	- VHT services, e.g., malaria treatment, awareness and training at community level	Abim-Geregere North	5	5	2	-3 (60%)
	- Distribution and access to nutrition kits	Abim-Geregere North	5	5	5	0
	- Transport vouchers for pregnant women	Abim-Geregere North	0	0	10	+10 (100%)
2.	Money for the elderly (Social Assistance Grants for Empowerment (SAGE)) program	Abim-Geregere North	5	5	0	-5 (100%)
3.	Road maintenance by government	Abim-Geregere North	9	1	1	0
		Amudat-Loborokocha	7	3	0	
4.	Water, Sanitation and Hygiene (WASH)					
	- Drilling boreholes	Abim-Geregere North	5	5	1	-4 (80%)
5.	Livestock services					
	- Vaccinations	Abim-Geregere North	3	7	2	-5 (71%)
		Moroto-Lokaal	4	6	0	-6 (100%)
		Amudat-Loborokocha	2	8	0	
	- Restocking with improved goats	Moroto-Lokaal	3	7	0	-7 (100%)
		Amudat-Loborokocha	3	7	3	-4 (57%)
6.	Loans from government	Abim-Geregere North	1	9	4	-5 (56%)
	(youth groups, etc.)	Moroto-Lokaal	10	0	0	0
7.	Formation of savings and loans groups	Amudat-Loborokocha	5	5	2	-3 (60%)
8.	Education					
	- Youth exchange programs	Abim-Geregere North	7	3	0	-3 (100%)
	- School materials: uniforms, bags, books, pens, pencils	Abim-Geregere North	0	10	3	-7 (70%)
	- Scholarships during school opening	Abim-Geregere North	10	0	0	0
9.	Northern Uganda Social Action	Moroto-Lokaal	10	0	0	0
	Fund project (NUSAF) cash-for-work activities: planting trees, opening inter-village roads	Amudat-Loborokocha (tree planting)	2	8	6	-2 (25%)

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## Continued from previous page

10. Agriculture	I	1	I	I	I
- Demonstration farms	Moroto-Lokaal	0	10	3	-7 (70%)
	Amudat-Loborokocha	0	10	0	-10 (100%)
- Distribution of tools: pangas,	Abim-Geregere North	2	8	0	-8 (100%)
hoes, ox-ploughs	Amudat-Loborokocha	7	3	1	-2 (67%)
- Distribution of seeds: beans,	Abim-Geregere North	1	9	17	+8 (89%)
cassava stems, green grams,	Moroto-Lokaal	0	10	0	-10 (100%)
mango and orange seedlings	Amudat-Loborokocha	0	10	6	-4 (40%)

# ANNEX I: SUPPLEMENTARY NOTES ON INCOME-GENERATING ACTIVITIES IN AMUDAT DISTRICT

Village savings and loans schemes: Fifteen to thirty community members, particularly women, form a group for savings and loans. In this activity, members meet after a period (e.g., on a weekly or monthly basis), each member contributes an amount per week/month to the savings kitty, members take loans and repay them after a period at a certain interest rate. Loans from these groups are instrumental for household emergency needs such as food, medical care and veterinary care, and play a role in empowering women economically. During COVID-19, groups are either minimally operating or stopped operating. Meetings are planned carefully due to restrictions on gatherings, and some groups have members from different villages. In some groups, activities have stalled due to capital being tied up in loans. People cannot repay the loans due to lack of money occasioned mainly by closure of livestock markets.

**Motorbike** (*bodaboda*) transport business: These used to carry 1–3 passengers per trip. They have been stopped from carrying people, and if found by police, they are arrested (and sometimes forcefully quarantined for suspicion of being Kenyans) and the motorbike is confiscated or retained. The motorbike and the rider are released when they pay an unofficial fee (bribe) of between Ksh 1,000 and 3,000 or when a local leader intervenes. There are also reports of unnecessary arrests, ones made when the motorbike is carrying goods alone. Due to these challenges and coupled with fewer customers, some motorbike operators have stopped operations. Those who still operate have developed tactics such as giving the motorbike to a relative or a friend who is an LDU or a policeman, since they are not stopped or arrested. The rest have moved to operating in Kenya.

Most of the motorbike owners are the well-off while most of the riders are the poor. The owner demands Ksh 2,500 per week, and the rest of the money accrued goes to the driver (wage), fuel and engine oil, and repairs. The business boomed on market days, especially in the dry season when there is a lot of trading, with the majority of traders coming from Kenya and Kapchorwa (Uganda). In the wet season, income is restricted by poor roads and people being preoccupied by garden work.

<u>Maize sales</u>: In some areas, women own and control the sale of maize (e.g., Napao village, Amudat Sub-county) while in others, women grow but men sell (e.g., Nagoliet village, Kongorok Sub-county). There are differences between villages in the peak sales period. In some, sales peak in January/February (e.g., Napao village, Amudat Subcounty) while in others sales peak in March/April (e.g., Nagoliet village, Kongorok Sub-county). The income from maize sales is saved to purchase agricultural inputs in the next cultivation season, pay school fees, restock (with calves, goats), and buy foodstuffs that are not locally available (including other household commodities). Maize sales are higher in the dry season. In the wet season, stocks are low and mainly reserved for household consumption. Stocks will only be sold if the household is having an emergency. Proportionally, the poor sell more of their harvest compared to the well-off. Maize is the main source of income for the poor. The well-off buy from the poor and stock for times with better market prices. Later, they even sell to the poor at a higher price.

Sale of vegetables: Commonly sold vegetables are sukuma wiki, cabbages and amaranthus. Business boomed on market days, especially in the dry season. Producers sold directly to final buyers. On non-market days, traders on motorbikes bought vegetables from the gardens/villages. In the wet season, buyers are fewer. Most production is done by the well-off (who can buy seeds). The poor are also interested in the business but lack capital. With COVID-19, producers and traders are registering minimal or no sales due to closure of market days and movement restrictions (for people and motorbikes).

**Cattle marketing and trade:** High sales and prices were registered during market days in the dry season when there are many external traders and when many producers are selling for school fees. In the wet season, producers rarely sell. They sell at lower prices (if they have an emergency) to local traders who aim to rear and sell in the dry season. Contrary to the held opinion that the well-off rarely sell, there is a new generation of well-off producers who destock profoundly in the dry season (they mainly sell bulls and older cows) at higher prices and restock intensely in the wet season (they buy many young animals at a lower price). Traders take advantage of low cattle prices in the wet season. They buy, rear (including castrating) and target to sell in the dry season when prices are higher.

<u>Sheep and goat marketing and trade</u>: This trade mainly involves the youth and the poor due to low capital outlays. Producers sell more sheep and goats in the wet season albeit at lower prices, mainly to get income to facilitate farming activities (hiring labor, hiring a tractor, buying seeds and tools). Local traders take advantage and buy these shoats at a lower price, rear them, and sell them in the dry season when prices are higher. In the marketing of sheep and goats, there is a mismatch between producer peak sales and better prices.

#### ANNEX I

<u>Casual work in towns</u>: This includes working in a restaurant (washing utensils or serving food) and working in a shop (e.g., selling goods for wholesalers on a market day). This wage labor booms in the dry season, especially on market days. In the dry season, people are also free from garden work. During COVID-19, this IGA has stopped because it was highly dependent on market days.

**Casual work in gardens:** Activities in the wet season include digging, planting, weeding and harvesting while farming activities in the dry season include clearing and fencing of gardens. The dry season activities mainly involve men while wet season activities mainly involve women.

Sale of petty household items: These include sugar, soap, salt, soda, cooking oil, milk, clothes. Petty traders get these items from wholesale traders on credit and sell in the villages and on market days. This business does well during market days in the dry season because of high cash availability in the population (income from livestock sales) and high demand for foodstuffs (little or no milk in the villages because animals have migrated). In the dry season, commodities are also highly available and at lower prices. In the wet season, households commit most finances to farming activities and thus can mainly acquire foodstuffs for home use on credit. Due to COVID-19 restrictions, this business is now either closed or minimally operating. Besides the usual seasonal challenges (limited flow and low availability of commodities in the wet season due to poor roads), access to commodities during COVID-19 (wet season) is further hindered by scarcity of motorbike transport (consequently leading to high transport costs) and high unofficial fees (bribes) paid at the multiple roads blocks amounting to between Ksh 1,000 and 5,000. Currently, most business capital is tied in credit sales, which is a common trend in the normal wet season but has been worse in the COVID-19 wet season. It has led to closure of some shops. Creditors are worried about recovering debts in the dry season if COVID-19 restrictions on livestock markets continue.

Sale of ready foods: This IGA includes sale of foods such as tea and *githeri*, among others, mainly on market days. This business also takes place at the villages situated along the main roads. Food vendors acquire commodities on credit from wholesale traders and pay for them at the close of the market day. This business was highly dependent on market days. Most vendors are now not operating (during COVID-19) due to closure of market days.

Sale of milk: This IGA includes both fresh and sour milk. High sales were on market days in the wet season due to high availability of milk. Some sales were also done on non-market days but at the same price as on market days. The main buyers were people living in main towns as well as visitors to the market days. Proceeds from milk and ghee were used to buy small household items such as salt and veterinary medicines. During COVID-19, only villages closer to town centers can sell milk but with difficulties related to access (i.e., fear of being arrested and/or quarantined, fear of contracting COVID-19) while most remote villages have stopped selling milk despite the excess in this wet season.

Sale of chicken and chicken eggs: This IGA was highly dependent on market days and has since been affected by market closure. Producers currently sell under distress and at lower prices, and rarely access towns due to movement restrictions. People are now losing most chickens to diseases. Before COVID-19, these losses were either minimized or avoided through sales. The business boomed in the dry season (especially in December), with most chicken buyers coming from Kenya and Kapchorwa (Uganda). Some sales were also realized on non-market days but at the same price as on the market days.

**Honey:** Sales are high in the wet season due to high availability. Buyers mainly come from Kenya. In this wet season of COVID-19, producers sell to local traders at a lower price; Kenyan traders are not coming.

<u>Sale of firewood and charcoal</u>: Sales are high in the dry season when demand for income/food rises. In the dry season, firewood/charcoal are drier/lighter and easy to carry on the head over long distances, and are also easy to cut/ burn. In the wet season, people are busy in their gardens and also earning income from casual work in the gardens. Thus, they are rarely involved in this activity.

Aloe vera: Sales are high in the wet season due to high availability. In the wet season, the plants have a higher water content, and it takes three days to harvest 10 liters of Aloe vera. In the dry season, it takes one month to harvest the same quantity. However, the quality is good in the dry season (low water content) compared to the wet season but prices remain the same. Buyers mainly come from Kenya.

**<u>Grinding mill</u>**: This business does well in the dry season because there is plenty of maize to grind. During COVID-19, the numbers of people visiting the grinding mill are restricted. This coincides with a decline in maize stocks. Prices of engine oil have increased, and engine oil is difficult to access.

**Petty petrol business:** This business does well in the dry season. Motorbikes are busier in this season. During COVID-19, the majority of petrol vendors have closed the business due to lack of buyers.

<u>Village shops</u>: During COVID-19, there is reduced or no supplies to village shops, with some shops being closed due to problems with travel to towns to purchase commodities. These shops are well-stocked in the dry season when income from livestock trade is higher (specifically, between July and December).

## ANNEX 2: SUPPLEMENTARY NOTES ON INCOME-GENERATING ACTIVITIES IN ABIM DISTRICT

#### Savings and loans

- By-laws have been temporarily adjusted, e.g., attend only if you have monthly contribution or repaying a loan. Attendance is restricted to avoid overcrowding.
- No money to save—cannot sell an animal or agricultural products; limited income from wage labor in gardens.
- Weekly savings reduced from UgX 10,000 to 5,000.
- Loan payback period doubled, e.g., from three to six months.
- Penalties for non-attendance or late attendance of meetings have been suspended.
- Stopped meetings.
- No monthly savings.
- Most capital on loans.

#### Motorbike transport business

• Most motorbike drivers are sons of the rich and the middle class. This is a surety/collateral against possible problems such as non-remittance of money from the business or sale of a motorbike.

#### Sale of charcoal

- National Forestry Authority (NFA) together with the District Local Government have outlawed cutting of trees.
- Sell more charcoal in the wet season—produce highquality (big particles) charcoal compared to dry season.
- Sales now affected during COVID-19: outside buyers (e.g., from Mbale and Soroti) not coming; demand from teachers now not there because schools have closed; hunger means no energy to cut big trees.

#### Casual work in town

- This mainly involves working in construction sites, mainly in dry season, because there is reduced or no garden work. Also, most construction takes place in the dry season.
- COVID-19 time—construction work is further reduced because people do not have money. Also, construction items from Lira and Soroti are not coming due to lockdown.

#### Casual work in the gardens

- Wet season—weeding, planting, harvesting.
- Dry season—clearing of gardens.
- Mainly done by women because:
  - o Most families are polygamous and women have to make an additional effort to provide for the family and support farming activities.
  - o Women think mainly of basic household needs while men spend some of the family income on alcohol.
  - o Most women in the villages do not have salaried jobs.

#### <u>Production and sale of local brew in the villages</u> (*Kwete*)

- Produce and sell more in the dry season—plenty of sorghum and also cheap.
- Prices of sorghum are higher in the wet season but the price of *Kwete* remains the same.
- COVID-19 time—people rarely brew and only allow take-aways.

#### Sale of ready foods

• These include cassava chips and a mix of beans and maize.

#### ANNEX 2

- Some ready foods are highly profitable in the dry season (e.g., cassava chips and mandazi) while others are profitable in the wet season (e.g., a mix of beans and maize)—high demand by casual workers in the gardens in the wet season.
- COVID-19 time—reduced margins—people fear to buy for fear of contracting COVID-19; difficult to get as well as high prices of ingredients (maize, beans and cassava) due to closure of markets; low purchasing power.

#### Sale of chickens

- a. Oliabong, Kiru Town Council
  - Buyers many during market days.
  - COVID-19 time—bought by people in towns; also those in the villages for production.
- b. Abuur village, Nyakwae S/C—price of chickens has decreased.

#### Sale of milk

- Main buyers—people in town centers (mainly those in employment).
- Prices of milk higher in the dry season (Abuur village, Nyakwae S/C).
- COVID-19 time—lower prices—low demand (buyers are fewer).
- Mainly sold in the wet season because of high availability.
- Reduced milk sales since FMD quarantine in November 2019.
- Men do the milking of animals and selling of milk. *"Youth see it as shameful to sell milk"* (Baatanga Central, Lotuke Sub-county).

#### Sale of cattle

- Few people own cattle.
- Cattle mainly reserved for ploughing and sale for school fees.

• The decision to sell a cow is consultative between family members but the animal is taken to the market by a man or a trusted youth. There is a community practice that *"women should not participate in selling of an animal with four legs"* (Baatanga Central, Lotuke Sub-county).

#### Sale of sheep and goats

• The decision to sell a goat is consultative between family members but the animal is taken to the market by a man or a trusted youth.

#### Sale of household items (village shops)

- Active in the dry season—no garden work—shop owners can concentrate on business; passable roads—easy to resupply shops; high demand for foodstuffs from locals coming back for Christmas holidays as well as closure of schools.
- COVID-19 time—poor supply (high cost of transport); low demand (no money and increased prices); closure of markets (wholesalers not coming); prices of certain foodstuffs increased at the source, e.g., price of 1 kg of beans increased from UgX 2,500 to 4,400 (not profitable to sell).

#### Brick making

- Common in the dry season—no rain that can spoil bricks; use school children (December–February) to fetch water for moulding bricks—a source of school fees; sell mainly in February for school fees; no garden work in the dry season; most construction takes place in the dry season.
- COVID-19 time—no sales—people do not have money.
- The poor are the laborers while the owners are the rich and the middle class.

#### <u>Pigs</u>

- a. Umlonge West, Morulem S/C
  - Sell more in the dry season—die more in the dry season due to heat stress and a circling disease. So, sell to avoid losses.
  - Rarely sold in the wet season—under production and growth. Only sell to a neighbor who wants to rear. Mainly sell young ones to neighbors at UgX 50,000.
- COVID-19 time—only sell to neighbors or slaughter for sale.
- b. Abuur village, Nyakwae S/C
  - Sell more in the wet season—rarely tied and destructive to gardens (so, sell); most diseases occur in the wet season (sell to avoid losses); sell because of hunger.
  - Main buyers—from neighboring Teso region.
  - COVID-19 time—buyers from Teso region still come for pigs.
- c. Baatanga Central, Lotuke S/C
  - Women also involved in the sale of pigs, particularly piglets, but older pigs are sold by men.
  - Widows have the authority to sell pigs but in consultation with the elder son.

### Selling bamboo

- Common in dry season (November-February).
- Easy to cut from the mountain-reduced bushes.
- Matures in the dry season.
- Construction of grass-thatched houses mainly takes place in the dry season.
- A major IGA in the dry season.
- COVID-19 time—reduced.
- External buyers not coming due to closure of market.
- Still premature—wet season.
- Mountains are slippery—wet season.
- Concentrate more on garden work-wet season.
- No construction of local huts-wet season.
- Harvest both bamboo and grass at the same time—wait for the dry season.
- Hunger—no energy to climb the mountain— COVID-19 situation.
- Harvested from far—distance.

### Selling sand, aggregates, stones

- Mainly in the dry season.
- No garden work—concentrate on breaking stones.
- Sand—easy to pick in the dry season—roads are passable and valleys are dry—sand is found on private land.
- Most construction takes place in the dry season high demand.
- Aggregates and stones—cannot pick/break in the wet season because it is bushy and snakes are many.
- Price of sand increased because it is on private land.
- Reduced demand for aggregates and stones—no money in circulation; buyers from outside not coming because of lockdown; community members have shifted most of the money to farming.

# ANNEX 3: SUPPLEMENTARY NOTES ON INCOME-GENERATING ACTIVITIES IN MOROTO DISTRICT

### Savings and loans

- Poor loan repayment due to lack of money occasioned by closure of markets.
- No savings due to lack of money.
- Cannot repay government loans—loans given to youth and women's groups through the community-based services office.
- Bought animals with group money—lost some of the animals to raids and diseases.
- No money in the box—i) people not submitting contributions due to lack of money; ii) most money in loans—people not repaying loans due to lack of money.

# Motorbike transport business

In Nalukangor village, Tapac Sub-county:

- Sometimes arrested even when they are not carrying someone or commodities. The motorbike can only be released when a driver pays a bribe of UgX 80,000.
- If not arrested, you pay a bribe of UgX 15,000 at the Kenyan border roadblock and UgX 10,000 at any roadblock within Tapac Sub-county. If without a number plate, you pay UgX 40,000 at each roadblock. Three roadblocks have been mounted between the Kenyan-Tapac border and Moroto town.
- More harassed if motorbike has a Kenyan registration number—with the claim that you are a Kenyan and have COVID-19.
- Police do not harass if you carry an LC1 or a sick person referred to Moroto referral hospital.
- A motorbike operator is paid through a voucher of UgX 25,000 per person when they carry a woman in labor pains to Tapac health center.
- Business does well in dry season because of passable roads. In the wet season, they mainly carry luggage. Customers are many in the dry season because they are not preoccupied with garden work and livestock markets are booming.

• Most motorbikes are owned by the well-off. They use proceeds to buy veterinary medicines, restock their herds. Most riders belong to the poor wealth group. They however also buy motorbikes using savings from their salary. The community also contributes for them to buy a motorbike.

# Sale of firewood and charcoal

- Limited sales during COVID-19.
- Sellers were harassed (chased and turned back) by police in the first two weeks of lockdown. Nevertheless, people did not stop selling firewood and charcoal because of hunger.
- People stopped from selling charcoal in town—were arrested.
- Another factor restricting the sale of firewood/ charcoal is insecurity—cannot go to the bush to collect firewood or burn charcoal.
- Prices drop in the dry season due to high supply.
- Forced to sell cheaply to escape police harassment during COVID-19.
- Non-Karamojong buyers who used to offer better prices left during COVID-19.
- Insecurity restricted access to the bush to burn charcoal; the foreign buyers in Moroto town went back home. Much reduction of prices from the usual prices in the wet season, e.g., a sack of 50 kg is sold at UgX 5,000 to 7,000 (COVID-19 time in Moroto town) compared to the usual prices in the dry (UgX 6,000–8,000) and wet season (UgX 13,000– 15,000).

# Casual labor in town

- During COVID-19, people feared to go for casual work in town for fear of contracting COVID-19 and cholera but were forced to go by circumstances such as hunger.
- People chased by employers: *"Go away, I do not want COVID-19 and cholera"* (Loodoi, Nadunget Sub-county, July 25, 2020).

# Production and sale of local brew in the villages

- During COVID-19, production (*Akichii*) stopped or was reduced in the villages due to lack of money to buy sorghum (main ingredient).
- Produced with maize—now can't afford maize (Nakonyen, Tapac Sub-county).
- Prices of sorghum (main raw material) have increased, in turn leading to reduced profits.

### Purchase of local brew (from town) for sale

- Carried on bicycles—difficult in the wet season due to slippery roads.
- COVID-19 time—bought at night during lockdown.

### Sale of chickens

- No sales.
- Chickens killed by diarrhea—would have been salvaged if the markets were open.
- Chickens not liked by livestock keepers—they burrow and collapse livestock enclosures (Nakonyen, Tapac).
- Nakonyen—now only sell in Kosuroi (site of marble mining) and Tapac town center. Before COVID-19, buyers on motorbikes came to purchase at village level. High sales during Christmas.

# Sale of milk

- Reduced milk production—animals in protected kraals since February 2020 because of insecurity that started around September 2019. Still milking two times a day but the timing has changed from 7 pm or 8 pm (evening) and 5 am (morning) to 4 pm to 5 pm or 6 pm (evening) and 7 am or 9 am or 10 am (morning)—this affects milk yields.
- Protected kraals are far from villages—milking done by herders. Older children are sent on daily basis to bring milk from kraals. Due to distance, there is shortage of milk in the villages. The number of people buying milk in the villages (for children) due to milk shortages from own animals has increased amid the low purchasing power resulting from closure of livestock markets during COVID-19. Fearing to take children to protected kraals because of insecurity.

- In some villages (e.g., reported by Kotaruk village, Nadunget Sub-county), the level of **child malnutrition** has increased to a level above (scoring now: 10 stones) that in the normal dry season (scoring for normal dry season: 8 stones; normal wet season: 2 stones). The number of children who qualify for nutrition kits has increased. Currently, there are many cases of diarrhea (both in children and adults) due to overdependence on wild vegetables.
- Other effects of protected kraals—increased livestock deaths due to diseases; high calf death due to mixing with adults (overcrowding and calves stepped on); unexplained disappearance of animals.
- Sale price of milk in Moroto town has increased due to scarcity—to UgX 500 per 0.5 L (reported by Kotaruk village, Nadunget Sub-county).
- Proportionally, most milk buyers are the town dwellers. The few milk buyers in the villages are mainly the poor.
- Milk buyers during COVID-19—fewer because of lack of money. Milk is also less available due to protected kraal system (including reduced livestock numbers due to livestock raids and diseases).
- Milk availability also reduced by reduced livestock numbers—lost animals to raids and diseases.

#### Mining

- a. Marble
  - Minerals mined: Kosuroi (Tapac Sub-county) is marble; Nakabaat (Rupa Sub-county) is gold.
  - Mining sites closed for two months. Activity later resumed but the number of lorries loaded with marble reduced from 20–25 in the normal wet season to 5–8 lorries during COVID-19. Consequently, total income accrued reduced.
  - People relying on the activity in Korusoi mining site—34 registered groups of 30 people each and a countless number of casual laborers.
  - Total income accrued in the dry season is highermany lorries access the site due to better road accessibility; miners less involved in garden work and focusing more on mining; stones become slippery in the wet season-work becomes difficult.

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- More women than men involved.
- People of different origins involved—people from Karamoja sub-region in Uganda, people from other parts of Uganda, Congolese, Rwandese, South Sudanese, Kenyans.
- b. Gold
  - Gold mining sites were closed. People were asked to leave the mining area. A lot of property was left behind or lost. People faced hunger—do not have alternative livelihoods or homes to return to. People who come from other parts of Uganda and other countries were stranded. They could not enter Moroto town due to suspicion of being from Kenya and having COVID-19—they were stigmatized.
  - Only sell in Kampala—could not travel to sell.
  - Additional importance of gold buyers was that they gave cash credits/loans to people.
  - Price per gram reduced from UgX 150,000 to 100,000 during COVID-19 lockdown—could not travel to Kampala to sell.
  - Gold available in the dry season when water for processing is scarce. Can buy about 1 kg of gold in a week. Also buy gold from mine sites in Kenya—Lopuke, Nakoriyek, Namoruputh.
  - Men dig while women do the processing.
  - Other businesses such as sale of household items are also dependent on gold business—they were equally affected during COVID-19 lockdown. Gold mining is the main livelihood activity in the area.

# Waragi (Kosuroi, Tapac)

- Supplied from outside Karamoja.
- Characterized by a long supply chain from the source to the remote villages. The vendors are differentiated according to quantities sold—20 L, 10 L, 5 L, 3 L, 1.5 L. The wealth group involved—the well-off trade in bigger quantities while the poor trade in smaller quantities.
- Main distributors sell about 200 L a day.
- 20 L jerrican (*Eduduma*)—buying price increased from UgX 110,000 to 120,000; profit—UgX 40,000.

- 10 L (*Emukwano*)—buying price—UgX 60,000; profit—UGX 10,000.
- 5 L jerrican (*Edingding*)—costs UgX 30,000; profit—UgX 4,000.
- 3 L (*Engachani*)—buying price increased from UgX 15,000 to 20,000; profit—UgX 2,000-3,000.
- 1.5 L (*Emorosio* or Rwenzori)—buying price—UgX 10,000.

