



Review of Trade and Markets Relevant to Food Security in the Greater Horn of Africa

A special report by the Famine Early Warning
Systems Network (FEWS NET)

June 2007

This publication was authored by Thomas Awuor under the United States Agency for International Development Famine Early Warning Systems Network (FEWS NET) Indefinite Quantity Contract, AFP-I-00-05-00027-00, managed by Chemonics International. Funding for this report was drawn from FEWS NET's Surge Fund, provided by the USAID Bureau for Democracy Conflict and Humanitarian Assistance and its Office of Food for Peace.

Review of Trade and Markets Relevant to Food Security in the Greater Horn of Africa

A special report by the Famine Early Warning
Systems Network (FEWS NET)

DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
1.0 INTRODUCTION	3
2.0 LIVESTOCK TRADE AND FOOD SECURITY	4
2.1 LIVESTOCK TRADE ALONG SELECTED BORDERS IN THE GHA	5
2.2 SUMMARY OF STRUCTURE, CONDUCT, AND PERFORMANCE	11
2.3 FEATURES OF GHA LIVESTOCK TRADE RELEVANT TO FOOD SECURITY	15
3.0 AGRICULTURAL CROP COMMODITY TRADE AND FOOD SECURITY	18
3.1 TRADE OF PRIMARY AGRICULTURAL FOOD CROP COMMODITIES	23
3.2 SUMMARY OF STRUCTURE, CONDUCT, AND PERFORMANCE	35
3.3 FEATURES OF FOOD CROP TRADE RELEVANT TO FOOD SECURITY	43
4.0 GAPS AND WAY FORWARD	45
4.1 DEVELOPMENT OF MARKETING AND VALUE-ADDED CHAINS	45
4.2 DETERMINATION OF TRADABLE SURPLUS	45
4.3 APPROXIMATING THE VOLUME OF TRADE WITHIN THE GHA	46
4.4 IDENTIFICATION OF KEY MARKETS FOR PRICE ANALYSIS	46
5.0 CONCLUSION	47
REFERENCES	48

EXECUTIVE SUMMARY

The food security situation of a given country within the Greater Horn of Africa (GHA) is influenced by both national and external markets including the movement of people, produce, livestock, and consumer goods. Policies that originate from within and outside the region and govern or influence these flows have had significant ripple effects on countries within GHA and the food security status of some populations. Insufficient knowledge of market networks, cross border trade, the variables and relationships underlying food commodity prices, and the impacts of prices on food access have created some serious analytical challenges for the early warning and response communities.

In the GHA, there is a need to understand more about the structure, conduct, and performance of markets for cereals, other crops, and livestock, which are important to food security. Knowledge about market networks and integration in the GHA countries and trading with their neighbors is limited. There is a need to identify key markets and commodities handled and understand commodity flows and major constraints, particularly in cross-border areas. Such an understanding will provide context for food security assessments, analysis, and response planning.

The objective of this study is to summarize in a systematic way, and with a food security lens, the current knowledge base on the trade and marketing of food crops and livestock within the GHA. This includes an understanding of market networks such as Kenya-Somalia-Ethiopia, Ethiopia-Sudan-Eritrea, Uganda-Kenya-Tanzania-Rwanda and Djibouti-Ethiopia. The review would also determine critical gaps in the knowledge base concerning GHA regional market networks, cross border flows, and the variables and relationships underlying price determination of commodities relevant to food security of the GHA and, in particular, those gaps that have a bearing on the potential of markets to alleviate the effects of external shocks on livelihoods.

The review focuses on commodities (produce and livestock) markets most relevant to food insecurity and vulnerable populations of the GHA such as cereals, livestock, and cash crops that are important to livelihood strategies. While the focus is on food security in GHA, the review also includes studies of trade and markets that have a bearing on the GHA, e.g., Middle Eastern livestock markets and food commodity markets in neighboring countries in Africa.

The study was based on a literature review, collection and analysis of market data, and a number of key informant interviews. The coverage of the study is somewhat reduced from the original scope of work due to a lack of information. For example, there was very little written information available on Sudan and hence the coverage of Sudan is extremely limited.

Cross-border livestock trade takes place because there is an excess in supply in the source country and markets close to border in the neighboring countries. Regional trade is high between countries with no significant overseas markets and where conflict has reduced the number of livestock traded domestically. The volume of livestock traded within a season is dependent on availability of pasture and water.

Prices between some markets are not spatially integrated and intervention in one market may not necessarily induce significant changes in another market across the border. Also, there is high volatility in primary, secondary and terminal market prices. Terms of trade is a critical indicator linking livestock trade and food security.

Cross-border trade agricultural crop commodity in the GHA is mostly between two neighboring countries. Multi-country import is common in Kenya, which receives beans from Rwanda and maize from Malawi and Zambia. Maize is the most traded commodity in the GHA followed by beans, rice, sorghum and bananas. Millet and cassava are the least traded commodities in the GHA. Teff production and trade is limited to Ethiopia and Eritrea, apart from exports to immigrant communities from these countries in neighboring states.

To understand the impact of regional trade on food insecurity, it is important to monitor trade related indicators relevant to food security. These include terms of trade; prices in primary, secondary, and terminal markets; the percentage of prices received by producers; the direction, volume, mix, quality and timing of commodities traded; and the structure, conduct and performance of the industry. To improve the monitoring of main indicators of trade relevant to food security in the GHA, it is necessary to document marketing chains, estimate marketable surpluses, approximate the volume of unrecorded trade, and identify the key markets whose prices should be monitored.

1.0 INTRODUCTION

Historical, cultural, economic and agro-climatic factors link the food security of the Greater Horn of Africa countries¹. Food and livestock are moved across borders in search of better market outlets, animals are moved across borders to take advantage of better pasture and water, and people move across borders in search of better security or economic opportunities. Governments of the region have acknowledged the existence and the extent of these cross-border linkages; although, they sometimes attempt to restrict trade in livestock and food crops along some of the borders. These attempts are rarely successful, but they serve to increase transaction costs, lower prices received by primary producers, and increase final prices paid by consumers. In most cases, cross-border² trade is deemed “unofficial” and never appears in published trade statistics. Attempts to quantify this unofficial trade for several important borders have revealed that its magnitude often exceeds “official” trade (Akello-Ogutu, 1997; RATIN data, 2005). This document focuses on both official and unofficial cross-border linkages that have an impact on food security.

The document summarizes the current knowledge base on the linkage between food security and trade of food crops and livestock between countries of the Greater Horn of Africa (GHA). The coverage is unequal due to differences in the availability of secondary data and information (e.g. Sudan in general and certain market chains in Ethiopia). In most cases, the linkages cannot be quantified absolutely, but the importance of the linkage to the food security of people on either side of a border can be described. Even when data are available, a key feature of cross border linkages is the enormous inter-annual variation, depending on security and government policies, as well as rainfall, production and price patterns on both sides of the border. Therefore, unless “hard” data are collected continuously, the flexible nature of cross border linkages may not be captured.

¹ Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, Sudan, Tanzania, Uganda

² Here cross-border trade we mean informal, unregistered trade.

2.0 LIVESTOCK TRADE AND FOOD SECURITY

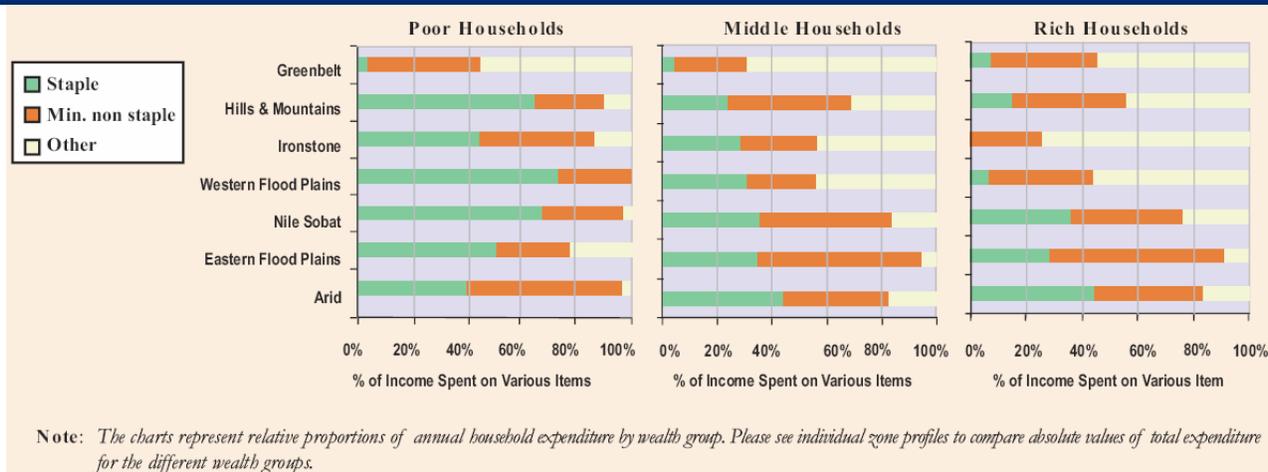
Cross-border trade affects the food security situation in the border areas in one or more of the following ways. First, cross-border trade broadens available market outlets for commodities produced in the area and pastoralists benefit from a wider market and increased demand for their animals. Second, people consume food items produced and/or transshipped from across the border that cannot be supplied as cheaply through domestic production. Items produced domestically are often unavailable and/or can be more expensive than their imported substitutes. Third, cross-border trade widens employment opportunities in zones of chronically high unemployment. Fourth, where alternative employment are limited, people may engage in cross-border trading, in order to earn income to purchase food (Little, 1996); although, returns are not always attractive, and at such times, trading is considered a last resort.

In the past livestock provided the fundamental basis for wealth and status for pastoralists and a critical source of milk and meat (Aklilu et al. 2002). Only a small number of animals were traded to guard against future losses and protect wealth status within the community. In addition, there was little connection between pastoral livestock production and the rest of the economy in most countries in the GHA. Over time, livestock production in pastoral areas has become integrated with the broader economies of countries in the GHA, and the integration of pastoral communities into the broader economy has expanded the size and variety of pastoralists' wants, resulting in more animal sales for school fees, consumables, etc.³ Also recurrent drought has forced more pastoralists to embrace trade as a management tool to adjust excess stocks, instead of a distress coping strategy only. Among the pastoral communities in the GHA, there is a higher level of integrated production and marketing of livestock among the Somalis (Kenya and Somalia) compared to the Afars (Ethiopia), Turkana (Kenya) and Western Sudan tribes like the Toposas. In terms of marketing strategies herders have several options at the onset of a drought. If the March-May rains do not come by early April, they can either sell some livestock immediately-probably fetching a relatively low price because of the poor condition of their animals after the long dry season; dispose of small stock first to maintain their cattle and camel assets; continue to graze their animals or move them to another grazing area and hope that the rains arrive; and/or make plans to move animals to markets across borders where livestock prices are higher. Since herders' diets are mostly composed of grain by the end of the dry season, the price of grain has an important effect on a herder's decision to sell.

A critical food security indicator associated with cross-border livestock trade is the terms-of-trade between what herders receive for their livestock and what they must pay to purchase grains or flour. Real income to the pastoralists is a function of their sales (livestock) and their major purchases (grain). Despite expanded needs, the combined purchases of maize grain and flour account for the largest expenditure item among pastoral livelihoods (FEWS NET GHA Livelihood Profiles). Figure 1 provides an example of the expenditure patterns of various wealth groups within different livelihood zones in Southern Sudan. The percentage of income used to purchase staple food by the poor in all livelihood zones, especially pastoral and agro-pastoral communities, is high. This is typical of other GHA countries. In this figure, the pastoral regions include Hills and Mountains, Western and Eastern Flood Plains and Arid areas.

³ Sugar, tea, rice and electronics are popular consumable items among the Somalis

Figure 1: Expenditure patterns by livelihood zone in southern Sudan, 1999-2002



Source: Southern Sudan Livelihood Profiles

During the dry season, pastoralists shift their consumption from livestock products to grain, which is paid for by income from animal sales. At this time of the year, livestock markets are characterized by a large supply of animals in poor condition, while increased demand for grain drives food grain prices higher. These market dynamics significantly decrease pastoralists' purchasing power, measured by terms of trade.

Drought, floods, trade bans and conflict adversely affect livestock trade, weakening the ability of pastoralists to purchase food, therefore, compromising their food security status. Terms of trade as an indicator of food security is a very dynamic and can vary drastically within a relatively short period of time in the Greater Horn of Africa.

Prices of livestock and grain vary seasonally and generally in opposite directions. When livestock prices drop towards the end of a dry season because of weight loss and other factors, grain prices tend to rise because of shortages and increased demand. When there is drought, the terms of trade for grain against livestock worsens as livestock prices fall further vis-à-vis grain prices. It should be noted that livestock prices show strong seasonal variations and fluctuate significantly during any single year. Nonetheless, based on available data, livestock prices in the border regions show considerably less volatility than prices for grains and cereal products.

This relationship, however, is not always as straight forward and rigid and should be applied with caution. In Ethiopia, due to seasonal variations between grain and livestock production, the relationship is more complex and variable. The major harvest in Ethiopia falls between October and January when the pastoral minor rainy season is on-going. At this time, under normal conditions, the typical scenario is lower grain prices as a result of harvest and lower livestock prices. On the other hand, at the end of the pastorals major *gu* season in June/July, grain prices have started to reach their seasonal peak as this is the typical hunger period for major crop producing areas. But, it is also a period when forage is getting scarce in pastoral areas and body condition is deteriorating, which implies lower prices. So, different season patterns in different parts of the country play a significant role in determining the prices of these two key commodities and hence the terms of trade between to them.

2.1 LIVESTOCK TRADE ALONG SELECTED BORDERS IN THE GHA

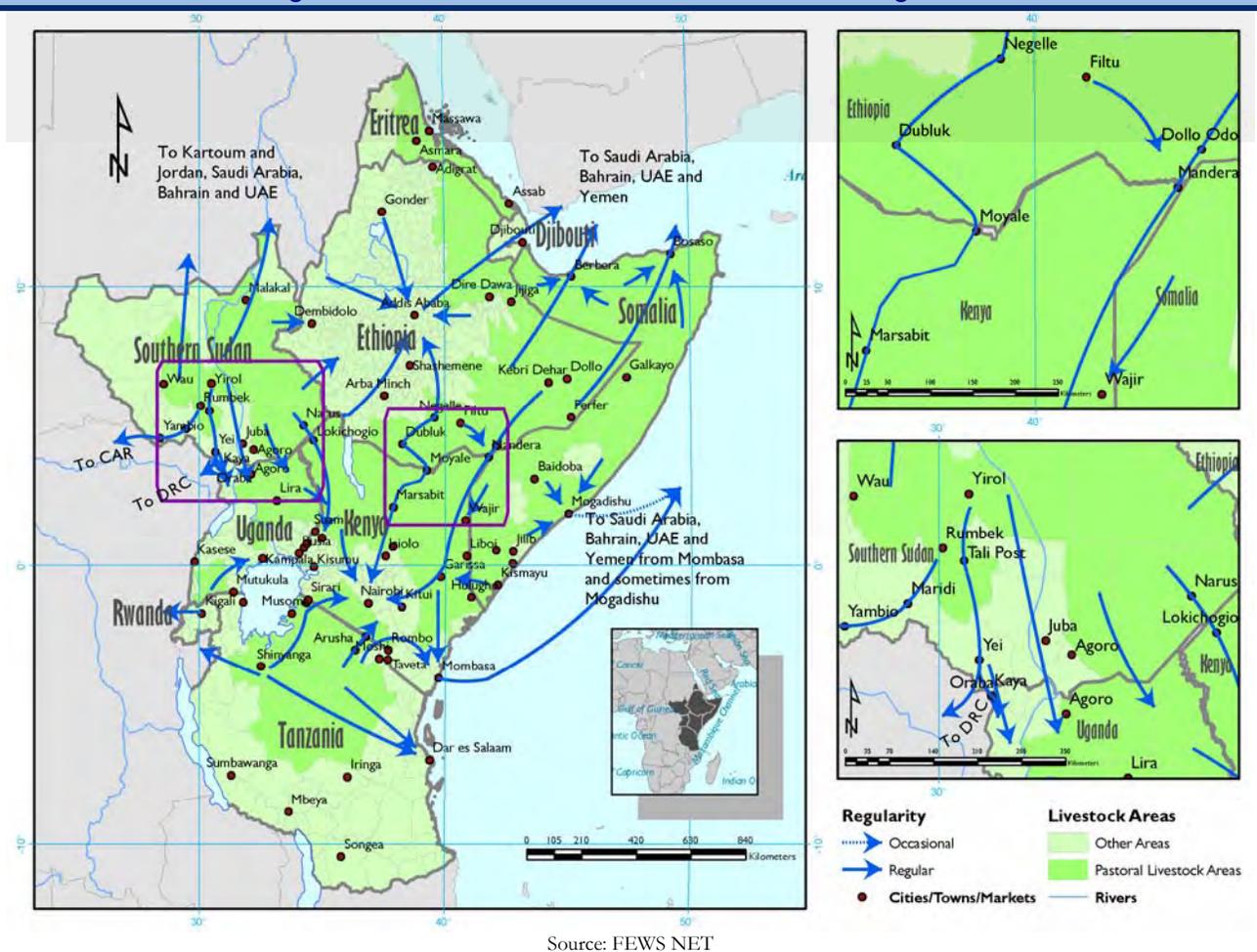
Cross-border livestock trade takes place in the GHA for various reasons including the existence of excess supplies in a source country and the proximity to cross border markets relative to domestic markets. For example, livestock from the pastoral areas of Ethiopia are squeezed out of the domestic markets that are dominated by large supplies of animals from the highlands are marketed in Kenya and Somalia. Cross border trade links are also strong between neighboring countries without significant international markets such as Kenya and Ethiopia. Disruptions in overseas export trade as result of bans on imports also increase the

volume of intra-regional trade. The economic impact of the ban on livestock imports from the GHA by Saudi Arabia between February 1998 and May 1999 and again in late 2000 and due to a Rift Valley Fever (RVF) outbreak in Kenya and Somalia was massive. The volume and value of livestock exports from pastoralists in Somaliland, Somalia, Region V of Ethiopia, and Eritrea tumbled. Exports through the port of Berbera in Somaliland dropped from nearly three million head in 1997 to just over one million in 1998, and the value of lost export earnings was estimated at around \$100 million. Prices of livestock fell by around 30 percent in Eritrea, Ethiopia, and Somalia as a result of the ban. Other countries in the GHA included in the ban were only marginally affected, as the Gulf was not a significant importer from these countries.

Civil strife also affects the domestic and overseas livestock export markets, redirecting supplies to regional markets. For example, Little et al (2001) observed a ‘boom’ in cross-border livestock trade along the Somalia/Kenya border, with the aggregate value of cattle sales in Garissa, Kenya growing by an astounding 400 percent between 1991 and 1998 after the fall of the Somali government. In terms of volume, sales rapidly grew from 24,395 in 1989 to more than 100,000 cattle in 1998⁴.

Cross-border trade between South Sudan and Kenya and between South Sudan and Uganda takes place because of the proximity of surplus and deficit markets across borders. Figure 2 is a summary of the main livestock trading routes in the GHA.

Figure 2: Greater Horn of Africa main livestock trading routes



Source: FEWS NET

⁴ Where data is used this should be taken as indicative of the situation in most years unless stated otherwise.

2.1.1 Southern Ethiopia-northern Kenya

The lowland pastoral areas in southern and eastern Ethiopia cover about 61 percent of the total area of the country. Pastoral areas represent 12-13 percent of the total population whose livelihoods depend on raising livestock. The lowland pastoral areas account for 25-30 percent of the national livestock population (Beruk, 2005). In the highland areas, cattle are mainly kept for farm draft power and milk production, small ruminants for occasional sale, and equines for transportation. Few animals are kept for sale due to the small size of land parcels. Crops are a major source of income. In the pastoral lowlands, animals are a source of milk and meat, a means of transport and a major source of income for most households (Samuel et al. 2004). Producers keep large herds of livestock and are usually nomadic. Delivery of livestock from highland areas to major domestic markets is relatively inexpensive because of the proximity to markets and the relatively better infrastructure connecting the highland areas with major markets.

The pastoral communities in Ethiopia are closely linked with national and international markets. The proceeds from live animal sales are used to purchase finished goods and food commodities. Cattle and small ruminants are also traded across the border in Kenya. There is no reliable information regarding the amount of cross border livestock flows from Ethiopia to its neighbors. Gebeseseie et al (1998) estimated the volume of cross-border trade between Ethiopia and its neighbors at 260,000 cattle and 1.2 million sheep and goats. Teka et al (1999) estimated that about 35,000-50,000 cattle, more than 100,000 sheep and about 10,000 camels were sold to cross border markets.

The two main cross-border livestock trading routes between Ethiopia and Kenya are (Adulrahman, 2006):

1. Filtu-Dollo-(Suftu)-Mandera, Kenya.
2. Negelle-Dubluk-Moyale, Ethiopia.

Moyale and Mandera are the two largest cross-border terminal markets for livestock between Ethiopia and Kenya (Gebremariam, 1993, Tegegne, et.al. 1999, Ame 2004a, Tegegne, et.al. 1999). Between 70-80 percent of live animals sold in these two markets originate in Ethiopia. The Ethiopia/Kenya livestock trade is very important because it links prime cattle production areas of southern Ethiopia to the region's largest market in Nairobi, Kenya.

The volume of livestock traded is dependent on the availability of pasture and water. Rainfall variability determines both the pastoralists' willingness to sell and traders' ability to move themselves and livestock in and out of pastoral areas. Pastoralists are reluctant to sell their animals during the wet period when pastures rejuvenate and the animals return to milk production. But expectations of prolonged dry spells and outbreaks of disease increase the supply of livestock on the market. The off take rates for livestock during drought were estimated to be about twofold the off take rates during a normal year (Mengiste, 1998). The incremental off take rate during drought was 50 percent for cattle, 52 percent for sheep, 70 percent for goats, 11 percent for camels, and 11 percent for equines. In addition to this, the number of households involved in selling different livestock species during a drought year increased by 75 percent.

A study by Tegegne, et.al (1999) showed weak market correlation between cattle prices in Filtu and Dollo Addo. Similarly, prices between Dubluk and Negelle in Ethiopia and Moyale in Kenya are not correlated. In spatially integrated markets, price movements are transmitted across markets for specific commodities. The implication of the absence of spatial integration (i.e., correlation) is that any intervention in one market or area will not necessarily induce or imply significant changes in other markets. For instance, improvements in livestock prices in neighboring countries of Kenya and Somalia may not be transmitted to supply markets in the southern rangelands of Ethiopia. Shoats (sheep and goats) and camel prices are significantly integrated with markets across the border in Kenya especially Mandera (Ame, 2006).

The livestock products traded across borders and exported to overseas markets are highly differentiated. Female animals are generally retained by households for reproduction and milk production. Tegegne et al.(1999) observed that most animals are sold for export, mainly to Saudi Arabia, are males. There was high demand for the male "Somali black head" or fat-tailed sheep", followed by male goats, male cattle and young

male camels. Religious practices such as end of the Islamic fasting month of Ramadan, Id AL Adha during the Hajj Mecca pilgrimage season, include traditional slaughtering of animals and increase the demand for live animal imports in the Gulf States.

Pastoralists also face high price volatility for their livestock. The Dollo-Mandera market price has tended to fluctuate more than that of Dubluk- Moyale. Camel prices have a higher coefficient of variation than other livestock prices since they are almost exclusively destined for the export markets. Tegegne, et.al.(1999) observed that Filtu prices appeared to be slightly more volatile due to inaccessibility of the area. Moyale livestock prices are the least volatile.

2.1.2 Southern Somalia-northeastern Kenya

The war in southern Somalia had some major impacts on livestock marketing in the region. Prior to the onset of the conflict in 1991, there were four major marketing options for livestock:

- a) the overseas export market (for camels, cattle and sheep);
- b) the Kenya market (for cattle sheep and goats only);
- c) the southern domestic market based mainly on such towns as Kismayo, Jilib and Jamaame (for all livestock species); and
- d) the national market at Mogadishu, the former capital of Somalia (mainly for cattle and camels).

Of these four markets, only Kenyan trade seems to have been minimally affected after the war. The southern domestic market still exists, but herders are increasingly likely to avoid Kismayo market because of conflict. Relative to prices in Kenya and other markets, prices in southern Somalia have declined in real terms. Overseas exports from southern Somalia are irregular due to frequent bans by importing countries in the Middle East. There are no public or any other type of organized veterinary inspections services in southern Somalia. Livestock disease outbreaks are common and importing countries respond by banning animal imports.

Kenyan cross-border trade, however, is flourishing. It has been noted that, exclusive of Somali cattle that enters Kenya through Hulugho (about 120 km southeast of Garissa) or along the Kenya coast, about 65,000 head of cattle from Somalia are marketed annually in Kenya, and about 75 percent end up at the terminal market of Nairobi. In most years, cross-border trade of cattle from Somalia to Kenya accounts for about 65 percent of Garissa's cattle sales, but the trade is seasonal and dependent on pasture availability and water along trekking routes. Cattle from Mogadishu have been trekked for over 600 kms to Garissa market in Kenya to be sold there. Cross-border trade peaks during the rainy season especially between April and June, and from October to December. These months coincide with major religious and public holidays when demand for livestock is high.

Animals are also trekked to Kenyan markets from Lower Juba, passing through arid areas where water and pasture availability are seasonal. During dry periods from December to March and July to August, trade declines because of the high probability of cattle perishing en route to markets in Kenya. In the past, during the dry months, cattle trade was redirected to the domestic markets of Kismayo and Mogadishu. But presently, the options for selling livestock at reasonable prices in Somalia are limited and some herders keep livestock near the Kenyan border during the dry season to take advantage of market opportunities in Kenya.

Prices for cattle are generally higher in the smaller Somali market centers located along the border compared to those found in the major southern town of Kismayo. The prices are even higher in markets across the border in Kenya, especially in the terminal markets of Nairobi and Mombasa. In Garissa, approximately 160 Kms from the border, the prices for all species of livestock are usually higher than they are in Afmadow, Somalia, located about 280 Kms to the east.

Livestock marketing is so critical for understanding food security among the regional herders because it is the main source of income, which is then used to purchase grain. Similar to prices for grain, livestock prices experience considerable seasonal fluctuations. Animals lose weight during the dry months, and herders, often

desperately in need of cash to buy food, flood the market with cattle in poor condition. At such times they sell their animals at the nearest available market center. These factors, coupled with the typical dry season slowdown in the cross-border trade to Kenya, result in severe price fluctuations during the year. These monthly and seasonal price fluctuations increase the economic vulnerability of herders, especially the poorer ones, but they also allow for considerable profit-making by those traders who are able to make speculative purchases in the dry season (Little, 1992b)

A critical indicator to examine is the terms-of-trade between what herders receive for their products (livestock) and what they must pay to purchase needed grain (mainly maize, flour and sorghum). The indicator shows strong seasonal changes as well as longer term structural trends such as access to inexpensive grain as a result of improved infrastructure. The loss of alternative markets has greatly affected livestock prices and the terms-of-trade for herders in southern Somalia. The reasons for this are related to the prolonged conflict, which has made herders increasingly dependent on one market outlet, cross-border commerce. The main grain-producing areas of the Lower Juba also have been badly damaged and yields are still low. Consequently, herders in the region now sell slightly higher proportion of their herds every year to buy comparable amounts of grain.

Generally, markets are favorable for herders in North Eastern Kenya, although, large monthly swings are still prevalent. North Eastern Kenya is not a significant grain-producing area, but important grain-producing zones are located in neighboring regions. Price relations between grain and livestock products in Kenya are therefore relatively more stable than in southern Somalia. However, livestock quarantine which is common in Kenya because of foot and mouth disease can rapidly alter livestock prices (Little 1992a).

2.1.3 Southern Sudan-Uganda

Southern Sudan has approximately 5.8 million head of cattle (Jones, 2001) and an almost similar number of sheep and goats. The cattle population increases from fairly small herds of 5-50 animals in the higher rainfall counties bordering Uganda to herds of 500 or more in the drier pastoral areas of Kapoeta, Pibor, Phou, Bieh, Latjor, Sobat, Fashoda, Lieh, Tonj, Gogrial, Twic, Awiel, Yirol, and Rumbek counties. About 60 percent of the people in southern Sudan are dependent on livestock and the industry accounts for about 20 percent of local gross domestic product (Guvele, 1999). Livestock play a key role in improving the food security of many families in Southern Sudan. Cows produce milk that helps to bridge the 'hunger gap' before harvest. Livestock sales are a form of cash income and livestock are also bartered for grain. In order to access the Uganda, Kenya, Democratic Republic of Congo (DRC) and Central African Republic (CAR) cattle markets, animals may be trekked for 45 days and can cover more than 800 km distances. Most animals trekked to Uganda markets are males of which 60-70 percent are castrated (King et al. 2002).

Uganda is a major trading partner with Southern Sudan, and livestock are an import commodity especially from Bahr el Ghazal and Upper Nile regions. Uganda's main exports to Southern Sudan include sugar, clothes, salt, soap, beer, etc.

The main livestock routes from Bahr el Ghazal and Lake Regions to Uganda are (King et al, 2002):

- Gogrial, Warrap and Tonj counties of Rumbek
- Rumbek, Agany/Mvolo, Yeri, Kotobi, branch left to Tore Wandu, Mapoko, transit camp 13 miles from Yei, transit camp at Minyori (6 miles from Yei), Yei to Uganda border at Bazi/Kaya.
- Rumbek, Mvolo, Maridi, Ibba, Yambio to DRC border.
- Yirol, Awerial, Tali post, Lui, Lainya, Yei to Uganda border or Mangalore, Bamuriye to Uganda border at Kerwa or Kajo Keji. This is a wet season route when the river Yei is impassable.
- Yirol, Tali, Kotobi, Tore Wandu, Mapoko to 13 and 6 mile transit camps from Yei.
- Yei, Gimunu, Pakula, Yarbe, Ajio to Uganda border Kerwa/Merwa or Kajo Keji/Afoji. This is the alternative to Route 4 in the dry season when the Yei River is passable.

King et al. (2002) estimated that around 6,000 cattle per year enter Uganda through the official entry points at Oraba, Merwa, Afoji, Nimule, Tsertenya and Agoro. It is also estimated that more than 1,500 head of Dinka cattle unofficially cross the border per year besides 3,000 Sudanese Zebu cattle, which are difficult to

differentiate from local Ugandan Zebu animals. Based on a cattle population of 5.8 millions in Southern Sudan and estimating an annual off-take as 8-10 percent, the number of animals traded in Uganda is estimated at 2.3 percent of all off-take calculated at 464,000 head of cattle a year.

Small stocks are not usually traded between Uganda and Southern Sudan because they cannot be trekked over the long distances from the livestock rearing areas of southern Sudan. Sudanese and Ugandan traders do not use vehicles in Southern Sudan because roads are poor and livestock can be injured or killed en-route to markets. Traders who bring cattle from Rumbek to Maridi in Southern Sudan for slaughter prefer to trek them, because they can be fed along the way and their weight can be maintained. In dry weather, a truck can take up to three days from Rumbek to the Uganda border compounding feeding and watering needs. In the rainy season, trucks can get stuck in mud.

About 25 percent of the meat consumed in the northern Ugandan town of Arua is derived from the Dinka cattle of Southern Sudan. As was mentioned earlier, butchers and middlemen control the price of meat in Uganda. In 2001 in Arua there were about 35 butchers and middlemen under the umbrella of Arua Butchers Association (King et al.2002).

2.1.4 Southern Sudan-Kenya

Limited numbers of livestock are transported from Sudan to Kenya for marketing purposes. The livestock originate from the Toposa areas of Sudan, and are assembled at Narus, near the Kenyan border. The animals are then sold to Kenyan traders who transport them on hired or owned trucks to markets in Kenya. Depending on prices, security and livestock condition, several trucks make the journey each month. It is thought that the animals are transported to Kitale and perhaps additional markets further inside Kenya. This trade was more significant before the war greatly reduced animal numbers in Sudan. Livestock exported through Narus and Nadapal in Southern Sudan to Lokichoggio Kenya are mostly cattle, mainly small stock and Toposa cattle, which are larger than most indigenous Kenyan cattle.

2.1.5 Southern Sudan-Uganda-Democratic Republic of the Congo-Central African Republic

Some cattle are trekked from Yambio in Southern Sudan to the border region inside DRC. The main trading route is from Rumbek, Mvolo, Maridi, Ibba, to DRC border or Yambio to DRC border. Trekking cattle deeper into DRC is not common because of the generally unstable situation, lack of roads and thick bush infested with tsetse flies. Some cattle from DRC are sold in Arua, Uganda. Sudanese cattle are also traded in Central Africa Republic (CAR). The number entering each country varies depending on the prevailing business environment and market demand.

2.1.6 Kenya-Uganda

No significant trade in livestock takes place between Kenya and Uganda. Grazing links along the Kenya-Uganda border are more important than livestock trade linkages. The pastoral zones of the two countries are located in the north, far removed from major consumption markets. Some petty informal trade exists between the Turkana on the Kenyan side of the border and Karamojong in Uganda and between the Pokot on both sides of the border. However, lack of markets and frequent tribal tensions keep this trade to a minimum. Livestock flows between the two countries are more frequently attributable to reciprocal cattle raiding than trade.

2.1.7 Tanzania-Kenya

The main official livestock trade route from Tanzania to Kenya is through Namanga. However, close linkages between the Kenyan and Tanzanian Maasai and Kuria result in livestock trade that extends all along the common border from Tarime to Moshi. It is difficult to distinguish the difference between cattle and herders by country of origin. In general, livestock flows from Tanzania to Kenya. They are sold by Maasai or Kuria in markets in the south of Kenya to middlemen from all over Kenya, then trekked or transported by traders from the same ethnic groups to major markets in Kenya. The proximity of the enormous Nairobi market makes it one of the most attractive outlets for Maasai and Kuria livestock from both sides of the

border, and Kenyan prices are usually higher those in Tanzania. Tanzanian pastoralists often cross the border, ostensibly to graze their animals, but they also informally sell off some of their herd in Kenya.

2.1.8 Ethiopia-Somalia

Livestock trade between Ethiopia and Somalia forms the economic lifeline of most of the pastoralists in Ethiopia's Region 5. Virtually all of the livestock traded is re-exported from Somalia to Gulf countries, mainly Saudi Arabia, but also Yemen. Before the war in Somalia, Ethiopian livestock were traded through all of the major Somali ports - Berbera, Bosaso, Mogadishu, and Kismayo. Berbera and Mogadishu were the predominate ports, drawing animals from the corresponding regions of Ethiopia. Since the war has virtually halted livestock exports from Mogadishu and Kismayo, the importance of the port of Berbera in Somaliland has increased enormously. It is estimated that half of all animals exported from Berbera originate in Ethiopia (Drysdale, 1997). The internationally unrecognized government of Somaliland receives enormous tax revenues from this export trade. To reduce the amount of taxes levied on its livestock, the Ethiopian government has tried to force pastoralists to officially export their animals though Dire Dawa and Djibouti. This route does not make economic sense for most residents of Region 5, and the ability of the Ethiopian government to enforce the policy is very limited.

2.1.9 Djibouti-Ethiopia

Most of the skins and live animals exported from Djibouti originate in Ethiopia or Somaliland. Djibouti used to be a major destination for official Ethiopian exports of live animal, but most of the trade is now unofficial and the Somaliland port of Berbera is much more important for Ethiopia as a transshipment port. Although the Government of Ethiopia encourages the use of the Djiboutian port, pastoralists and traders are reluctant to do so because of the long distances involved, the bureaucratic health certification process, and high taxes.

SECTION 2.1 SUMMARY

- Cross-border livestock trade takes place because there is an excess in supply in the source country and markets close to borders in the neighboring countries.
- Regional trade is high between countries with no significant overseas markets and where conflict has reduced the number of livestock traded domestically.
- The volume of livestock traded within a season is dependent on availability of pasture and water.
- Prices between some markets are not spatially integrated and intervention in one market may not necessarily induce significant changes in another market across the border.
- There is high volatility in primary, secondary and terminal market prices
- Terms of trade is a critical indicator linking livestock trade and food security.

2.2 SUMMARY OF STRUCTURE, CONDUCT, AND PERFORMANCE

The performance of cross-border livestock markets is determined by the behaviour of cross-border traders and the wider business environment in which they find themselves. This section summarizes the structure, conduct, and performance of regional livestock markets, keeping a focus on food security and how these three elements related to food security within the region.

2.2.1 Structure

There are three levels of livestock markets and trade: primary, intermediate, and terminal markets. In the primary market, pastoralist exchange livestock for breeding, herding and slaughter. If a primary market is near a border, cross-border traders purchase animals for onward sale to a terminal market. Intermediate markets are relatively larger than primary markets, and in most cases they are also the main center in a district. The main actors in intermediate markets include pastoralists purchasing breeding stock, local butchers, and traders assembling livestock for onward sale to terminal markets. Terminal markets are attended by all kinds of buyers. They are the largest markets in pastoral areas. Middlemen or butchery agents buy livestock for

processing by butchers. The butchers then retail animal products to final consumers or sell to small-scale retailers. Export traders purchase animals for further fattening and export of live animals to overseas markets. Figure 3 depicts a common livestock market channel for most countries in the GHA. There six key attributes of the market structure which are discussed in some detail below.

1. Networks are trust-based
2. Markets are concentrated: few in number and few main actors
3. Poor infrastructure
4. High taxes
5. Significant barriers to entry
6. Physical insecurity

Trust based network

Kulibaba et al (1990) noted that the livestock trade in the GHA is largely informal and involves little institutional or judicial intermediation except when a dispute cannot be settled within the social and trading community. The situation remains largely the same in 2006. Livestock trading channels are highly personalized and still based on agreements and sanctions internal to the community. There are some ethnic and familial ties, but ethnic solidarity tends to be less important than established trading networks involving producers, intermediaries, traders, and final buyers (butchers). Various intermediaries including brokers play important roles in moving production, transmitting market information, and aggregating supplies. They also negotiate deals and provide assurance to buyers that animals they just purchased were not stolen animals. These intermediaries shorten the transactional distance between producers and final buyers.

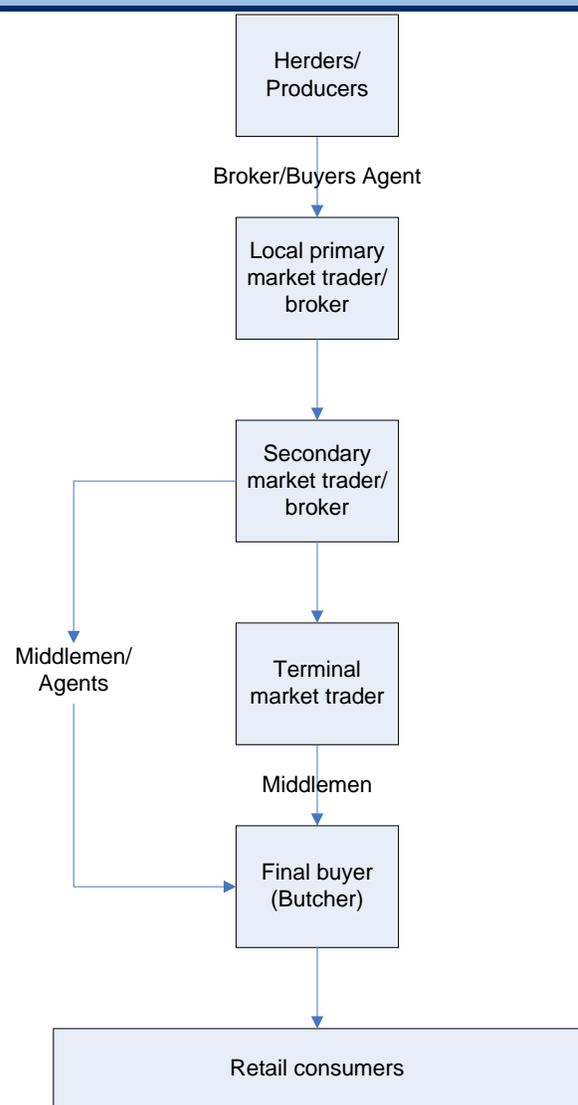
Few dominant markets

Livestock trade in the GHA is mainly affected by the significance of two important markets: Nairobi, Kenya and the Middle East (Little et al. 2001), which includes Saudi Arabia, Bahrain, Jordan, Yemen, and United Arab Emirates. Cattle prices in Kenya tend to be on average 20 to 25 percent higher than in Ethiopia, South Sudan, Somalia, Tanzania and Uganda due to a high demand and purchasing power of the general population. This explains why cross-border cattle trade, including that from Tanzania, is mainly unidirectional, from neighboring countries into Kenya. In the early 1990s Kenya liberalized its meat trade, and numerous small-scale slaughter facilities emerged. It is estimated that Nairobi buyers purchased about 400,000 cattle in 1999, with about 360,000 for slaughter and 40,000 for restocking or fattening on nearby commercial ranches (Little et al. 2001). Along some borders, trade or grazing linkages may be bi-directional, depending on exchange rates, production outcomes, or rainfall patterns.

High level of Concentration

Because of weak infrastructural and market support services in the GHA; the necessity of economies of scale in livestock trading over long distances; the relatively high risks involved due to loss of animal body condition and insecurity; and high transaction costs in cross-border livestock trade, the marketing channel exhibits a

Figure 3. Common market channel for livestock in the GHA



Source: FEWS NET

high level of concentration at higher levels of the chain among middlemen, butchers and exporters. Butchery owners are the most powerful group in the livestock marketing chain in most of the GHA countries followed by middlemen, who act as the interface between livestock traders and butchery owners. For instance, in the Kenya/southern Somalia sites (Garissa and Mandera) where cattle trade dominates 50 percent of traders sell less than 200 cattle per year and 35 percent sold less than 100 cattle. By contrast, a small minority (13 percent in 1998) had annual sales in excess of 1,200 animals (Little et al. 2001).

Poor infrastructure

Due to poor infrastructural connection between pastoral livestock surplus areas and main consumption markets, transport costs are high. In Kenya, transport accounts for 25 to 40 percent of the total cost of livestock delivered to a terminal market from the northern pastoral areas. Truck owners charge more to transport livestock compared to consumer goods, and transport costs determine profit margin received by livestock traders who hire trucks. Traders with their own means of transport (trader/transporter) achieve higher profit margins from high cost savings and high turnover. Traders who trek their animals either by choice (to save on transport costs) or by default (due to inaccessibility) tie their working capital for far too long on 'inventory on hoof' and may not be able to do more than a few transactions in a year due to the long turn around time (Akilu et al. 2002).

High Taxes

Aklilu (2002) observed that livestock is highly taxed in Ethiopia and Sudan. In Sudan, livestock traders pay taxes and transit fees in about 20 places en route to the terminal markets. In Ethiopia, varying amounts of taxes are levied on livestock at different points along the transit route. In both Sudan and Ethiopia, livestock transit fees and taxes are revenue streams for regional governments, despite regulations that livestock should only be taxed at the point of origin. Livestock are not taxed repeatedly in Kenya, but the one-time fee can be as high as 600 shillings (about US\$8.50) per head of cattle. In all the three countries, livestock taxes and transit fees collected by the respective councils are not used to improve the physical structure or to improve the efficiency of the livestock markets.

Barriers to entry

The personalized marketing channels created over time may act as barriers to entry for new entrants in cross-border trade. Because of unfamiliarity with new entrants, livestock producers usually demand cash transactions which increase the investment and working capital costs for new primary market traders.

Insecurity

Insecurity is one of the major risks facing livestock traders. Insecurity manifests in several forms including ethnic conflicts, highway robbery, business rivalry, and localized insecurity. Insecurity has been a major constraint to trade and in certain periods has forced several Ethiopian and Kenyan traders to abandon cross-border commerce. Nyukuri (1997) observed that in West Pokot District of Kenya, the supply of animals to markets increased as a result of threat of cattle rustling. Herders prefer selling their livestock at lower prices rather than risk losing them in raids.

2.2.2 Conduct

Within markets within the GHA, there are some common ways in which traders and other actors conduct their business. These include:

1. Butchers and middlemen – particularly in urban centers - set prices
2. Trust based, credit based sales
3. Price differentiation
4. Grades and standards
5. Fattening to improve returns

Price Setting in Terminal Markets

Livestock prices tend to decline during droughts and reach their peak during holidays (Christian, Muslim or other public) when meat is in high demand. However, the seasonal price of meat has been relatively stable in

most consumption markets in the GHA in the last 10 years, especially in Sudan, Ethiopia, Kenya, and Uganda. This is because butchers and middlemen determine the price of livestock at major terminal markets, which signals the volume of the national red meat to be traded in most countries in the GHA. The urban retail prices are set more competitively, the butchers and middlemen take them as given, and the prices along the value chain get discounted all the way down to the producer/pastoralist.

Trust-Based, Credit-Based Selling Practices

Livestock sales are transacted using trust based credit systems whereby traders make partial or delayed payments for animals and complete the payment once their onward sales receipts are realized. Social pressures and threats of future loss of reputation, business or access to animals contribute to relatively low default rates.

Product differentiation

The main livestock species traded in the GHA are cattle, goats, sheep, and camels. Along some border points –notably between Ethiopia and Sudan and Ethiopia and Somalia—the volume of goats and sheep trading is quite high. In most markets, livestock is further differentiated by sex, age, and breed because demand animal according to these specifications.

The source of livestock that is traded in GHA comes from pastoralist communities, and pastoralists rarely sell their breeding stocks, including heifers and bulls, during their productive years. Stocks are valued for their contribution to sustaining and/or increasing livestock herd sizes. They are important for herd development after drought. However, they are sold as a distress or coping strategy. Young bulls and females are sold within the herder community for restocking purposes.

Grades, standards, and marketing problems

In most cases, breed is commonly used for distinguishing within a particular species of livestock. Region of origin, color and appearance, size, and horn characteristics are used to identify a breed, especially a breed of cattle. In the case of small ruminants, color and appearance, region of origin, and hair or wool characteristics are used. Body condition and weight were used for both cattle and small ruminants to differentiate quality within a particular breed (Samuel et al. 2000).

Fattening

Producers in the Ethiopian highlands buy and place a small number of livestock in primary markets, usually one to three head of cattle on their small parcels of land. There are also large private feedlots in Nazareth next to Addis Ababa in Ethiopia that buy and fatten animals for sale. Some Somali middlemen also purchase and keep livestock for up to two years and then sell them. However, fattening animals is a declining practice due to increasingly constrained land access and high cost of concentrates. In addition, butcheries offer low prices for fattened animals based on the notion that the meat from these animals has a lower shelf life. They have relatively lower dressing weight and consumers' preferences for pasture-fed cattle (Aklilu et al. 2002).

2.2.3 PERFORMANCE

The producer's share of the retail price has been declining over time particularly for cattle. In Sudan, due to a long livestock marketing chain that involves many middlemen livestock prices in the terminal markets climb two to four times the producer prices. In Kenya, the producer's share varies between 47 and 52 percent, and in Ethiopia the share has declined from 76 percent in 1983/84 to below 50 percent. The producer's share in Somalia is 46 percent. The decline can be attributed to a more rapidly increasing supply of livestock as compared to per capita consumption of red meat. Consumption has been increasing at a lower rate due to stagnant or declining incomes/purchasing power that stems from the poor economic performance in most countries in the GHA before 2002. In addition, between 1990 and 2002, national processing plants were run down and many closed, which reduced exports to Europe. Exports to the Middle East declined as well due to the frequent bans imposed in an effort to restrict inflows of poor quality meat. Consequently, more livestock is entering GHA intra-regional markets trade, causing supplies to outpace demand.

The imbalance in supply and demand growth has resulted in declining producer prices. In contrast, middlemen and butchers have managed to sustain stable prices for consumers and hence increased their share of income from livestock transactions. It should be noted though there have been increases in other costs especially livestock transport and veterinary costs.

Nyukuri also observed that during the clashes that occurred around the 1992 elections in West Pokot District, the price of a mature bull dropped by more than 60 percent. However, meat prices only dropped in the areas affected by clashes or cattle rustling and not in distant markets. Ocan (1994) notes that distress sales of livestock by herders in response to threats of raids benefit livestock traders, who make large profits by purchasing animals at depressed prices and transporting them to distant markets where prices are higher.

Cross-border and international trade has a generally positive relationship on producers' incomes. Trade enhances food security through expanding demand and pushing up prices of livestock as well as increasing the availability of grain. The result is improved TOT and incomes for pastoralists. Still, the fact that herders are at the bottom of the market chain – one which is relatively rigid at the top and populated with traders with considerable market power - means that herders accrue fewer benefits than traders.

SECTION 2.2 SUMMARY

- Livestock trade in the GHA is generally largely informal and involves little institutional or judicial intermediation except when a dispute cannot be settled within the social and trading community.
- Livestock prices are highly volatile.
- Livestock trading is characterized by economies of scale, relatively high risks associated with potential loss of animal body condition during shipment, civil insecurity, and thus high transaction costs.
- The market channel exhibits a significant level of concentration at higher levels of the chain among middlemen, butchers, and exporters.
- The urban retail prices are set relatively competitively. Butchers and middlemen take terminal market price as given and prices along the value chain are then discounted all the way back to the producer/pastoralist
- The producer's share of the retail price has been declining over time, particularly for cattle.
- Improved computation of terms of trade, the frequency and extent of conflict, share of producers price in secondary or terminal markets, condition of trading routes, livestock mix, timing and extent of trade, and the extent and frequency of outbreaks of livestock diseases are important indicators for monitoring pastoral food security.

2.3 FEATURES OF GHA LIVESTOCK TRADE RELEVANT TO FOOD SECURITY

Cross-border trade in livestock is limited to, and supports the inhabitants of, the border region as well as consumers and producers located several hundred kilometers from the borders. It determines the food security situation of largely pastoral households. Consequently it is important to monitor key attributes of cross-border trade relevant to food security status of pastoralists.

2.3.1 Conflict

Conflicts cut off communities from the outside world, reducing the volume and increasing the cost of transporting important goods and services. Increased theft associated with the general insecurity of pastoral areas further drives up the cost of basic goods and services. Out-going goods, particularly livestock, are also affected as is the income derived from these goods. Other commercial interests may even conduct cattle raids under the guise of traditional raiding, only to sell the animals outside the region in commercial markets.

Conflict and/or insecurity interrupts trade by limiting access to markets while increasing transaction costs through increased risk. It also has a downward effect on livestock producer prices. Insecurity can also cause loss of livestock and human life, which reduces the productive capacity of households and livestock.

2.3.2 Computation of terms of trade

The vulnerability of pastoral households to food insecurity partly depends on their ability to purchase grain, especially in the lean dry months. Most pastoralists, and particularly those residing away from key urban centers, are often faced with relatively lower livestock to cereals terms-of-trade. The unfavorable terms-of-trade translate into lower household incomes, and unfavorable terms generally deteriorate even further during droughts. During droughts, more proximate markets are oversupplied with livestock. The poor condition of the livestock renders less desirable and more unprofitable. If grain and livestock markets are not functioning well, the pastoralists' situation can be accentuated.

The terms of trade (TOT) indicator is commonly used to analyze pastoral food security. This indicator compares the sale price livestock against the purchase price of grain.

$$(\text{livestock for grain}) = P_g / P_l$$

Where P_g is price per unit of a staple grain consumed in an area, P_l is price per unit of primary livestock offered for sale in a secondary market.

Most of the TOT indicators computed are based on price data collected in terminal markets. The downward slide in the producer's share of the retail price, particularly for cattle (Aklilu, 2002, Little et al. 2001), causes a decline in the TOT. The absence of reliable livestock time series price data for most primary (producer) markets, suggests that available livestock prices need to be adjusted for TOT calculations so that they more closely approximate the actual purchasing power of herders in the rural areas. Computations using prices at intermediary markets may reflect the purchasing power of rural pastoralists much better.

A proxy TOT can be calculated and there are several relatively standard methods. If the share of the secondary market livestock price captured by herders is known, the price of livestock can be adjusted to reflect the actual share (price) received by a herder.

2.3.3 Price Comparisons between Markets

Due to the absence of spatial integration between some cross-border markets (Little, 2002), there should be some caution in comparative analysis of prices. The consequences of loosely integrated markets or segmented markets are typically increased price risk and allocative inefficiency since the aggregate market does not smooth local shocks (Barrett et al. 1998).

2.3.4 Condition of the main trading routes

Trade infrastructure accessible to pastoralists in the GHA is at best rudimentary and does not easily lend itself to optimal market performance. Yet pastoralists depend on markets to trade their livestock and products in exchange of cereals and other food commodities that they do not traditionally produce. Nevertheless, and in spite of the infrastructural limitations, pastoralists have developed fairly elaborate, mostly informal marketing channels where livestock and food commodities are routinely traded across borders. Transaction costs remain high due to high risks and transport costs coupled with little market information. However returns are still positive and trade takes place.

The condition of the stock trading routes such as availability of pasture, water, level of exposure to disease for livestock on hoof and trucks affects livestock off-take. Infrastructural conditions also affect accessibility to markets by middlemen and traders and delivery of drugs and medicine. In most pastoral areas, these problems increase in the wet seasons when rains render roads impassable. Distortions in market supply and prices may affect the prices faced by herders. Consequently, it is important to monitor the status of the main trading routes for livestock in addition to monitoring market prices.

2.3.5 Livestock mix, timing and extent of trade

Every major cross-border and export trading route has a particular mix of animals that is traded and this mix is determined by various factors. It was noted that most animals from Ethiopia and exported mainly to Saudi Arabia are males and that there is a high demand for the male "Somali black head" or "fat-tailed sheep," followed by male goats, male cattle, and young male camels. In the cross-border trade between Uganda and Southern Sudan, livestock traded is almost entirely cattle: small livestock cannot be walked the long distances of up to 1000 km from the livestock rearing areas of southern Sudan.

Different trading routes are used in different seasons. For example, the trading routes from Southern Sudan's Bamuriye to Uganda border at Kerwa or Kajo Keji is a wet season route when the preferred Yei to Uganda border or Mangalore route is impassable because of the swollen Yei River. Lastly, the quantity of livestock traded depends with the season, threat of a disaster, and demand for festivals among others.

Monitoring the direction, extent, and mix of livestock trade is an important element of early warning information on food security. Determining the cause of uncharacteristic mix, the number of livestock on sale, direction of trade, and preferred trading routes may provide valuable insight in uncovering emerging food security situation of pastoralists.

2.3.6 Livestock disease outbreaks

Livestock exports and cross-border trade is particularly susceptible to zoo-sanitary standards and regulations which have been developed by countries to prevent and control animal diseases, protect public health and the environment. Interruptions in trade of livestock animal products are frequently the result of disease outbreak and lack of adherence to certain minimum standards. The bans on livestock exports from the GHA region highlights the critical importance of improved veterinary services in border areas and the main regions of livestock for export. The risk of a potential future ban on livestock trade and its effect on food security for some livelihoods could be linked to a prevailing disease outbreak. Monitoring the frequency, time, and extent of livestock disease outbreaks is important in analyzing the current and future markets for livestock and hence the purchasing power of the pastoral households.

2.3.7 Long term development

Areas where livestock raising is the main agricultural activity have the highest incidence of poverty in East Africa (Thornton et al. 2002). These areas are also subject to a high degree of production risk (Coppock et al. 1997; McPeak et al. 2000). Arid and semi-arid lands are often limited in their resource diversity. The resource base in these areas is for the most part only suitable for raising livestock (Range Management Handbook Series, 1991-1992; UNESCO, 1984). Improvements to the livestock sector offer the most promising opportunity to move donor funded interventions from "relief" mode to "development" mode. First, the livestock industry employs the majority of people in these areas, and is by far the largest source of revenue generation in these areas (Thornton et al. 2002). Second, beneficial income diversification in pastoral areas is likely to be based on initial capital generated by livestock sales (Little et al. 2000). Overall, targeted interventions in the livestock sector including improvements in livestock markets and trade present the opportunity to reduce poverty, encourage economic growth, generate capital for use in alternative income generating strategies, and improve the general food security status of pastoralists. The herders' share of secondary and terminal market prices (margins) can be good indicators of long term development of the livestock markets.

3.0 AGRICULTURAL CROP COMMODITY TRADE AND FOOD SECURITY

While food trade policies of GHA countries allow for free trade in food commodities, what actually takes place at border crossings sometimes contradicts national policy. Government controls on cross-border trade can bring about substantial declines in the production of exportable commodities if they are not complemented by a favorable macroeconomic environment. While many individual states fear the potential loss of national food self-sufficiency through trade, it has been observed (Ame, 2000) that food security and government revenues can both be increased through cross-border trade.

There are several reasons why food commodities flow from one country to another:

1. Price differential
2. Domestic consumption exceeds production
3. Temporal distribution of production
4. Proximity of surplus and deficit areas across borders
5. Weather
6. Food trade policies and their effect on regional trade

Price differential

Trade in primary food commodities within the entire GHA region should take place whenever:

$$P_c - P_s \geq t$$

Where P_c represents the price per unit of food commodity in consumption areas. P_s represents the price per unit of food commodity in surplus production areas. t represents the cost of transferring grain from production areas to consumption areas.

Perfect spatial arbitrage occurs when the price difference equals the transfer cost. When the price spread $P_c - P_s$ falls lower than t , trade cannot take place without traders incurring a loss. Indeed, this is the definition of autarky, when no trade takes place. If the price differential remains well above t for a sustained period, markets are not behaving competitively. The price differential between surplus and consumption markets in the GHA is at least reasonably above transfer costs (t), and trade takes place within and across the GHA countries. Table 1 below shows the average maize prices in various regions in east and southern Africa between 1996 and 1999.

Table 1: Price for maize grain in US dollars per metric ton (average from January-December 1999)

	Ethiopia	Kenya	Zambia	Zimbabwe
Wholesale price: surplus region	97	190	122	119
Wholesale price: capital city	135	241	174	127

Source: Jane et al 2001

The differences in prices of a commodity between two countries can be attributed to different costs of production and marketing without subsidy (Nyoro et al. 2001). As an example, the maize output in Tanzania is higher than that of Kenya. However, maize production per unit area in Kenya is comparably higher than that of Tanzania. However, it should be noted that the high yield of maize production in Kenya does not necessarily translate into higher profits under a free market. Some studies have shown that the cost of maize production in some parts of the Rift Valley and Western Provinces in Kenya is high compared with similar areas in eastern Uganda. Consequently there are opportunities to trade from surplus maize producing areas of Uganda to marginal areas of Kenya⁵.

⁵ Thomas Awuor 2002.

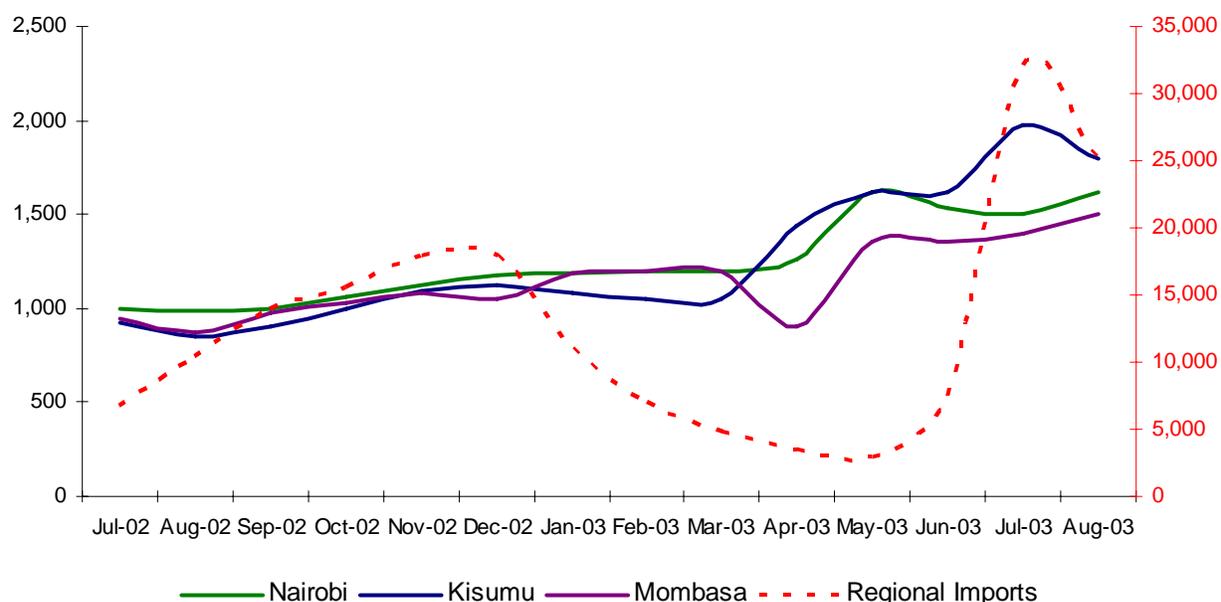
Box I: Maize from Uganda and Tanzania into Kenya

Every year maize from Uganda and Tanzania flows into border areas of Kenya. The figure below shows wholesale maize prices and volume of maize imports into from Tanzania and Uganda in 2002-2003 using data from www.ratin.net. The volume of imports refers to the following border posts:

- a. Busia and Suam along the Kenya and Uganda border,
- b. Namanga, Tarakea and Namanga border posts along the Kenya and Tanzania border.

In 2002, large quantities of Tanzanian and Ugandan maize started flowing into Kenya in June, peaking in November/December at 18,000 MT. In January 2003, maize imports from Uganda and Tanzania started declining, reaching a low of 2,500 MT in May.

If imports from Uganda and Tanzania into Kenya were large enough to affect Kenyan prices, we would expect that prices would significantly decline between June and December 2002 and 2003 when there is large inflow into Kenya. Prices remain high between June and December 2002 and 2003, as more maize supplies enter the Kenyan market from Uganda and Tanzania. This implies that while maize imports from Tanzania and Uganda may affect the prices in localized markets near the border areas, they do not determine the price in main markets in Kenya. This is because the 83,000 MT and 93,000 MT imported into Kenya in 2002 and 2003 respectively were not significant compared with over 630,000 MT/year Kenyan maize available for trade in 2002 and 2003. Maize from both Tanzania and Uganda is usually sold at or below the prevailing price in Kenya.



Domestic consumption exceeds production

Ethiopia's domestic production of maize varies between 1,800,000 and 3,400,000 MT, of which about 83 percent is available for consumption and 17 percent is allotted for seed, waste, and feed. The estimated annual maize consumption in Ethiopia is 3,472,000 MT. Kenya's maize production is usually around 2,600,000 MT against a consumption of 3,000,000 MT. Uganda's maize production is estimated at around 500,000 MT with a domestic consumption of 250,000 MT.

Tanzania maize production can reach 3,200,000 MT compared with domestic consumption of 3,000,000 MT. Consequently, Ethiopia, Uganda, and Tanzania supply Kenya with maize. Table 2 shows the level of production of major staple foods in the GHA by country.

Table 2: Production of major staple foods in the GHA in 2004 (thousands of MTs)

	Bananas	Dry Beans	Cassava	Maize	Millet	Rice	Sorghum	Main Staples
Djibouti	0	1.5		0	0	0	0	Rice
Eritrea	0	0.6		3	12	0	45	Teff*, sorghum
Ethiopia	84	176		2,744	305	16	1,784	Teff*, maize, sorghum
Kenya	510	307	643	2138	51	49	70	Maize, cassava, other tubers
Rwanda	0	199	766	88	4	46	164	Cassava, sorghum
Somalia	-	-	-	-	-	-	-	Sorghum
Sudan	74	30	10	60	500	16	2,600	Cassava, sorghum
Tanzania	150	332	6,890	3,230	215	680	800	Maize, sorghum, cassava, rice
Uganda	615	609	5,500	1,350	700	140	420	Bananas, sorghum, millet

Color legend: Mostly surplus, deficit sometimes, mostly deficit

* No teff data; - No data

Source: FAO (production data); FEWS NET (surplus/deficit data)

Temporal distribution of production

In the GHA staggered harvest periods provide opportunities for trade. For example, harvests of maize, beans, and sorghum in Uganda and Tanzania are available in June and July, immediately preceding the main Kenya harvest. Thus grain from these two countries flows onto Kenyan markets at a critical period, capturing higher prices. This has a negative impact on Kenyan consumers, but good markets and high prices are beneficial to Ugandan and Tanzanian farmers. Table 3 shows the main market months for countries in the GHA.

Table 3: Main harvesting periods in the GHA countries

Country/Seasons	Harvesting Period											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Kenya												
<i>Long rains (main season)</i>												
<i>Short rains (minor season)</i>												
Uganda												
<i>Long rains (main season)</i>												
<i>Short rains (minor season)</i>												
Tanzania												
<i>Main season (msimu and masika)</i>												
<i>Minor season (vuli)</i>												
Ethiopia												
<i>Main season (meber)</i>												
<i>Minor season (belg)</i>												
Somalia												
<i>Main season (gu)</i>												
<i>Minor season (deyr)</i>												
Eritrea												
<i>Main season (kremti)</i>												
<i>Minor season (babri)</i>												
Djibouti												
<i>Long rains (karan)</i>												
<i>Short rains (beys)</i>												
Rwanda												
<i>Long rains (Season B)</i>												
<i>Short rains (Season A)</i>												
South Sudan												
<i>Long rains (main season)</i>												
<i>Short rains (minor season)</i>												

Table 4 shows the various sources of maize within the GHA.

Table 4: Regional maize production and sales by regions (1992-1999 average in MTs)

Region	Country	1992-1999 Avg Maize Production	Main maize selling months by region														
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Iringa	Tanzania	470,684															
Mbeya		447,313															
Arusha		290,612															
Ruvuma		251,983															
Shinyanga		249,884															
Morogoro		223,392															
Rukwa		188,745															
Kilimanjaro		180,756															
Tanga		162,015															
Mwanza		147,574															
Tabora		112,203															
Dodoma		107,719															
Singida		98,921															
Kagera		83,240															
Kigoma		78,832															
Mtwara		67,158															
Mara		39,102															
Lindi		37,582															
Coast		34,656															
Dar es Salaam	3,605																
Rift Valley and parts of western	Kenya	1,113,311															
Western		410,006															
Nyanza		330,414															
Eastern		256,875															
Central		146,974															
Coast		53,367															
Nairobi		7,270															
Northeastern		1,522															
East	Uganda	271,477															
North		155,528															
West		136,157															
North West		69,851															
Central		68,377															
North East		18,767															
South West		7,945															
Gisenyi	Rwanda	6,211															
Ruhengeri		5,166															
Kibuye		4,918															
Byumba		2,496															
Kibungo		1,325															
Cyanguga		1,247															
Kigali		1,188															
Gitarama		628															
Umatara		587															
Gikongoro		418															
Butare	200																
Total		6,432,337															

Legend
 = first season
 = second season

Source: FEWS NET, ministries of agriculture (Kenya, Rwanda, Uganda, and Tanzania), ADC/IDEA Project (Uganda)

Food Trade Policies and Their Effect on Regional Trade

The policies of individual countries with regard to food trade affect the volumes of grain and pulses traded in the GHA region, but have never stopped trade. In East Africa region, cereals have a zero tariff, while a duty of up to 20 percent is imposed to protect Kenya's domestic maize market, including in the 2001-2002 season. The duty paid by East African traders to import cereals can be as low as 3 percent so long as the trader has a certificate of origin, which most small and medium scale traders cannot access easily. Table 5 shows the main old and new food trade policies in each country and their major effect on trade in the region.

Table 5: Food trade policies and their effect on regional trade				
Countries	Policy	Farmers	Traders	Consumers
South Sudan Somalia	Minimal interference: food sector is left to market forces alone	Net-selling farmers: Given asymmetrical market information between farmers and traders in favor of traders, get lower prices offered by traders. Net-buying farmers: Given asymmetrical market information between farmers and traders in favor of traders, get lower prices offered by traders.	May gain from higher returns to trade as a result of offering relatively lower prices to farmers in production areas that they monopolize and selling in competitive markets that are open to many traders	Gain from lower prices offered by traders from different areas as a result of competition
Kenya Tanzania Ethiopia	Price support (official or unofficial) in a liberalized market through purchase of strategic grain reserves at higher prices	Net-selling farmers: Gain from higher prices Net-buying farmers: Lose by purchasing food at higher prices May be forced to reallocate scarce resources from other productive farm investments to grow own food crop.	Buy maize from farmers at slightly higher prices and sell it to strategic grain reserves at higher prices making good returns. Prompt payment by traders is an incentive to sell to traders instead of the strategic grain reserves at lower prices	Lose by purchasing food in local markets at higher prices pushed up by strategic grain reserve price. Prices take longer to stabilize at "free market" levels; may shift to other cheaper food.
Uganda Rwanda	Competitive production and marketing of maize in the region	Net-selling farmers: Farm gate price is low, but low cost of production results in modest profit Net-buying farmers: Farm gate price is low, but low cost of production results in modest profit Farm resources are re-allocated to farm investments that achieve maximum returns. Income from other high income farming activities is used to purchase readily available staple food sold competitively in a local market.	Reasonable returns from high turnover business operating in a larger domestic and export trade	Food is accessible (available and affordable) to many households because of low cost of production and marketing

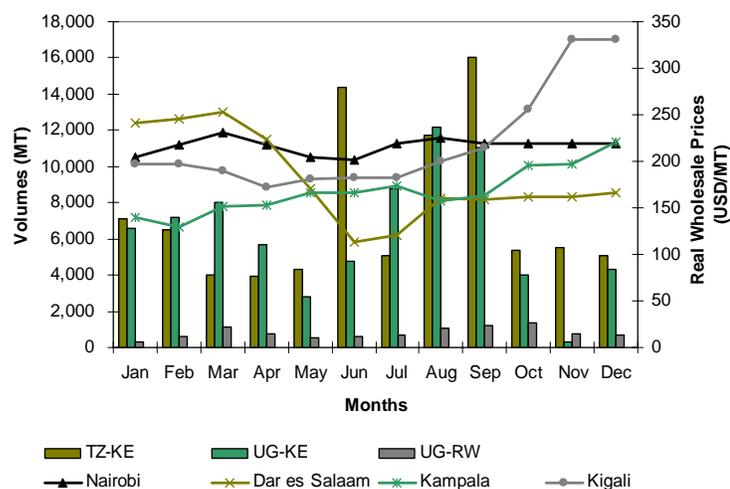
Legend: Losses; Gains

Source: Author (compiled from various sources)

Box 2: 2004 maize prices and volumes in Kenya, Rwanda, Tanzania, and Uganda

In 2004 Kenya was the main market for intra-regional maize trade in East Africa. Kenya was the only country in East Africa that experienced a deficit production year in 2004-2005. The figure below shows the volume of maize traded through selected border posts and the real wholesale maize prices in four capital cities.

In the third quarter of 2004, wholesale maize prices in Kenya remained elevated due to below-normal imports and below normal early long rains maize harvests (maize is usually harvested between July and September). In addition, higher prices were supported by prospects of a lower than normal main long rains harvest, which occurred between November 2004 and January 2005. In the same quarter, Tanzania's long rains maize crop started entering the Tanzanian market further reducing prices there that had already started declining in April. Tanzania's maize exports to Kenya increased significantly attracted by higher prices in Kenya. However in July the customs requirement stating that cross-border traders must have tax identification numbers temporarily reduced maize exports into Kenya.



In the fourth quarter Kenya's long rains maize crop entered the market, but prices remained stable and higher than average at around USD 219/MT in Nairobi. Tanzanian prices were also stable at around USD 163/MT in Dar es Salaam. However Tanzania's maize exports into Kenya declined due to competition from Kenya's domestic supply. From October to January maize exports from Tanzania to Kenya were low but stable, at around 5,300 MT per month.

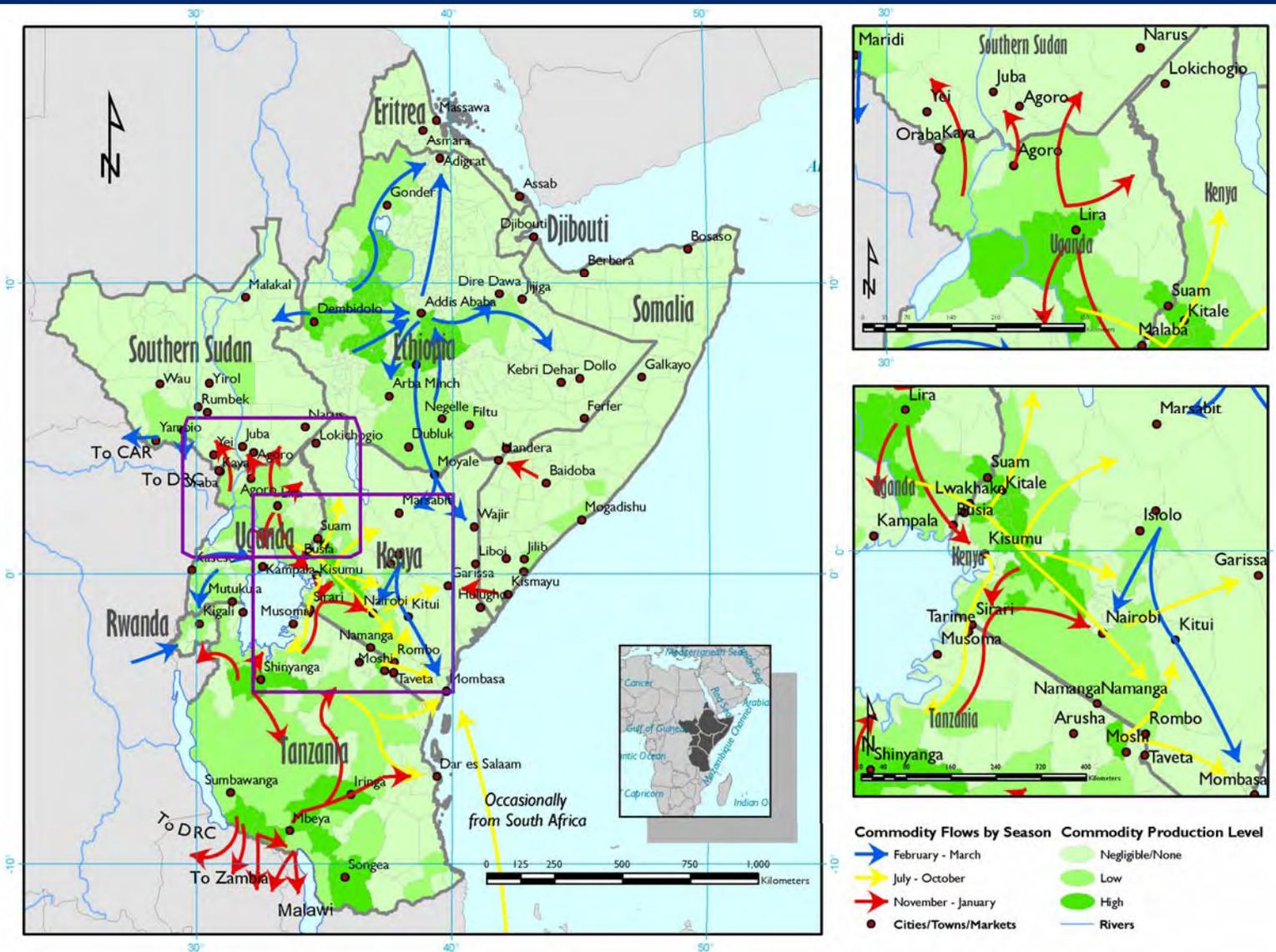
Long rains maize production in Uganda during 2004 declined by about 30 percent from 460,000 MT to 322,000 MT due to bad weather. Even in the third quarter, at the peak 2004 long rains maize harvest, the price decline was marginal due to high demand. Exports to Kenya surged from July to September but then declined rapidly as by October maize stocks diminished, despite higher wholesale maize prices in Kenya.

By the end of the fourth quarter of 2004 wholesale maize prices in Rwanda were the highest in East Africa. High demand by institutions and limited domestic and import supplies contributed to this rapid increase in maize prices. Uganda maize exports to Rwanda declined from an average of 1,200 MT per month in the third quarter to 760 MT per month in the fourth quarter as stocks diminished.

3.1 TRADE OF PRIMARY AGRICULTURAL FOOD CROP COMMODITIES

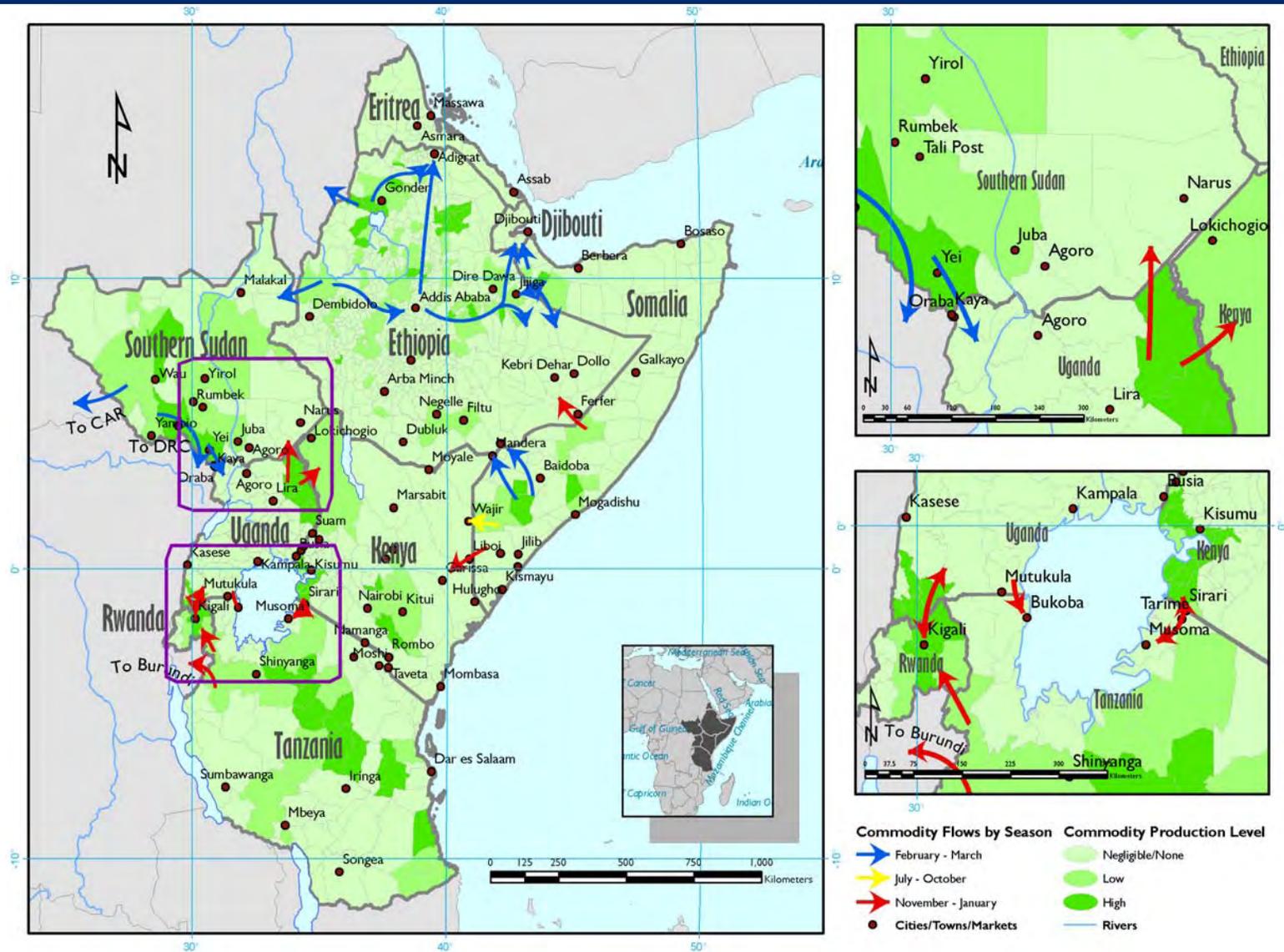
This section shows the main surplus and deficit areas of maize, sorghum, teff, rice, millet, cassava, bananas, and dry beans in the GHA. The main directions of trade in these commodities are also shown. The colored arrows depict the main direction of trade within a certain period.

Figure 5: Maize production and market flows in the GHA



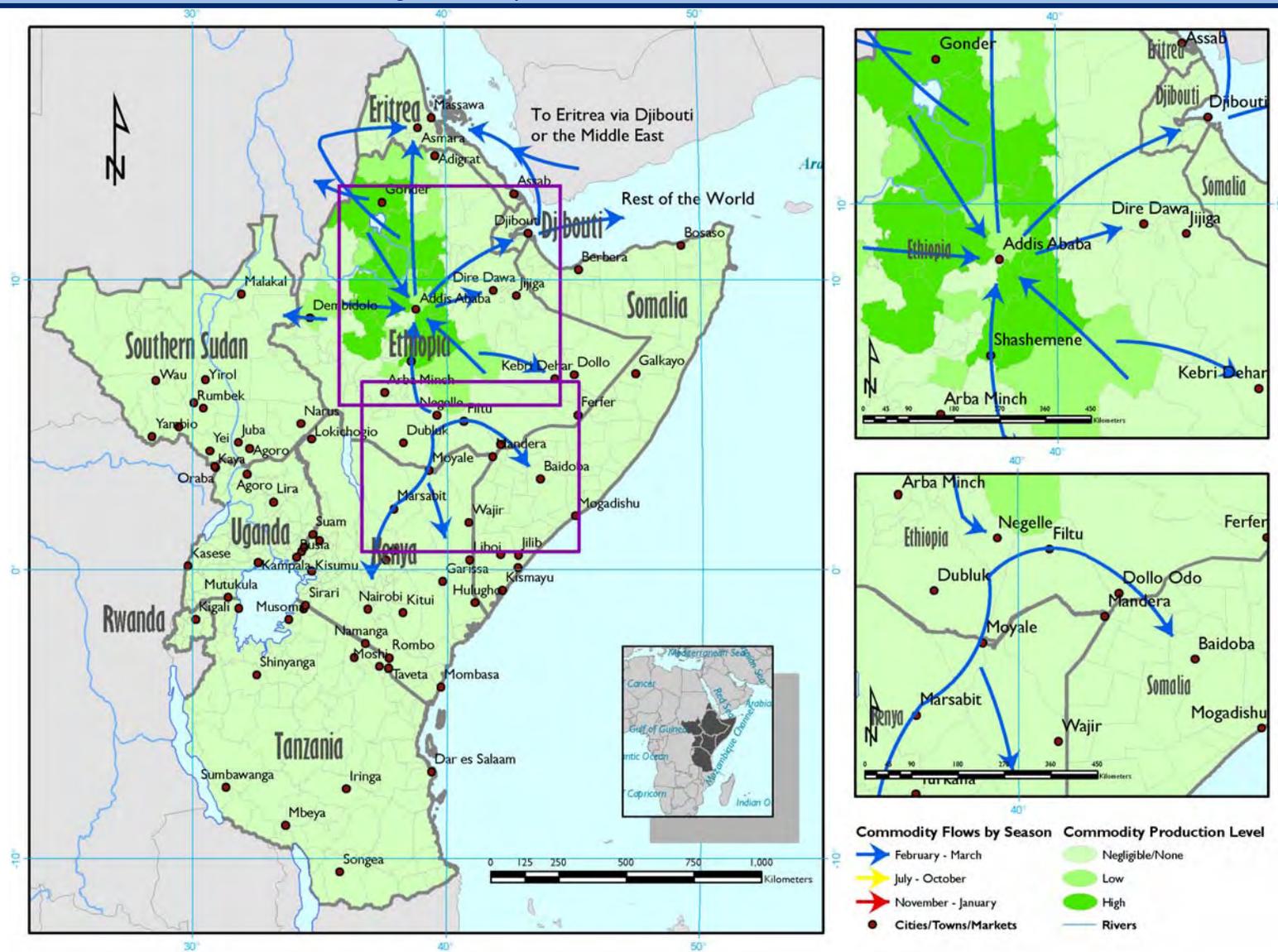
Source: FEWS NET

Figure 6: Sorghum production and market flows in the GHA



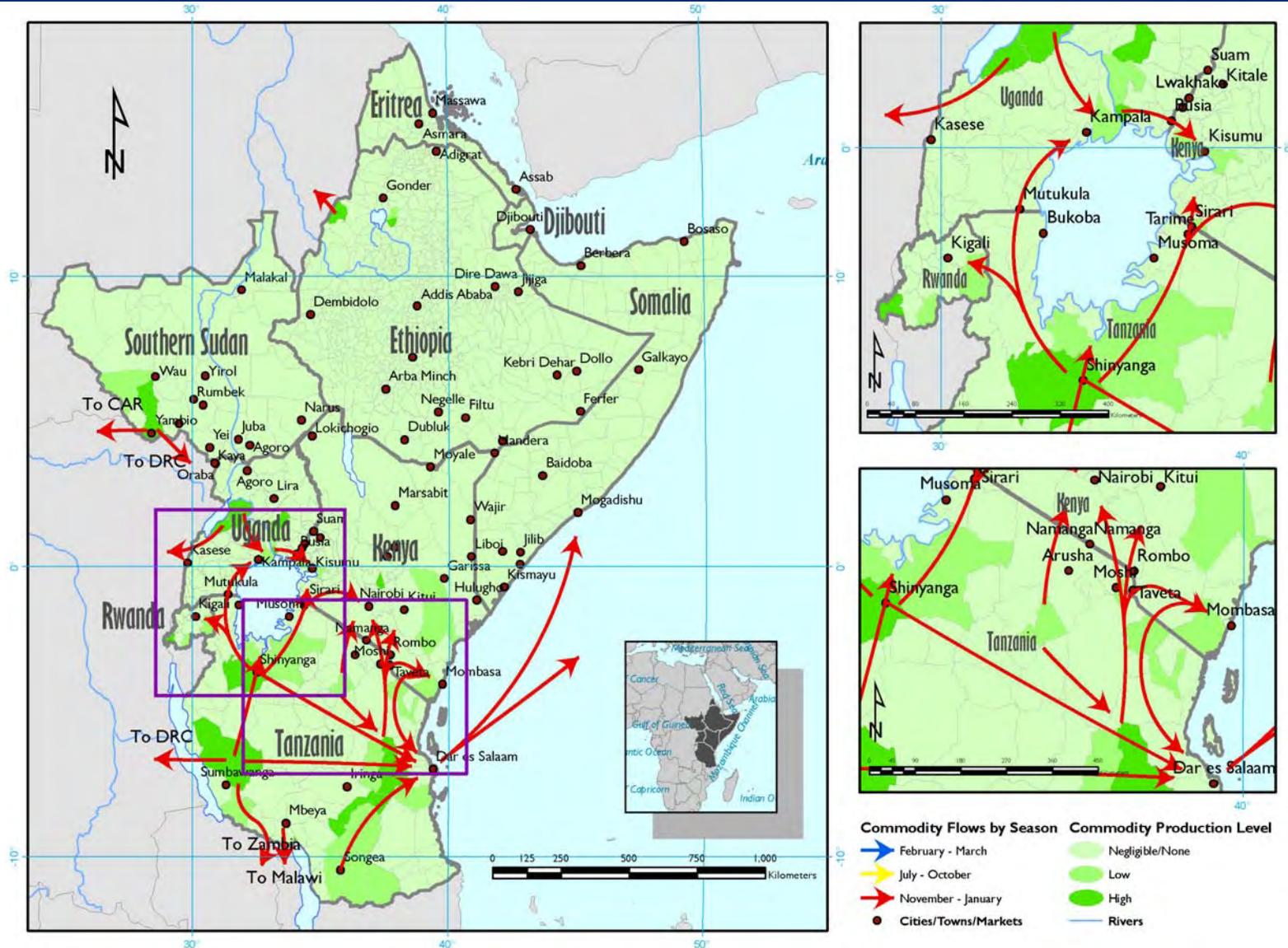
Source: FEWS NET

Figure 7: Teff production and market flows in the GHA



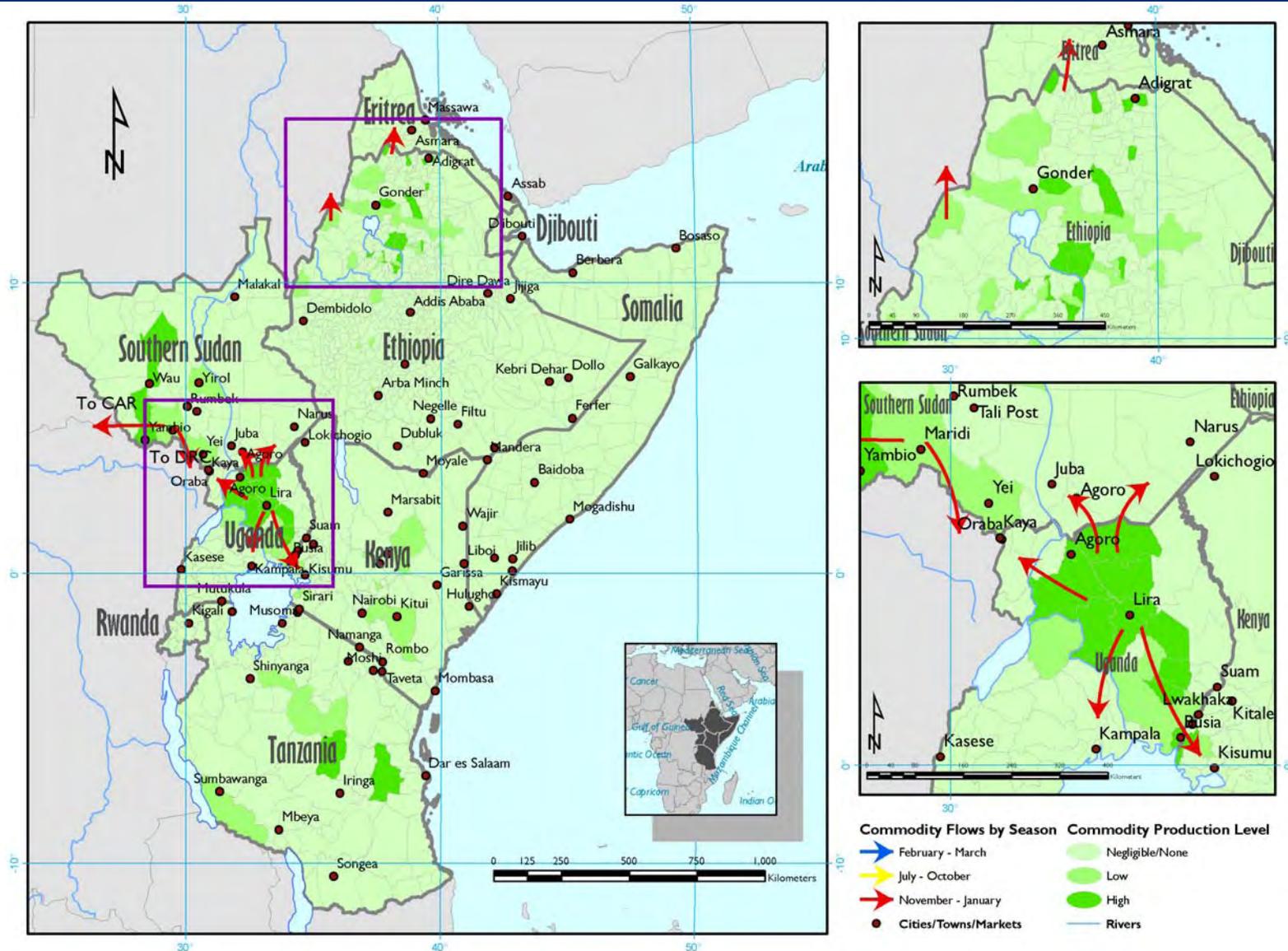
Source: FEWS NET

Figure 8: Rice production and market flows in the GHA



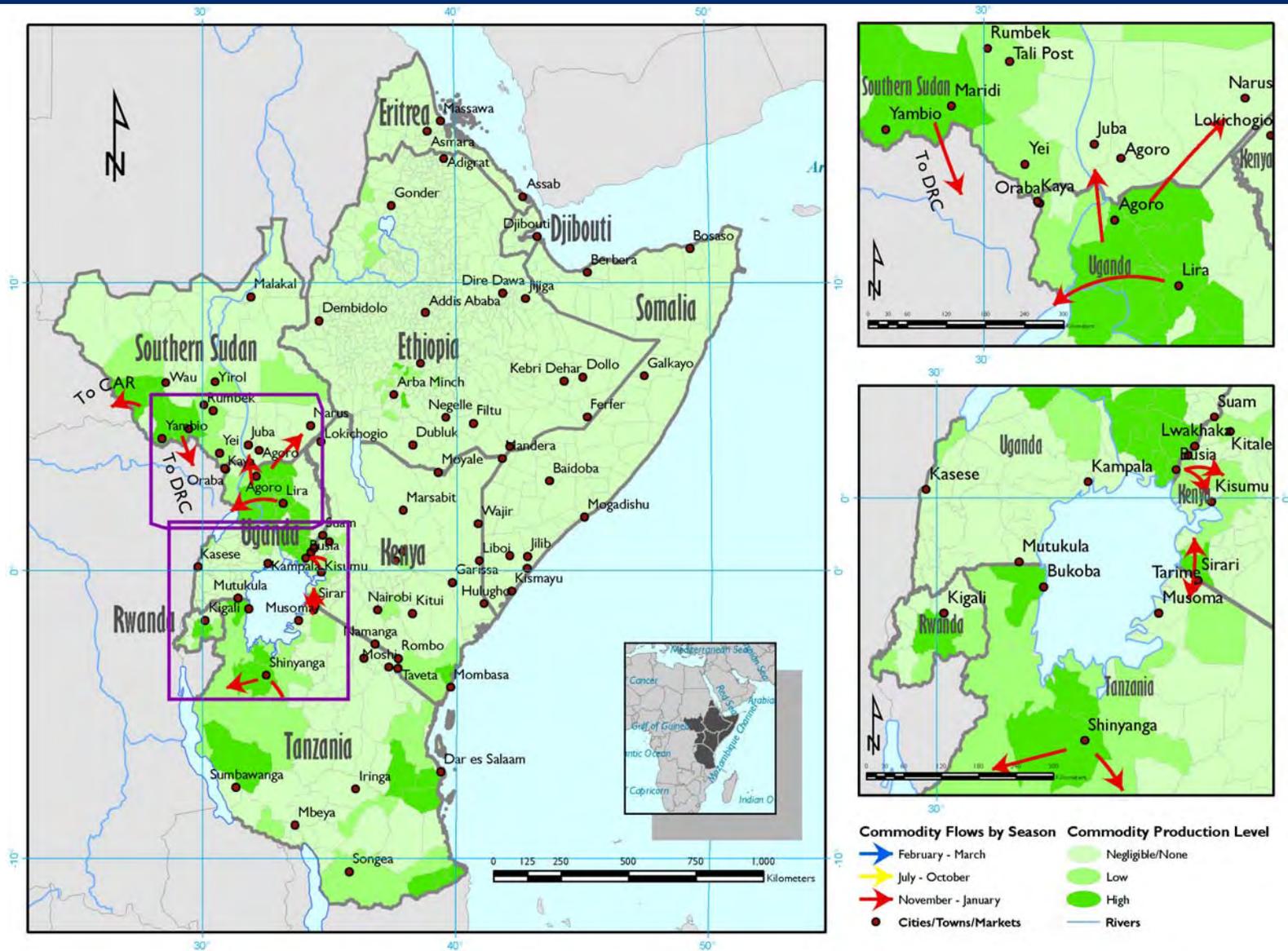
Source: FEWS NET

Figure 9: Millet production and market flows in the GHA



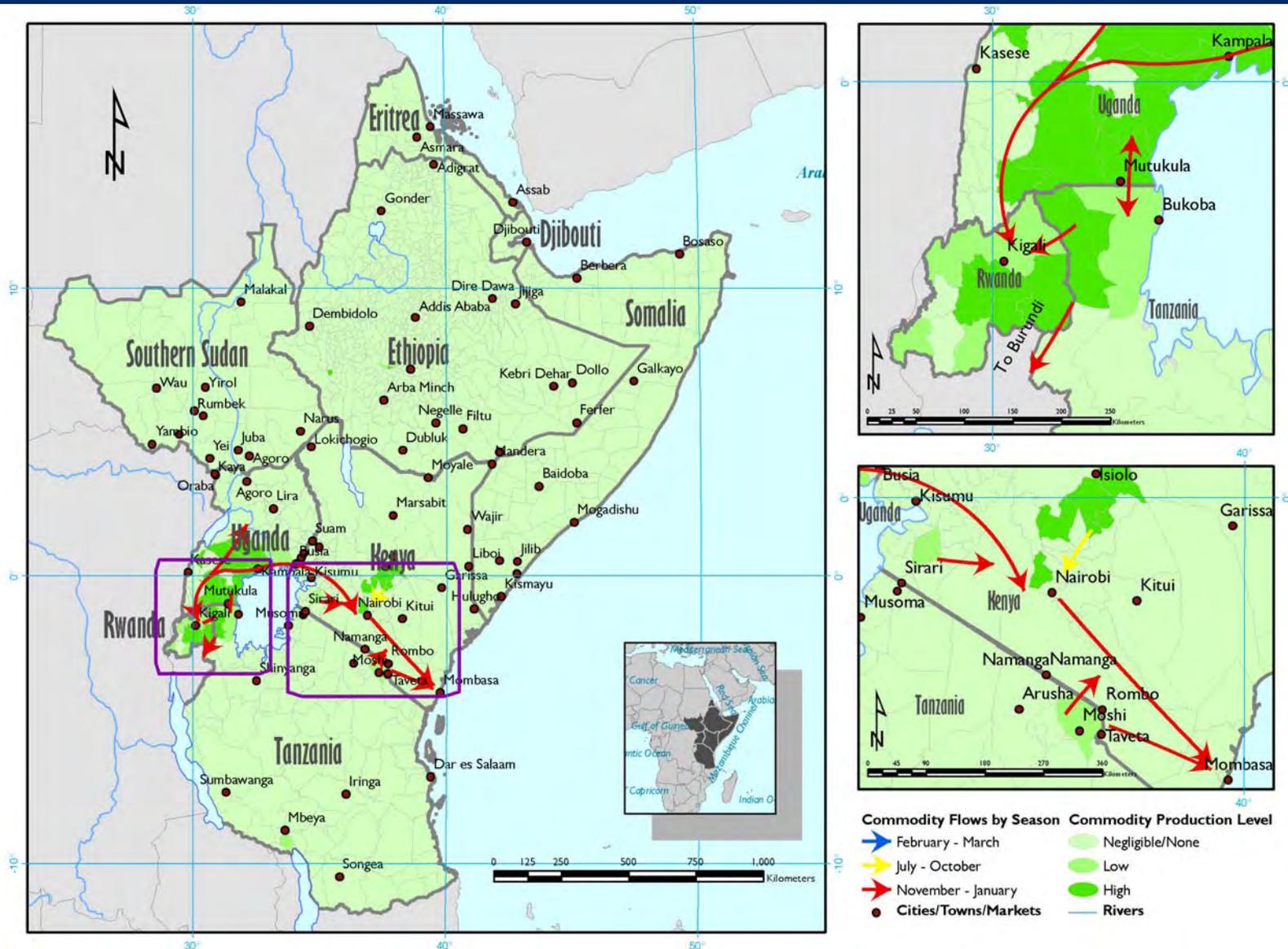
Source: FEWS NET

Figure 10: Cassava production and market flows in the GHA



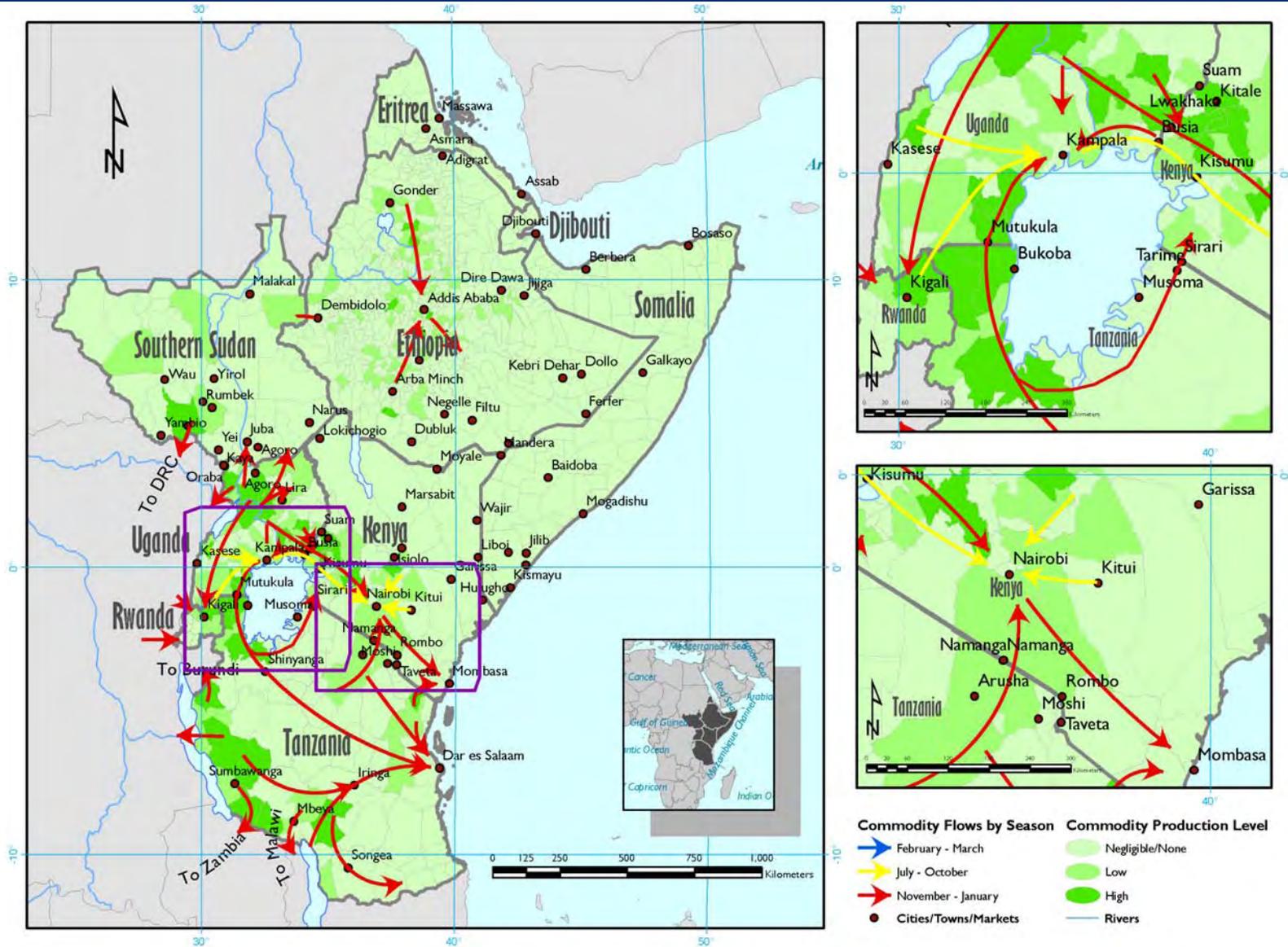
Source: FEWS NET

Figure 11: Banana production and market flows in the GHA



Source: FEWS NET

Figure 12: Bean production and market flows in the GHA



Source: FEWS NET

3.1.1 Ethiopia-Kenya trade

Maize and beans are the main commodities traded between these two countries. The infrastructure linking the rest of Kenya to its northern and northeastern food deficit regions is very poor, making domestic delivery of food and other goods quite expensive. Ethiopia and Somalia are usually the cheapest sources of supply due to better infrastructure (Ethiopia), and proximity of production areas in Ethiopia and Somalia along the Juba River.

The Kenya-Ethiopia border includes two road crossings: at Moyale and Mandera. Both sides of the border are predominately pastoralist, so livestock trade and grazing have traditionally been the major source of food security linkages. However, Ethiopia's occasional surpluses of maize and beans pass to Moyale.

The border post of Moyale traditionally has not been a major transit point for food trade, but the huge Kenya deficit combined with large Ethiopian surpluses transformed it in 1996 and 1997. Private traders began moving food into Kenya in response to much higher prices. The private grain was moving exceptionally long distances, from Shashemene to Isiolo and Meru in central Kenya — distances of up to 800 kilometers. Some of the private informal trade faced harassment on the Ethiopian side of the border, so bags of maize were carried across the border by donkey and loaded into waiting trucks in Kenya. Once the Government of Ethiopia allowed the exports, the World Food Program in mid 1997 officially moved over 6,200 MT of maize and 650 MT of beans through Moyale for its relief efforts in northern Kenya. During this unusual year, official food trade also took place by sea. An additional 50,000-60,000 MT of food moved from Ethiopia to Kenya, via the port of Mombasa. Wheat, distributed in Ethiopia as food, is also traded in Moyale.

Mandera town, located in Kenya but bordering both Ethiopia and Somalia, is an important commercial center for all three countries. Most of the milk, rice, and fuel consumed in Mandera originate from southern Ethiopia and Somalia. When Ethiopia has food surpluses in the highlands, cereals and pulses move from Ethiopia to Mandera and points further south in Kenya.

3.1.2 Southern Sudan-Kenya trade

Cross-border food linkages between Kenya and Sudan are limited by insecurity, the lack of market demand on both sides of the border, and similar agro-climatic conditions. This trade is picking up slowly after a return to relative calm in southern Sudan. Trade is expected to pick up in the short run because the road between the two countries is in relatively better condition than many others in the GHA region, and alternative routes to the sea from southern Sudan are equally long.

3.1.3 Uganda-Kenya trade

Maize, beans, bananas, and oilseeds are the main primary agricultural commodities traded between these two countries. The food security linkages between Kenya and Uganda are among the strongest in the GHA region. The volume of both formal and informal trade in basic foodstuffs was estimated at about USD 200 million per year in 2000 (RATIN studies, 2003). Primary agricultural commodities usually flow from Uganda to Kenya. However, the value of finished goods exported by Kenya to Uganda is greater than Uganda's exports to Kenya. Kenya's major agricultural exports to Uganda are not primary commodities, but value added processed goods, such as wheat flour, cooking oil and sugar.

Four major border points handle both the official and unofficial trade in crop commodities between Kenya and Uganda: Busia, Malaba, Suam, and Lwakhakha. A number of small ports along Lake Victoria also move foodstuffs in both directions. Food also moves across the northern sections of the border, although the volumes are limited due to the small populations in these predominantly pastoral zones.

Uganda has made the expansion of food exports to neighboring countries an official part of its food security policy. Maize and beans have been a focus of the export promotion work, and Kenya's frequent deficits in both commodities have been well recognized by traders and policy makers in Uganda. Several major production zones lie close to the Kenyan border (see maps on preceding pages).

3.1.4 Somalia-Kenya trade

Food trade between Somalia and Kenya is mainly small-scale, including rice, pasta, sorghum, and food aid maize. Very little agricultural production takes place in the Northeast Province of Kenya. Food supplies for Kenyan pastoralists either move into the province from other parts of Kenya, or come across the border from Somalia. Somalia supplies small amounts of locally produced sorghum, as well as imported rice and pasta, to Kenyan pastoralists.

The Kenyan town of Mandera is a hub for trade between Kenya, Somalia, and Ethiopia. Milk and imported rice and pasta move from Somalia into Kenya through Mandera. Liboi is another major town where cross border trade is important. The food security impact of this trade is highly localized because of the sparse populations on all three sides of the border. Food from refugee camps along the borders often finds its way in to Somalia, as well as into major towns in the Northeast Province of Kenya.

3.1.5 Tanzania-Kenya trade

Maize, rice, and beans are the main staple foods traded between these two countries. Agricultural trade between Kenya and Tanzania historically has been very strong. In the past, this trade was partly due to poor transport infrastructure and economy in Tanzania, making Kenya an outlet for surplus food production from the Arusha and Lake Victoria regions. Tanzania has made much progress in its infrastructure, which has widened the food sources for the Kenyan market. It is now normal for maize from Southern Tanzania, parts of Malawi, and Zambia to reach the Kenyan markets of Nairobi and southeastern and coastal areas (RATIN Monthly Bulletin, 2003-2005).

The main agricultural production areas of northern Tanzania are a reliable and inexpensive source of food for the insecure marginal agricultural southeast and southwestern lowlands of Kenya. In return, Tanzanian farmers and traders get relatively better prices compared to the domestic market. However, trade can easily reverse depending on the performance of the season.

The main border points between Kenya and Tanzania include Horohoro, Taveta, Rombo, Namanga, and Sirari. Foodstuffs move through all of these points, as well as across Lake Victoria. Maize remains the principal commodity imported into Kenya from Tanzania, followed by beans, fish, rice, root crops, and sugar (Akello-Ogutu, 1997; RATIN Monthly Bulletins 2003-2005). Wheat flour and sugar remain the major agricultural commodities imported by Tanzania from Kenya, in both quantity and dollar terms.

3.1.6 Tanzania-Uganda trade

Rice, beans, and some bananas are the main staple foods traded between Tanzania and Uganda. Both sides of the border between Uganda and Tanzania have similar and favorable agro-climatic conditions, conducive for ample food production with surpluses exported to Kenya and Rwanda. There is limited trade within the border areas. Agricultural trade between Uganda and Tanzania is low compared to trade between Tanzania and Kenya, Zambia, Rwanda, Burundi, DRC, and Malawi.

The main border point between Tanzania and Uganda is at Mutukula, but goods are also shipped across Lake Victoria from Bukoba in Tanzania. Beans and some bananas are exported to Uganda from Tanzania but the direction of trade can reverse depending on the season's performance on either side of the border. Rice is mainly imported from Tanzania, and remains the largest commodity traded between the two countries, mostly informally (RATIN data, 2005).

3.1.7 Djibouti-Somalia trade

The main food trade between Djibouti and Somalia (Somaliland) is sorghum. Some mangos and other fruits are exported to Djibouti from Somalia, but the amount and value is insignificant. A significant amount of the grain consumed in the border areas of both countries is imported or shipped in from Ethiopia. Djibouti is a net importer of staple foods which include rice, sorghum, and pasta.

3.1.8 Eritrea-Sudan trade

Sorghum is the main staple food traded between Eritrea and Sudan. A deterioration of relations between Eritrea and Sudan is thought to have reduced trade, especially the more important informal cross-border exports of sorghum from Sudan to Eritrea, estimated at around 65,000 MT per annum before the 1994 war. The openness of the Sudan/Eritrea border varies. The two governments frequently meet for diplomatic discussions, and Eritrea claims that the border is open; however, very little official trade is conducted between the two countries. Laura (2003) observed that significant amounts of sorghum are imported from Sudan through the border town of Tesseney. Like trade with Ethiopia, Eritrean government officials seem unconcerned by unregulated trade from Sudan, probably because they know that there is nothing that they can do to stop it, and that it provides much needed food.

Fuel wood and grain are regularly brought into Eritrean markets from Sudan, and are exchanged either for cash or for imported products such as tires, spare parts, et cetera. Hammond noted that since most of this trade is conducted illegally, accurate numbers of the scale of trade between Eritrea and Sudan are not available. Traders reported that in the past, imported sugar was also exchanged for Sudanese sorghum. In western Eritrean markets — where grain is more readily available as a result of local production and the steady flow of imported Sudanese grain — prices are usually lower than in the eastern cities of Keren and Asmara.

3.1.9 Eritrea-Ethiopia trade

The main commodity traded between these two countries is teff. The war between Eritrea and Ethiopia from 1998 to 2000 and the continued closure of the two countries' common border has had a devastating impact on cross-border trade. Although the border remains closed, Laura (2003) observed that there was clear evidence that informal trade between Ethiopia and Eritrea was continuing on a small scale. In Asmara's main grain market, teff was piled high in bags marked "Product of Ethiopia" and festooned with the Ethiopian flag. Traders reported that the teff was being brought from Ethiopia through Djibouti and Dubai to Massawa, though the exact mechanism for changing hands (whether the trade is being conducted directly between Ethiopians and Eritreans or through a foreign intermediary) is not known. Small amounts of pulses were also observed being sold in Ethiopian bags.

Both government officials and traders insisted that no significant amounts of goods were coming from Ethiopia directly. While petty trade was reportedly started between some villages around Tsorona, it was generally acknowledged that large consignments of grain would be stopped at the border and traders would be arrested. Large trade of teff between Ethiopia and Eritrea goes through third countries. Conflict has increased the prices of Eritrea's main staple foods, sorghum and teff, which were mainly sourced from Ethiopia.

3.1.10 Djibouti-Ethiopia trade

The Ethiopia/Djibouti border crossing serves as Ethiopia's main official import and export route and covers a range of different commodities including livestock, coffee, chat and consumer goods. Inability to use the Assab Port in Eritrea due to the conflict between Ethiopia and Eritrea, much of Ethiopia's trade has been channeled through the Djibouti port. This action has made trans-border trade in that area very large and diverse, especially when compared to the other border sites. Unlike other border sites, livestock and its products (hides and skins) only rank third in importance as an agricultural commodity in the Ethiopia and Djibouti cross-border trade after coffee and chat. Djibouti, primarily sells port services to Ethiopia and it is the service industry in Djibouti, which is strongly linked to the performance of Ethiopia's external trade. Officially imported food items to Ethiopia through Djibouti and Somalia include rice, sugar, wheat flour, milk powder, edible oil, spaghetti and macaroni. They are primarily destined to markets in eastern Ethiopia. Ethiopia also exports Teff other cereals to Djibouti.

3.1.11 Somalia-Ethiopia trade

Sorghum, imported rice, and pasta are the main food commodities traded between Somalia and Ethiopia. Historically, most of the sorghum consumed in the east and southeastern region of Ethiopia was produced in

Somalia, or imported into Somalia by sea; especially rice and pasta. Animals were traded principally to secure grain for consumption. The war in Somalia seriously reduced the supply of sorghum from southern Somalia to pastoralists in Ethiopia. Food aid — provided on either side of the border to refugees or drought-affected populations, including hundreds of thousands of Ethiopians resident in Somalia from the late 1970s to the early 1990s — was widely traded across the border and frequently formed the basis of the grain consumed in the Ogaden. With the closure of refugee camps for Ethiopians in Somalia, sources of sorghum for the Ogaden region switched between riverine areas in Ethiopia and parts of Somaliland. Huge fluctuations in prices are common due to irregular supplies.

SECTION 3.1 SUMMARY

- Cross-border trade in the GHA is mostly between two neighboring countries.
- Multi-country import is common in Kenya, which receives beans from Rwanda and maize from Malawi and Zambia.
- Maize is the most traded commodity in the GHA followed by beans, rice, sorghum and bananas.
- Millet and cassava are the least traded commodities in the GHA.
- Teff production and trade is limited to Ethiopia and Eritrea, apart from exports to immigrant communities from these countries in neighboring states.

3.2 SUMMARY OF STRUCTURE, CONDUCT, AND PERFORMANCE

The following sections summarize the structure, conduct, and performance of cross-border trade in primary agricultural food commodities in the GHA. As mentioned earlier, cross-border trade is defined as intra-regional trade within the GHA — both recorded (official) and unrecorded (unofficial) and undertaken by small, medium, and large traders who may be registered or not.

3.2.1 Structure

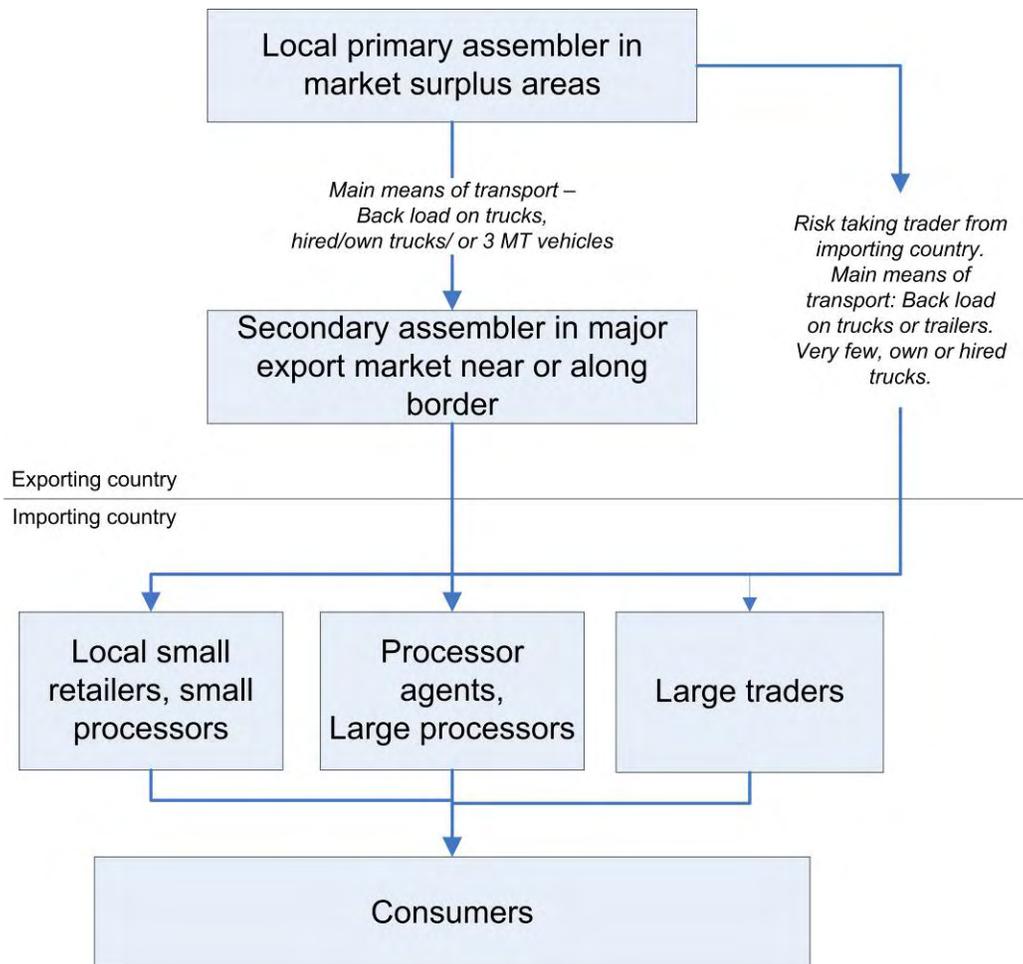
Shorter marketing chain

Generally, the main channel to move cereals and pulses between borders in the GHA is becoming shorter, as more traders increasingly purchase commodities deep inside source countries, bypassing border stores in the destination country and taking produce directly to terminal markets. Consequently border posts such as Taveta and Namanga (between Kenya and Tanzania) are becoming increasingly irrelevant with respect to cross-border trade. This may be attributed to relatively low taxes that have reduced the usefulness of border stores used for smuggling commodities. With more liberalization of cross-border trade, only those border posts that are main collection towns — such as Busia (Kenya-Uganda), Sirari (Tanzania-Kenya), Moyale, and Mandera (Kenya-Ethiopia) — may survive. The main GHA collection points for exports are relocating from the borders to main markets in the surplus areas or major transit markets in Kenya, Uganda, Rwanda, and Tanzania. The main marketing channel is as shown in figure 13 below.

Local assemblers are small traders who bulk cereals, pulses, and bananas for onward sale to larger export traders. They may be agents of secondary market assemblers. They use small trucks, donkeys, oxen, bicycles, tractors, or pick-up trucks to collect produce from farms, or farmers deliver to their stores. Local assemblers also purchase from farmers when they meet on local market days, especially during the harvest period. The most successful local assemblers have been in the business for many years and are known to most farmers in their areas of business. Credit purchases are common at this level. The commodity is then transported on hired trucks or by backload capacity to export assembly markets. These markets are usually located along a border and have storage facilities. Export assemblers in these markets dry, sort, weigh, and package cereals and pulses for export. Importers come to these markets to physically inspect produce, and to choose and purchase consignments. They may purchase the same product from different export traders. Either the importer or exporter organizes backload transport for the commodities. It is now common for the export

trader to clear the goods at the customs post. Although strong bonds have been developed between exporters and importers, the main determinant of trade is quality and price. Most local and export assemblers deal with both cereals and pulses. Bananas are usually traded alone; a banana trader does not trade in other commodities, while cassava is mostly traded together with other tubers or flour.

Figure 13: Main cross-border marketing channels in the GHA



Source: FEWS NET

Importing traders mostly sell their commodities at wholesale prices to large traders for onward sales to humanitarian organizations, processors, or strategic grain reserves — also to small retailers, some of whom double up as small millers of maize, millet, and sorghum. Large processors are only supplied with high quality commodities directly from importers, or indirectly through other large traders as mentioned above.

Brokers are active along the Kenya, Tanzania, Uganda, and Rwanda borders as a result of increasing customs harmonization. Several brokers are providing services related to export-import trade such as drying, sorting, arranging transport services, loading, et cetera.

Bananas do not pass through an export assembly market because they are highly perishable. They are usually purchased in surplus areas by export traders through agents, or from local traders. Export traders then deliver them to destination markets in the early morning of the following day, using hired trucks. In terms of value, bananas are ranked first, followed by pulses and then cereals. Bananas are transported to cross-border destination markets on hired trucks while cereals, pulses, and cassava are transported on inexpensive backload trucks or trailers.

Low Concentration: Many small and medium traders

The main actors in the cross-border trade in the GHA, including DRC, CAR, Malawi, and Zambia, are many small and medium scale traders (SMT) from all countries in the region. For example, it is believed that SMTs move at least 70,000 MT per year⁶ of cross-border maize between Kenya and Uganda, as well as considerable tonnages of beans and maize between Tanzania, Uganda, Rwanda, Kenya, and DRC using vehicles and backload capacity. The estimated tradable surplus of maize in Kenya is between 600,000 and 750,000 MT per year.⁷ Of the estimated cross border maize imports into Kenya of between 100,000 and 175,000, 75-80 percent is unrecorded and recorded trade by SMTs.

Large private traders or processors rarely engage in cross-border trade because they are able to purchase their requirements through these small and medium scale traders. National strategic grain reserves do occasionally sell or purchase from each other. In 2004, Tanzania's strategic grain reserves purchased 20,000MT of maize from Kenya's National Cereals and Produce Board.⁸ Unlike the cross-border livestock, there are many small and medium scale cereal and pulses cross-border traders. Few traders or merchants controlling large stocks are rare along all borders in the GHA.

Cross-border Traders Associations

Most cross-border traders, especially in Uganda, parts of Rwanda, northern Tanzania, and western Kenya are members of trade associations that lobby for lower statutory fees, improved trading environment, and better trading practice enforcement. Due to the increasing demand for large consignments by humanitarian organizations, millers, and large traders, associations usually help individual members with large supply contracts by contributing stocks to reach the required quantity.

Barriers to entry

Some nationalities are dominant in cross-border trader due to:

- Higher capital endowment
- Inexpensive transport due to availability of backload capacity on trucks returning after delivering finished/manufactured goods in neighboring countries, or empty capacity on trucks going to collect goods
- Relatively less harassment by interior government officials, especially in Uganda and Tanzania
- Risk taking disposition of traders that makes them venture into the interior areas of other countries to source for food (Tanzania and Uganda trader interviews, 2006)
- Access to better market information through own network or public systems

These factors have enabled Kenyan traders to venture deep into Tanzania and Uganda to source maize, beans, rice, and other commodities. Somali traders are also common in Ethiopia, while Ethiopian traders can be found in Southern Sudan.

Segmented market and product differentiation

The quality of grains and pulses produced within and between countries in the GHA vary depending on the level of enforcement of standards. Prices vary with quality for primary agricultural products. Similarly, the market is segmented by consumer quality specifications. The purchasing power of different households determines the quality of produce they select in the market. In most cases, poor households barely manage to purchase sufficient quantities of low quality food imports at discounted prices to meet their requirements. For example, Ugandan maize that is usually colored and wet has a large market in low income areas of Western, Nyanza, and Eastern Provinces in Kenya, where it sells at a lower price than maize from the North Rift in Kenya. Similarly, rice with a higher percentage of broken pieces sells at a discount in markets in Kenya, Uganda, and Rwanda.

⁶ Technoserve May 1997

⁷ MoA estimates, 2003

⁸ RATIN Bulletin, February, 2004

Border crossing points are unique

Border crossings in the GHA are different from each other due to:

- Seasonal flow of commodities
- Types of traders
- Mode of transport across border
- Distance between one customs post and another
- Tax evasion method
- Enforcement of some official customs procedures

Table 6 is a summary of the characteristics of selected border markets in the GHA. To expand the table to include borders in Ethiopia, Eritrea, Djibouti and Southern Sudan, a study would need to be undertaken, similar to that carried out by RATIN in East and Southern Africa.

Table 6: Characteristics of select border markets in the GHA

Market	Busia	Malaba	Kapchorua	Isebania/ Sirari	Namanga	Taveta/ Holili	Lungalunga/ Horohoro	Mutukula	Katuna	Muhabura	Rusoma
Border	Kenya-Uganda	Kenya-Uganda	Kenya-Uganda	Kenya-Tanzania	Kenya-Tanzania	Kenya-Tanzania	Kenya-Tanzania	Tanzania-Uganda	Rwanda-Uganda	Rwanda-Uganda	Rwanda-Tanzania
Town/center size	Large export assembly	Small transit	Large import or export assembly	Medium transit	Medium export assembly	Small transit	Small transit	Medium transit	None	None TZ Small Rwanda transit	Large import or export assembly
Border centers adjacent	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	N/A	N/A
Main commodities traded	Cereals, Pulses, oil crops	Pulses, Oil crops	Maize, Beans	Maize, Beans, Rice	Maize, Beans, Rice	Maize, Beans	Groundnuts, Rice, Maize	Sorghum, Bananas	Bananas	Maize, Beans, Rice	Rice, Beans
Presence of Commodity Storage facilities	Yes	Yes	Yes	Yes	Yes	Yes (TZ)	None Major	None Major	few	None Major	
Main Physical separation of borders	None	River	River	None	None	None	None	None	None	None	River
Presence of Commodity brokers	Many	Many	Not significant	Few	Few	Few	Not significant	Not significant	Not significant	Not significant	Not significant
Main Mode of Commodity movement	Trailers, Trucks, Buses, Pickups, Bicycles	Trailers, Trucks, Buses, Bicycles	Trucks, Pickups	Trailers, Trucks, Buses, Few Bicycles	Trailers, Trucks	Trailers, Trucks (Some Bicycles in Bush)	Trailers, Trucks	Trucks	Trucks, Canters	Canters	Trucks, Canters
Commuter bus route (for traders and cargo)	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Prevalence of unofficial trade	High	Medium	Medium	Low	Low	High	Low	Medium	Low	Low	Low
Main Method of Commodity Exchange between cross-border traders	Stores to Truck	Store to truck	Store to Truck, Truck to Store in Kenya	Store to Truck	Truck to Truck	Truck to Truck	Truck to Truck, Store to Truck	Store to Truck	Store to Truck	Store to Truck	Store to Truck

Filing Import/Export Documents

Countries in the GHA have different import-export requirements. The East African countries of Kenya, Uganda, and Tanzania are working towards harmonizing their requirements; other countries are also trying to harmonize requirements under the Common Market for Eastern and Southern Africa (COMESA). In the GHA, different combinations of the list below are required by different governments.

1. Registered company
2. Tax identification number
3. Trading license
4. VAT registration
5. Certificate of origin
6. Phyto-sanitary certificate
7. Commercial invoice
8. Customs forms for entry/export
9. Import/export permit
10. EAC and COMESA tariffs
11. Import commission/declaration form
12. Withholding tax
13. Use of clearing agents
14. Standards certificate
15. Health certificate
16. Pre-inspection certificate

These requirements are met by a few large scale trading companies. The many small and medium scale cross-border traders fulfill fewer than three of the above requirements: they may pay tax and meet minimum phyto-sanitary standards requirements only. It is also difficult for small traders to get standard certification documents, plant inspection certificates, or other documentation that can be found in capital cities. Even if some of these documents are available to small traders, they are always complex and difficult to complete. Yet a trader is only able to formally benefit from lower EAC/COMESA tariffs if he has these types of documents.

Movement of traders determined by level of government intimidation and security

Harassment by government officials in source and destination markets also inhibits efficient cross-border trade. For example, small cross-border traders are usually asked to show many documents to prove they are genuine traders in Kenya and Ethiopia, such as an identification card, passport, a trader's license, birth certificate, and more. Due to past experience and/or hearsay, most Ugandan and Tanzania traders fear venturing into the interior market of Kenya, preferring to source and accumulate commodities from their markets on behalf of Kenyan traders, who then transport the commodities. Kenyan traders prefer to use proxies when trading with Ethiopia to avoid harassment. Similarly, because of insecurity in southern Sudan, Ugandan traders prefer to collect Sudanese commodities on Uganda's side of the border.

Unlike livestock trade that often avoids roads and major markets, food trade can be easily disrupted by road blockades, looting, and armed conflict. Because most herders in the region finance food purchases through the sale of livestock, any downward trend in cross-border commerce and prices will have a negative effect on pastoral food security.

Uneven access to information on prices, surplus and deficit regions

Some organized cross-border trader associations and traders in Ethiopia, Uganda, Tanzania, Rwanda, and Kenya have access to information about prices, surplus, and deficit food areas in the region — especially about maize, rice, and beans, courtesy of RATIN. Other traders depend on their own networks to get information on these crops. There are no organized market information systems that provide data on sorghum, millet, cassava, teff, or bananas traded in the GHA. Traders use their own networks to get critical information on prices, volumes traded, and surplus and deficit areas.

Risky informal business transactions

There is no formal contract in most cross-border trade transactions. Trust is an important factor in this trade that also involves time-consuming personal presence and interaction. Telephone transactions, credit sales, or purchases are only possible once trust has been established and there is a long history of doing business between two traders. Many traders have lost out to unscrupulous cross-border colleagues and are hesitant to move out of their own countries in search of new markets. Unlike livestock trade, the regional trade of food commodities is not based on any tribal or familial ties: export traders serve diverse importers from different markets. Consequently, the mode of payment is generally cash on purchase. Most traders are usually constrained by working capital. Access to capital is limited because most traders are not formally registered and do not have adequate collateral to qualify for a loan.

Misinterpretation of national policies at local levels

Small-scale traders are also victims of misinterpretation of national policies at local levels. For example, a national official may warn farmers of a looming famine and advise them to store some food and not sell everything. This may be misinterpreted as a ban on sales (exports of crops) by local government officials, thereby disrupting regional flow of food.

3.2.2 Conduct

Buying and selling practices

Most of the cereals, pulses, cassava, and bananas traded within the GHA come from farmers in surplus regions where an assembler bulks the produce for sale to an importing trader. As mentioned earlier, some border markets have traders' associations, but they do not have complete control of staple food supply to these markets. Although there may be some collusion, these practices seldom last long. Any attempt by the associations to restrict output and raise prices is usually undermined by free ridership by non-association members (Busia Traders Association, 2006). Buying and selling practices are based on the first come, first served rule in export border markets. Some contracts are made by phone based on trust.

Pricing setting

In general, prices are set competitively because of the presence of many small- and medium-scale cross-border traders from different countries. The basis of price differentiation is the quality of cereals and pulses. Prices respond to supply and demand conditions (RATIN bulletins and field assessments, 2002-2006).

Corrupt practices

Competition is very stiff, and to increase returns, the main strategy for most traders is cost reduction through evasion of statutory taxes/payments and trading in oversize bags. Most cross-border traders cannot benefit from low COMESA/EAC tariff rates because they lack proper import/export documents. The few registered cross-border traders do not have this problem. Consequently, some traders resort to bribing customs officials to allow their cargo across borders, or use unofficial trading channels to evade statutory payments. In most instances, the bribe is higher or equal to the cost of paying COMESA/EAC tariffs or duties with proper documents. Small traders who are unable to benefit from lower EAC/COMESA tariffs due to lack of proper documents are charged relatively higher (and sometimes ad hoc) tariffs and duties which, if factored into their costs, do significantly reduce net margins. Most traders without proper documents pay an average value added tax of Kshs 60 per 90kg bag when importing maize into Kenya. To reduce the cost of taxation, which is based on a bag but not weight, traders use oversize bags. Traders are however willing to pay Kshs 20-30 per 90kg bag to avoid risky illegal routes.

Most cross-border trade for primary agricultural commodities actually passes through official border posts but is not recorded. Some payments are made to customs and security officials, and consignments are allowed to cross over. The traders benefit from reduced costs. In recent years, lower COMESA/EAC tariffs and some acceptance of free trade in agricultural commodities in the region have reduced the level of taxes and statutory charges,⁹ redirecting informal trade to formal channels.

⁹ Customs officials at the borders of Kenya, Uganda, Rwanda, Tanzania and DRC October 2002-March 2003

Delays at customs offices for clearance, traders' lack of knowledge of customs procedures, institutionalized corruption (charging tariff rates that change frequently without explanation or official receipt), and harassment by public officials suppress official cross-border trade and contribute to smuggling. Unofficial cross-border trade actually supplies more food than official supplies. Akello-Ogutu (1997) estimated that the informal cross-border trade of maize between Uganda and Kenya was 3 percent of Kenya's national production figures for 1995. This translates to roughly 15 percent of the marketing supply. Carefully nurturing this trade into the mainstream channel would be beneficial to farmers, traders, and consumers in terms of cost reduction and quality assurance.

Sometimes customs officials are not sure of the proper tax rates, and charge higher rates to safeguard themselves against accusations of helping traders to evade tax. They are safer collecting excess tax instead of charging a lower rate.

Use of inexpensive backload transport

Backload is the cargo carried on trucks returning to their bases after making the commodity delivery they were hired to do. Backload transport on large trucks is inexpensive and has become a preferred mode of transport for penetrating interior markets like Nairobi, Kitui, and Mombasa in Kenya; Kampala in Uganda; Kigali in Rwanda; Arusha and Dar-es Salaam in Tanzania; Djibouti; Mogadishu, Bosaso and Berbera in Somalia; and Addis Ababa in Ethiopia. Backload transport cost is about half that of hiring a long-distance-haul trailer. To benefit from this low transport cost, traders form loose consortiums to attain needed volumes.

Informal enforcement of standards and grades

Enforcement of commodity standards and grades has not been effectively implemented at local levels by some governments in the GHA. Therefore, all cross-border traders, registered and unregistered, play a very important role in enforcing phyto-sanitary standards and commodity grading through their bid and offer prices, and through their choice of consignments to purchase or reject. However, this undertaking is costly in terms of time and labor to physically inspect bags.

3.2.3 Performance

Cross-border trade in cereals, pulses, cassava, and bananas in the GHA is very competitive. Prices fluctuate with supply and demand, but returns to traders are reasonable. Marketing costs make up a large percentage of prices paid by consumers. (Awuor, 2001). Marketing costs comprise taxation, lack of enforcement of standards and grades, bribes, and delays caused by poor government service.

In some cases, notably in southern Sudan's equatorial region, poor transport infrastructure creates a near subsistence economy, severely restricting the options to market local surpluses efficiently through trade.

One important mechanism for smoothing the cyclical variations in production and prices is a greater volume of trade, especially regional trade. This offers several potential advantages to both producers and consumers. As there is usually lower aggregate regional volatility in grain production, regional trade can smooth supply. This in turn can limit both price drops for producers in good years and price rises for consumers in poor production years. Stable price regimes are more likely to provide producers with incentives for sustained increases in production, leading ultimately to improved food availability and access.

During an emergency, cross-border traders redirect supplies to relatively high income but food deficit markets where returns are high. Low income, food insecure households cannot afford to buy sufficient quantity of staples at relatively high prices in their local markets, a disincentive for fresh supplies into these markets. Over time, these households are unable to depend on markets as a source of food.

3.3 FEATURES OF FOOD CROP TRADE RELEVANT TO FOOD SECURITY

3.3.1 Food security, self-sufficiency, and balance sheets

The definition of food self-sufficiency generally means the extent to which a country (or household) can satisfy its food need from its own domestic production. The fundamental difference between food self-sufficiency and food security is that food security includes the ability to satisfy national or household food needs through purchases in addition to own production. Cross-border trade provides income to purchase and/or access to inexpensive food.

An increasing number of households in the GHA are becoming dependent on the market to secure food. In Kenya, 67 percent of maize farmers are actually net buyers of maize (Jayne et al. 2000). Prices and purchasing power have become the main determinants of food security irrespective of the source of food. Cross-border food supplies need to be monitored because they supply food-insecure households.

The food balance sheet is a very common tool used in assessing food availability within a country. It has been observed elsewhere in this document that the volume of unrecorded cross-border trade in the GHA is higher than the formal trade in staple foods, and that this trade is a major source of food for some poor households. Incorporating reliable informal trade import and export data would make the food balance sheet a better tool for projecting a country's food supply and consumption status. But informal trade data is mostly unrecorded; consequently, there is a need to monitor informal cross-border trade (www.ratin.net) or develop a mechanism for estimating volumes traded.

3.3.2 Food quality and household food security

The purchasing power of different households determines the quality of produce they purchase in the market. In most cases, poor households barely manage to purchase sufficient quantities of low quality food imports at discounted prices to meet their food requirements.

To be food-secure, households need sufficient quantities of preferred quality food at all times. The quality and/or mix of different qualities of a staple food consumed by a household could be used to denote the level of its coping strategy. A household's coping strategy may be classified as more distressed the lower the quality and/or the higher the quantity of low quality staple food it consumes.

3.3.3 Food security monitoring and trade

Producers and consumers have equally important food security needs. The food security situation of different populations within a country can be met from a combination of domestic production, domestic purchases, and cross-border and international imports without necessarily affecting domestic prices and production. Poor infrastructure within most countries in the GHA constrains efficient flow of staple food from surplus to some deficit regions. The main sources of affordable food for some of these deficit regions are the surplus regions in neighboring countries. For example, in some seasons, Kenyan beans and maize are uncompetitive in northern Kenya compared to supplies from Ethiopia; southeastern lowlands partly depend on maize from Tanzania; parts of northern Nyanza Province and southern Western Province sometimes depend on maize from Uganda; and the rest of the country is mostly dependent on domestic production.

A country's food security status cannot be monitored in isolation because countries in the GHA are part of a regional and global trading system. Knowledge of production, consumption, prices, and seasonal flows of commodities in neighboring countries and internationally is important when monitoring the food security status an individual country.

SECTION 3.3 SUMMARY

- An increasing number of households are dependent on the market for their food supplies.
- Access to food is becoming a major determinant of food security compared to own production.
- Cross-border trade in different qualities of food is an important source of food for a significant number of households.

4.0 GAPS AND WAY FORWARD

4.1 DEVELOPMENT OF MARKETING AND VALUE-ADDED CHAINS

Marketing chains are the channels through which a commodity flows from inception to final consumption. The efficiency of a marketing channel determines the benefits received by all actors in the chain. Marketing channels are important to the food security early warning system because they provide information on market-based, food-related interventions for food insecure households.

To develop a robust foundation on which to analyze the effect of trade on GHA food security, it is important to develop national main marketing chains for maize, sorghum, rice, dry beans, millet, bananas, teff, cassava, and livestock in all countries, and to link these chains to regional ones where applicable. The marketing chains should include:

1. Detailed descriptions of the main actors in the chain
2. Descriptions of the main market channels for the commodities including sources, explanations of the geographic flows, transactions encountered, and final markets within a country or region within the GHA or other overseas markets. For livestock, the marketing channels may differ by animal species.
3. Description of the key factors affecting transactions in the marketing chain.
4. Discussion of the nature and significance of relationships involved in the marketing chain including the flow of power, knowledge, and benefits throughout the chain.

A further step would be to conduct value chain analysis (VCA). VCA is a tool to assess the dynamics and competitiveness of an industry by examining three aspects of moving a product from inception to end use or final consumption:

1. **Actors:** The players involved in value chain transactions and the nature and scale of their respective functions.
2. **Factors:** The external influences affecting the nature and terms of transactions along the value chain.
3. **Relationships:** The nature and significance of relationships involved in value chain.

VCA has been conducted in selected GHA countries for commodities such as maize (in Ethiopia, Kenya, Uganda, and Tanzania, RATES, 2003). Within the livestock sector, VCA has been carried out in the Afar and Somali areas (ACDI/VOCA, 2006), parts of South Sudan (Aklilu et al. 2002), and Somalia (Little, 2002). In most cases, the main objective of VCA has been to identify areas that could be improved to increase competitiveness within the industry. VCA has not been undertaken for all commodities in all countries, but should be. Then VCAs for maize, sorghum, rice, dry beans, millet, bananas, teff, cassava, and livestock could then be organized by country and commodity, providing a useful foundation for monitoring the effect of trade on food security within livelihoods or regions of a country.

Knowledge of VCA is important to understand the effects of external influences—such as bans, policy changes, infrastructural changes, conflict et cetera—on transactions along the chain, which in turn determine the distribution of benefits to all actors, especially food insecure producers and consumers.

4.2 DETERMINATION OF TRADABLE SURPLUS

Areas with surplus production of cereals, pulses, tubers, and livestock in GHA countries are generally known as surplus areas. However, few studies have been carried out to determine the levels of tradable commodity surpluses in main production areas. One such study was carried out by FEWS NET in 2002, in the southern highland breadbasket region of Tanzania. Determination of marketable surpluses will improve the marketing chain and value chain analyses and strengthen food security monitoring, especially for market-based interventions.

4.3 APPROXIMATING THE VOLUME OF TRADE WITHIN THE GHA

It has been noted that borders in the GHA are long and porous, and that informal trade is significant in the region. One study estimating the volume of this unrecorded trade for selected borders in East and Southern Africa was done in 1997 by Akello-Ogutu. RATIN has monitors who gather data on the volume of informal trade along selected borders in Kenya, Rwanda, Tanzania, and Uganda. A study is needed to develop a tool to gather more reliable data on volumes traded within the GHA. The tool would estimate informal cross-border trade volumes on a monthly basis, probably by linking informal and formal import-export trade data. The estimation tool would be useful in supplementing the efforts of a few border monitors located in select busy border crossing points.

4.4 IDENTIFICATION OF KEY MARKETS FOR PRICE ANALYSIS

Most price analyses—including time series analysis, comparison of prices between markets and between commodities, and calculation of terms of trade—use price data for selected markets, which in most cases are administrative centers. As mentioned earlier, the share of consumer price of a commodity received by producers may also vary between countries and within marketing channels. To know which prices should be used in price analyses, key reference markets by major staple food, livelihoods zone, or level of vulnerability within a region should be determined. In addition, since markets are not necessarily integrated in the GHA, it is important to determine which markets are linked in terms of trade so that appropriate market price comparisons can be made during food security monitoring.

5.0 CONCLUSION

An increasing number of food insecure households are dependent on the market for their food supplies. Having market access to food is becoming a major determinant of food security supplementing own production. Cross-border trade is an important source of food for a significant number of households. Achieving food security means ensuring that sufficient food is available, that supplies are relatively stable, and that everyone can afford to purchase the required food. At the household level, purchasing power, among other things is a major determinant of food security. A change in purchasing power is determined by economic growth and the distribution of income and resources. Use of properly computed terms of trade to monitor the impact of trade on food security is therefore important.

Cross-border trade of livestock and staple foods has reduced the supply variability to households across borders that are vulnerable to food insecurity due to drought and floods, who partly depend on the market for their food supplies. However, unreliable access to export markets, conflict, poor infrastructure, disease control measures, poor policies, and administrative inefficiencies occasionally result in less stable and predictable regional prices, hampering flow of livestock and staple foods from surplus to deficit areas across GHA countries.

Regional trade in livestock and staple foods has also contributed to a reduction in the prices of these commodities, especially in food-insecure and in deficit/marginal agricultural areas. In these areas, the supply of crop commodities at low prices enabled by market forces allows households to acquire sufficient quantities of food. However, unequal distribution of the benefits of trade along a marketing chain may transfer food insecurity from one group to another. Monitoring the benefits accruing to actors within a marketing channel is important to understand the impact of trade on food security.

Regional trade has different implications for food security depending on whether those households considered vulnerable in terms of access to food are net consumers or net producers of food. However, with improved efficiency in production and marketing, it is possible to balance the needs of net selling farmers and consumers.

Staple foods and their quality vary within and across the GHA. The direction of flow of food staples is determined by proximity of surplus and production areas, purchasing power, infrastructure, staggered production systems, weather, level of demand, and price differences. Regional trade, mostly unrecorded, has enabled households in different parts of a country to source food from outside the domestic market.

It is important to monitor trade-related indicators relevant to food security. These include terms of trade; prices in primary, secondary, and terminal markets; the percentage of prices received by producers; the direction, volume, mix, quality, and timing/seasonality of commodities traded; and the structure, conduct, and performance of the industry. To improve monitoring of the main indicators of trade relevant to food security in the GHA, it is necessary to analyze marketing chains, determine marketable surpluses, approximate the volume of unrecorded trade, and identify the key markets where prices should be monitored.

Monitoring the food security aspects of regional food market systems can be strengthened to supplement other indicators of food security. This would reduce vulnerability over the long term and help identify food-related short-term market interventions that can be effectively targeted to the most food insecure.

REFERENCES

- Abdurahaman Ame. 2006. Cross Border Livestock Trade and Small Arms Conflict in Pastoral Areas of the Horn of Africa: Case Study from Southern Ethiopia and Northern Kenya. A Paper to IASCP's Biennial Conference. 19 April 2006.
- Akello-Ogutu C. 1997 Unrecorded Cross-Border Trade Between Kenya and Uganda. Technoserve/University of Nairobi. Nairobi.Kenya.
- Aklilu, Y. 2002. An Audit of the Livestock Marketing Status in Kenya, Ethiopia, and Sudan. Issues and Proposed Measures. June 2002.
- Aklilu, Y. Irungu, P. Reda, A. 2002. An Audit of the Livestock Marketing Status in Kenya, Ethiopia and Sudan. April 2002.
- Awuor, T.M. 2006. Review of Trade and Markets relevant to Food Security in the greater Horn of Africa. 2006.
- Beruk Yemane, Pastoralist Forum Ethiopia, 2005. UNCHR, Sub-Commission on the Promotion and Protection of Minorities.
- Desta, S. Gebru, G. Tezera, S and Coppock D.L. Linking Small-Ruminant Producers to Markets: A Case Study from the Southern Ethiopian Rangelands.
- Gebru, G. Desta, S. Tezera, S. and Coppock, D.L. 2005. Institutional Innovation for Improving Pastoral Access to Emerging Export Markets for Small Ruminants. A Case from the East Africa Rangelands.
- Jayne Tom, Yamano T, Nyoro J, Awuor T.2000. Balancing Rural Interests in Kenya's Maize Pricing and Marketing Policy. Michigan State University, Dept of Agricultural Economics. Working Paper number 8, Tegemeo Institute of Egerton University, Nairobi, Kenya
- Harrison, K. Henley, D. Riley, H. and Shaffer J. 1987. Improving Food Marketing Systems In Developing Countries. Experiences from Latin America. 1987.
- Hillocks, R.J. Cassava in Africa.
- Jaffee, S. and Morton, J. Marketing Africa's High-Value Foods: Comparative Experiences Of an Emergent Private Sector.
- Jones, B, 2001: Estimates of Livestock (Cattle) Population in Southern Sudan.
- King, A. and Mukasa-Mugerwa, E. 2002. Livestock Marketing in Southern Sudan: With Particular Reference to the cattle trade between Southern Sudan and Uganda. April 2002.
- Knips, Vivien. 2004. Livestock Sector Report, Horn Of Africa; Review of the Livestock Sector in the Horn of Africa (IGAD Countries) September 2004.
- Laura Hammond. 2003. Obstacles to Regional Trade in the Horn of Africa: Borders, Markets, and Production. Clark University
- Little, P.D, Tegegne, T and Azeze, A. 2001. Cross Border Livestock Trade and Food Security in the Horn of Africa. September 2001.

- Little, D.P. 1996. The Lesser of Three Evils: Modeling Pastoral Resource Use Under Conditions of Drought, Disease, and Conflict. September 1996.
- Little, P.D, Tegegne, T and Azeze, A. 2001. Cross Border Livestock Trade and Food Security in the Horn of Africa. September 2001.
- Mcpeak, J. 2003 Livestock Marketing in Kenya and Ethiopia. January 2003.
- Ministry of Agriculture and National Resources, Federal Democratic Republic of Ethiopia. Policy Processes in Livestock Health and Marketing.
- Nyoro, J.K. Kirimi, L. and Jayne, T.S. Competitiveness of Kenyan and Ugandan maize Production: Challenges for the Future. Tegemeo Institute for Agricultural Policy and Development. Working Paper 10.
- Nyoro, J.K. Wanzala, M. and Awuor T. 2001. Increasing Kenya's Agricultural Competitiveness: Farm Level Institute. Tegemeo Institute for Agricultural Policy and Development Working Paper 4. September 2001.
- Pomeroy, R.S. and Trinidad, A.C. Industrial Organization and Market Analysis: Fish Marketing.
- REDSO/ Agriculture, Economic Growth/ 2003. The Red Sea Livestock Commission: Expanding Trade in the Greater Horn of Africa. 2003.
- Regional USAID Pastoral Coordination Workshop, 2001. Summary Report and Recommendation. A Better Way of Working: Creating Synergies in the Pastoral Zones of the GHA. November, 2001.
- Samuel Benin, Mohammad Jabbar, and Simeon Ehui. 2004 Livestock Marketing in the Ethiopian Highlands: Changes in Structure and Conduct since 1991. IFPRI.**
- Sexton, R.J. and Lavoie, N. 1997. Food Processing and Distribution: An Industrial Organization Approach. December, 1997.
- Stuth, J.W. 2004. Global Livestock Collaborative Research Support Program. October-September 2004.
- Suttie, J.M. Livestock as Food for Pastoralists in Africa.
- USAID/FEWS NET. 2006: Southern Nations, Nationalities and People's Region: Ethiopia's Livelihood Profiles. January 2006.
- USAID/FEWSNET/Tanzania and WFP (VAM)/Tanzania. 2002. Cross Border Trade During the 2001/02 Marketing year in Mbeya and Rukwa Regions. February 2002.

U.S Agency for International Development

1300 Pennsylvania Avenue, NW

Washington, DC 20523

Tel: (202) 712-0000

Fax: (202) 216-3524

www.usaid.gov