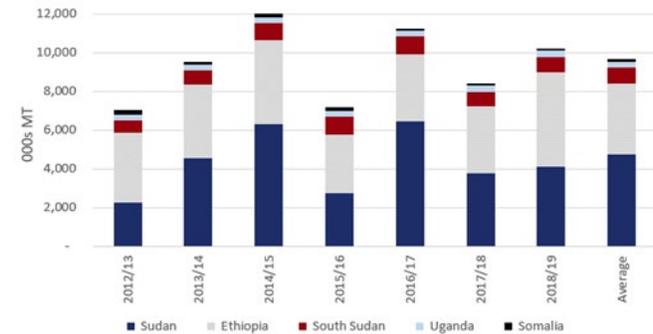


East Africa: Sorghum

KEY MESSAGES

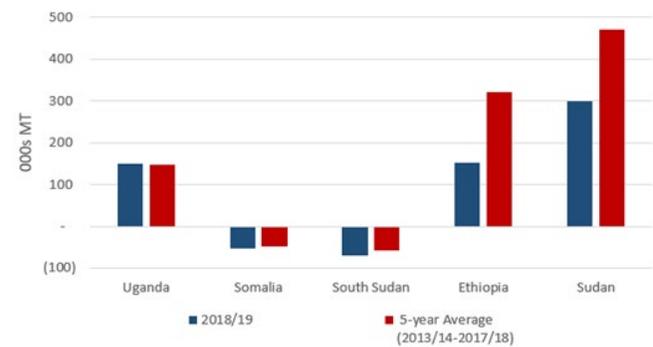
- Wheat, maize, rice and, and sorghum are important staple foods in East Africa. Domestic sorghum production makes important contributions to national food supply in Sudan, South Sudan and Somalia (82, 76 and 55 percent, respectively), and smaller amounts in Ethiopia and Uganda (18 and ten percent, respectively).
- This report summarizes the supply and market outlook for sorghum in Ethiopia, Somalia, South Sudan, [Sudan](#), and [Uganda](#). The outlook period follows the 2018/19 marketing year (MY), spanning from October 2018 to September 2019 and covering two main harvests—2018/2019 October-to-February harvest the 2019 June-to-August harvest. While the October-to-February harvest data estimates are more reliable, the June-to-August harvests are estimates and may be updated as data becomes available.
- Sorghum harvest concluded in East Africa by January. Preliminary production estimates suggest that the two structurally surplus countries of Uganda and Ethiopia had above average harvest while Sudan’s production was below average, (**Figure 1**). However, after incorporating domestic demand, Figure 2 shows that Ethiopia and Sudan will have below average surpluses, and that regional surpluses will also be below average despite above average total regional production. A significant import requirement is expected in South Sudan, which is expected to pull supplies from Sudan and Uganda (**Figure 2**).

Figure 1. Regional Sorghum Production estimates (000s MT)



Source: FEWS NET estimates based on data from regional governments and multi-agency assessments.

Figure 2. Domestic Sorghum Balance (000s MT)



Source: FEWS NET estimates based on data from regional governments and multi-agency assessments.

- Although sorghum prices are expected to be above-average because of below average production in South Sudan, Sudan, the Somali region of Ethiopia and northern Somalia, price elevation will mostly be driven by high inflation, currency depreciation and domestic conflict. The rest of region is likely to have near average prices.
- The aggregate regional sorghum surplus for the 2018/19 MY is estimated to reach less than half of regional average levels. Given the below average surplus, market-based response activities of sorghum or any substitute commodities should consider the projected market and trade dynamics put forth in this report. Monitoring performance of upcoming harvests and macroeconomic issues (especially in Sudan and South Sudan) will be essential in 2019.

FEWS NET monitors trends in staple food supply and price trends in countries at risk of food insecurity. **The Regional Supply and Market Outlook** report provides a summary of regional staple food availability, surpluses and deficits during the current marketing year, projected price behavior, implications for local and regional commodity procurement, and essential market monitoring indicators. FEWS NET gratefully acknowledges partner organizations, national ministries of agriculture, national market information systems, regional organizations, and others for their assistance in providing the harvest estimates, commodity balance sheets, as well as trade

CURRENT MARKET TRENDS

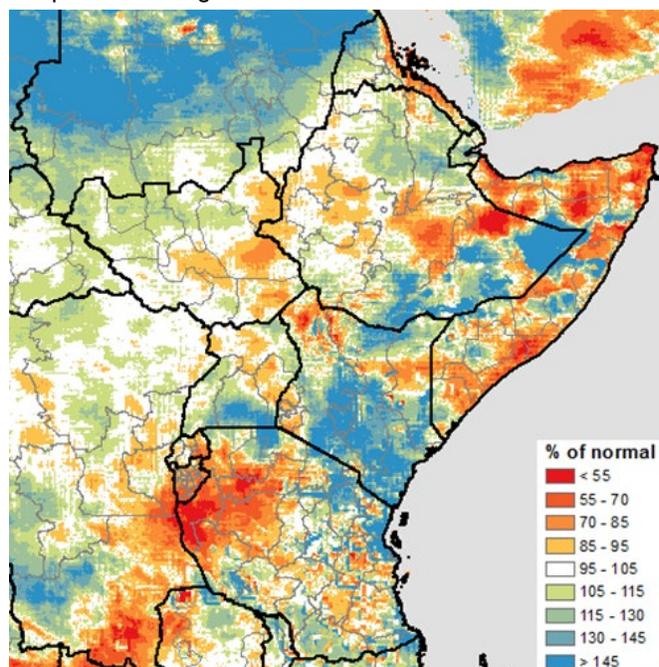
Aggregate cereal production

- June-to-September rainfall performed well for cereal crops (sorghum, millet, wheat maize) especially in Sudan, western and central Ethiopia, South Sudan, and northern Uganda (Figure 3). Overall, crop production ranged between very good to average, as they met their minimum water requirements. However, below-average rainfall and a delayed start of the *Meher* season and reduced crop production prospects in parts of Ethiopia’s eastern Amhara and southern Tigray. In addition, there was below-average rainfall in the southern areas of Ethiopia’s SNNPR and along the Rift Valley regions, South Sudan’s Kapoeta East region, and northwestern cropping zones of Uganda. In South Sudan, total production for 2018/19 is estimated to be similar to 2017/18. Although crop monitoring reports indicate that the area under cultivation for the 2018/19 season was higher than the preceding year, due primarily to a decline in conflict in several areas, some of these gains are believed to have been offset by poor rainfall.

Sorghum

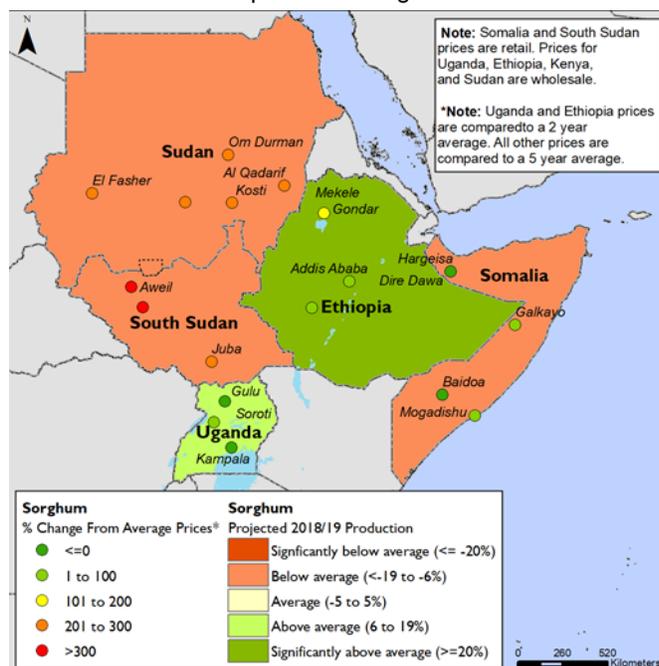
- While maize, wheat, and millet are also important crops to varying degrees in these countries, sorghum is the main locally produced and consumed crop. Maize and wheat supplies are supported by imports from international markets, which are well supplied and at low price levels (FEWS NET 2019). This makes sorghum prices more dependent on domestic production, and also more commonly consumed among poor, rural households, whereas the substitutes (maize and wheat) are heavily consumed in urban areas.
- Regional opening stocks for sorghum are estimated to be 53 percent lower than the recent five-year average because of below average production in 2017/2018 especially in the main producing countries of Sudan and Ethiopia. However, regional production is estimated to be slightly above average because of above average production in Ethiopia and Uganda.
- Around 21,000 MT of sorghum was traded in the region in the fourth quarter (October-to-December) of according to the Cross-Border Trade Bulletin of 2018. The volume was six percent higher than the previous third quarter because of increased availability in Uganda from the previous above average harvest, and relatively lower prices; growing demand in South Sudan and Rwanda. The increased exports from Uganda to South Sudan were attributed to expansion of staple food businesses in Juba in expectation of implementation of the 2018 Peace Agreement. Still traders were capitalizing on high turnovers with minimum storage due to high risks in the market. Exports to Rwanda from Uganda also increased because

Figure 3. June-to-September 2018 Rainfall distribution in East Africa compared to Average



Source: FEWS NET estimates based on CHIRPS data.

Figure 4. January 2019 Sorghum Prices compared to Average and 2018/19 Production compared to Average



Source: FEWS NET estimates based on data from regional governments and multi-agency assessments.

of structural deficit in production amidst growing demand for sorghum for domestic consumption and production of liquor. Nevertheless, the volumes traded regionally were 61 and 44 percent lower than the same quarter last year and recent five-year average volumes respectively, mainly because of drastic reduction in exports from Sudan to South Sudan and Eritrea following worsening economic situation that has increased the costs of grain production and marketing. Exports from Uganda and Ethiopia represented 88 and 10 percent of the total regional exports, while South Sudan, Rwanda and Kenya accounted for 54, 23 and 18 percent of the imports respectively. Exports from Ethiopia to southeastern South Sudan was also above average because of expectation of implementation of the 2018 Peace

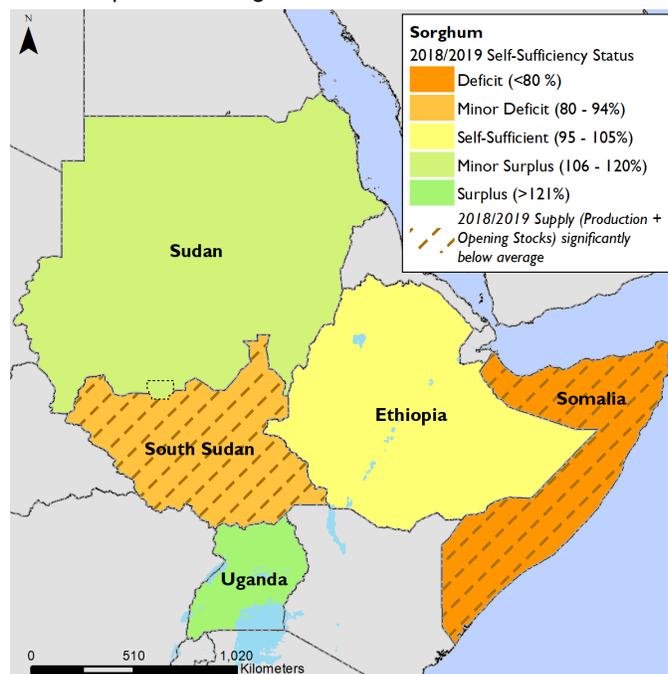
- Agreement and attendant business opportunities.
- As an exclusively domestic and regionally traded commodity, international flows were not a factor in the supply or price dynamics of sorghum in the region. Sorghum prices are currently significantly above average in Ethiopia, Sudan, and South Sudan, and below average in Uganda and Somalia (**Figure 4**). While the government of Sudan tries to manage a gradual depreciation of the local currency, currency shortages persist despite strict withdrawal limits. This has led to a booming foreign exchange black market, widening the gap between the parallel and official exchange rates. This is expected to lead to further depreciation of the official exchange rate, sustaining elevated staple commodities prices, including sorghum. As the region's largest sorghum consumer, sorghum is essential to diets in Sudan, making the high prices a food access constraint for households across the country. Conflict driven macroeconomic problems, including currency depreciation, inflation, and disrupted trade flows continue to sustain significantly above average sorghum prices in South Sudan, the region's second highest sorghum consumer in per capita terms. In Ethiopia, the lingering effect of 2017 ETB devaluation by the government has sustained above average prices. In Somali region, prices are well above average even as both the domestic and import market has been liberalized to address the previous many market structural anomalies in that region.
- While sorghum prices have been consistently declining from exceptional high levels in most markets in South Sudan due to reduced rate of inflation and expectation of implementation of the 2018 Peace Agreement, prices remain above average because of high costs of transactions together with insecurity-related trade disruptions especially outside Juba, In spite of below average production, sorghum prices are still below average but tending towards average levels in Somalia because of availability of substitute staple food commodities and imported food aid. Finally, Uganda sorghum price levels are still below average of high carryover stocks from the previous harvest in addition to marginal improvement from the December 2018 harvest.

PROJECTED MARKET TRENDS FOR 2017/18

Domestic and Regional Supply Levels

- Domestic supply is projected to be significantly above average in only two of the surplus-producing countries of Uganda and Ethiopia, and lower than average in Sudan, the other surplus producing country (**Figure 5**). Taking domestic demand into account, estimated self-sufficiency in the structurally surplus of Sudan and Ethiopia, domestic supply will meet requirements this year with minor surpluses or estimated at 33 and 53 percent below recent five-year average. However, in Uganda, domestic supply will exceed local requirements, resulting in an average surplus of approximately 150,000 MT.
- In the structurally deficit Somalia, the domestic balance is estimated to be similar to last year but 11 percent below the recent five-year average level. In South Sudan, the domestic balance is to reduce by 37 percent from last year and but still 19 percent below the recent five-year average. In terms of self-sufficiency, Somalia's domestic supply covers the smallest percent of its domestic demand. While

Figure 5. Projected 2018/19 Sorghum Self-Sufficiency and Supply levels compared to average



Source: FEWS NET estimates based on data from regional governments and multi-agency assessments.

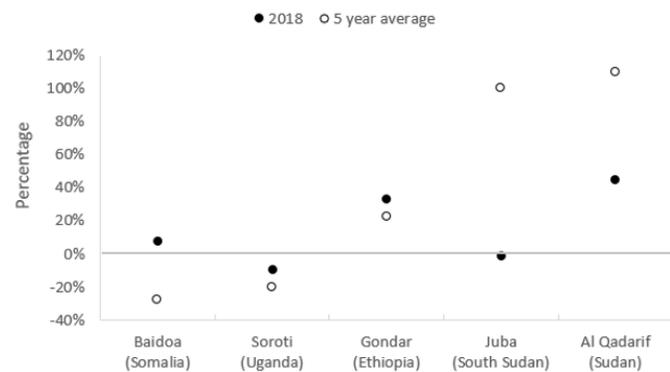
maize may act as a substitute in the central areas and southeastern areas, and imported rice in the northern region, the deficit of sorghum is an important one for the southwestern part of the country where sorghum is the dominant consumed crop. Maize is also a substitute to sorghum in South Sudan, but availability is limited because of insecurity-related trade disruptions outside the main capital city of Juba.

- Exports from Uganda to South Sudan will likely increase as the anticipation of the Agreement in South Sudan invigorates economic activities and pulls more supplies into the country. However, sorghum exports from Uganda to South Sudan and Kenya may be limited by increasing demand for sorghum in domestic alcohol production.
- Sorghum exports from Sudan to neighboring countries will likely increase because of competitive prices but be limited by high transport costs. Exports from Ethiopia to other regional markets is expected to be restrained because of lack of competitiveness except for localized cross border trade areas.

Price Trends

- Ethiopia's estimated 32 percent above average 2018/2019 sorghum harvest is expected to increase domestic supply above 2017/2018 and recent five-year average levels. However, prices are still expected to be higher than last year because of increased sorghum demand as a result of the lingering effect of 2017 currency devaluation that has sustained high inflation further increasing the prices of wheat, barley and teff substitutes (**Figure 6**).
- In Sudan, the government is likely to continue with setting a daily exchange rate to reduce the spread between the official and parallel exchange rates and manage a gradual depreciation of the local currency. However, hard currency shortages are expected to worsen despite strict withdrawal limits, leading to a booming foreign exchange black market, widening of the parallel and official exchange rates, which in turn will lead to further depreciation of the official exchange rate as the government tries to manage the decrease on daily basis. In addition to that, hence despite above average crop harvest, the prices of both imported and locally-produced commodities including sorghum (**Figure 7**) are expected to follow seasonal patterns through at least mid-2019 but will be higher than last year and five-year average levels because of accelerated currency depreciation, high inflation, elevated costs of production and transportation.
- In addition to a flat 2018/2019 domestic sorghum supply in Uganda, domestic demand including human consumption, and industrial use is expected to increase by about 11 percent exerting upward pressure on prices. Hence prices are expected to follow seasonal trends but remain above last year but below recent five-year average level (**Figure 6**).
- Somalia's, sorghum prices are projected to be below last year's levels but close to the recent five-year average because of an expected stable production from 2017/2018, imports of substitute rice, spaghetti and wheat by traders, and humanitarian aid distributions. (**Figure 8**).
- In South Sudan, domestic availability of sorghum is expected to be better than last year because of average-to slightly above average harvest but still a deficit because of higher domestic demand. Sorghum prices in the main market of Juba will likely be lower than last year because of lower rate of inflation occasioned by reduced rate of currency depreciation and improving imports from Uganda. Prices are also expected to be less volatile than last year and recent long-term averages bringing some certainty in planning to both traders and consumers. Nevertheless, the prices will remain higher than the respective five-year average levels. Still prices in markets further away from Juba are expected to remain partly above last year and recent five-year average levels because of poor road conditions and corresponding high transport costs; and high demand from the main domestic source markets in western Equatoria (**Figure 8**).

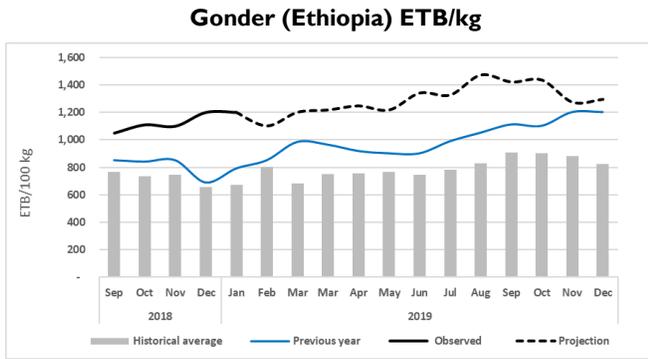
Figure 6. Percentage difference between projected 2019 prices and their 2018 and 5-year average levels for sorghum in selected East African markets



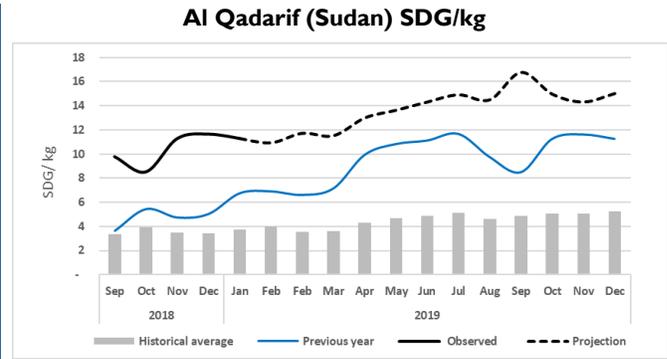
Source: FEWS NET estimates based on data from regional governments and multi-agency assessments.

Note: This chart presents the projected percentage difference between 2019 prices relative to their 2018- and 5-year average levels. For example, the 2019 prices in Sudan are projected to be approximately 100 percent above the five-year average, and approximately 40 percent above 2018.

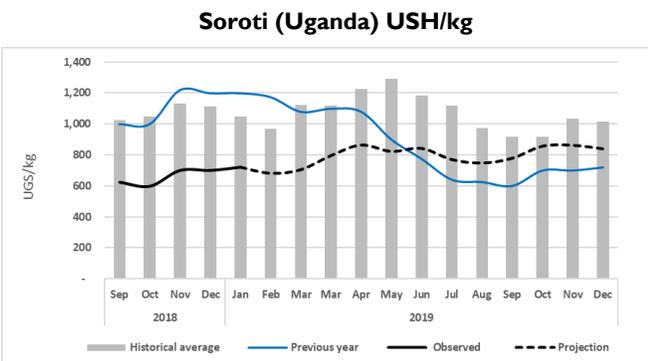
Figure 7. Sorghum price projections in structurally-surplus areas February - September 2018



Source: FEWS NET estimates based on data from EGTE.

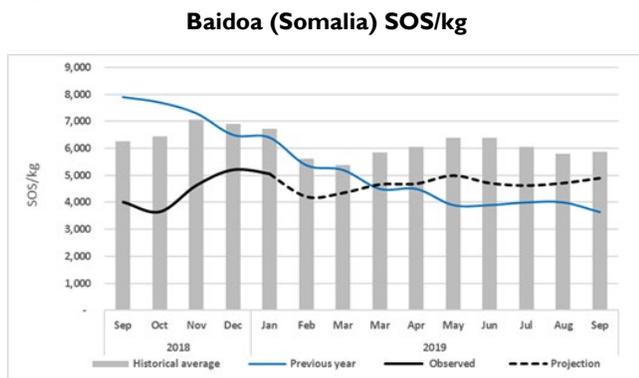


Source: FEWS NET estimates based on data from FAMIS.

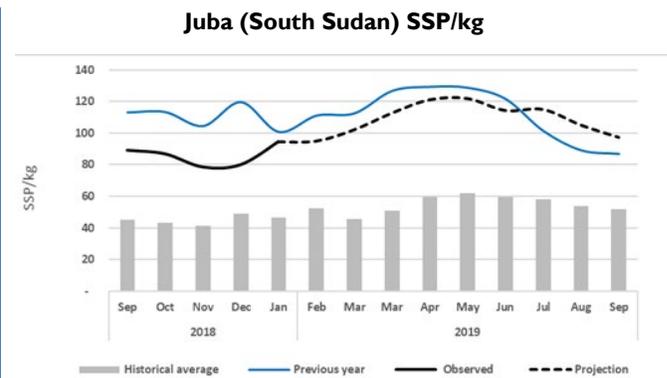


Source: FEWS NET estimates based on data from Farmgain.

Figure 8. Sorghum price projections in structurally-deficit areas February–September 2018



Source: FEWS NET estimates based on data from FSNAU.



Source: FEWS NET estimates based on data from WFP.

EVENTS THAT COULD CHANGE THE OUTLOOK

Based on the estimated available supplies in the region and expected regional market trends, most of the region is expected to experience high prices over the 2018/19 outlook period. There are some events that could exacerbate this situation or could potentially change this outlook.

Area	Event	Impact on market outcomes
Sudan and Ethiopia	Further devaluation or Floating of local currency	Would increase domestic prices of sorghum, reducing internal demand but reduce export parity prices boosting regional exports.
South Sudan	Reduced/heightened level of conflict	Enhance domestic and regional trade, increasing supplies and exerting downward pressure on prices. If the conflict level increases, domestic and regional trade will likely be disrupted exerting upward pressure on prices
Somalia, South Sudan, and Ethiopia	Reduced food aid distributions	Would result in higher prices reducing market access by some households, not only for sorghum but also its substitutes including maize, millet and wheat.

MARKET MONITORING INDICATORS FOR 2018/19 MARKETING YEAR

There are several key indicators that are recommended for ongoing monitoring that may affect the evolution of markets.

Indicator	Justification
Inflation	Reduces purchasing power, reducing market demand, and mitigating price increase especially in South Sudan, Sudan and Ethiopia.
Livestock prices and quantities	As the main source of income, the level of livestock prices and quantity sold would determine a household's ability to buy enough sorghum grain and flours in the market especially in Somalia.
Staple sorghum grain and flour prices	Accessibility by households to adequate staple foods depends on their market prices and volatility. Stable and relatively low prices make decision making by households more certain and increases the ability of most households to purchase enough across all countries.
Food Aid distribution	Relief grain and flour sales into the market has some significant localized impact on the prices of sorghum across all countries.
Level of civil strife and inter-communal conflict	Further escalation of civil conflict and or inter-communal clashes would likely disrupt supplies from source to consumption markets increasing local prices particularly in South Sudan and Somalia.
Cross Border Trade Policies	Uganda, South Sudan, Ethiopia, and Somalia usually do not control staple food imports and exports. However, Sudan occasional control exports. This is likely to result in reduced domestic prices but high demand and prices in destination markets such as Eritrea and parts of central Somalia and northern South Sudan.
Government wheat subsidies	Although the governments of Sudan and Ethiopia are gradually but consistently moving away from expensive domestic targeted wheat subsidies, in areas where they are applied, the local prices wheat and substitute prices are likely to remain stable.
Peace Agreement in South Sudan	Implementation of the Peace Agreement in Sudan will likely improve the economic condition, business and trade environment, forthcoming production, resulting in downward pressure on prices. Delayed implementation of the agreement will likely prolong the current situation in which goodwill of all stakeholders is slightly improving the above parameters but there is uncertainty increasing risks to trade.

Annex I. East Africa Sorghum Balance Sheets and 2018/19 Projections by Country (MT)¹

Country	Item	2017/18	5-year Average (2012/13-2017/18)	2018/19	% change over one year	% change over 5- year average	Change one year	Change 5-year average
Ethiopia	Opening Stocks	259,000	382,334	122,469	-53%	-68%	▼	▼
Ethiopia	Production	3,500,000	3,631,080	4,850,316	39%	34%	▲	▲
Ethiopia	Domestic Supply	3,759,000	4,013,413	4,972,785	32%	24%	▲	▲
Ethiopia	Other Uses	717,500	744,371	994,315	39%	34%	▲	▲
Ethiopia	Consumption	2,919,031	2,946,757	3,827,470	31%	30%	▲	▲
Ethiopia	Domestic Demand	3,636,531	3,691,128	4,821,785	33%	31%	▲	▲
Ethiopia	Domestic Balance	122,469	322,285	151,000	23%	-53%	▲	▼
Ethiopia	Self sufficiency	103%	109%	103%	0%	-5%	►	►
Somalia	Opening Stocks	0	0	0	#N/A	#N/A	#N/A	#N/A
Somalia	Production	121,370	131,627	120,970	0%	-8%	►	►
Somalia	Domestic Supply	121,370	131,627	120,970	0%	-8%	►	►
Somalia	Other Uses	4,262	6,070	4,262	0%	-30%	►	▼
Somalia	Consumption	169,268	172,955	169,268	0%	-2%	►	►
Somalia	Domestic Demand	173,530	179,025	173,530	0%	-3%	►	►
Somalia	Domestic Balance	-52,160	-47,398	-52,560	1%	11%	►	▲
Somalia	Self sufficiency	70%	74%	70%	0%	-5%	►	►
South Sudan	Opening Stocks	12,734	24,808	18,000	41%	-27%	▲	▼
South Sudan	Production	700,000	821,000	770,000	10%	-6%	▲	►
South Sudan	Domestic Supply	712,734	845,808	788,000	11%	-7%	▲	►
South Sudan	Other Uses	140,000	164,200	154,000	10%	-6%	▲	►
South Sudan	Consumption	683,013	740,631	704,000	3%	-5%	►	►
South Sudan	Domestic Demand	823,013	904,831	858,000	4%	-5%	►	►
South Sudan	Domestic Balance	-110,279	-59,023	-70,000	-37%	19%	▼	▲
South Sudan	Self sufficiency	87%	93%	92%	6%	-2%	►	►
Sudan	Opening Stocks	333,330	405,466	200,000	-40%	-51%	▼	▼
Sudan	Production	3,743,000	4,751,600	4,117,300	10%	-13%	▲	▼
Sudan	Domestic Supply	4,076,330	5,157,066	4,317,300	6%	-16%	►	▼
Sudan	Other Uses	786,030	1,209,896	864,633	10%	-29%	▲	▼
Sudan	Consumption	2,914,675	3,476,824	3,153,667	8%	-9%	►	►
Sudan	Domestic Demand	3,700,705	4,686,720	4,018,300	9%	-14%	►	▼
Sudan	Domestic Balance	375,625	470,346	299,000	-20%	-36%	▼	▼
Sudan	Self sufficiency	110%	110%	107%	-2%	-2%	►	►
Uganda	Opening Stocks	38,000	34,400	54,600	44%	59%	▲	▲
Uganda	Production	349,267	319,743	361,492	3%	13%	►	▲
Uganda	Domestic Supply	387,267	354,143	416,092	7%	17%	►	▲
Uganda	Other Uses	59,375	50,731	61,454	4%	21%	►	▲
Uganda	Consumption	173,173	156,499	204,519	18%	31%	▲	▲

¹ Data for the 2018/19 marketing year (MY 2018/19) are FEWS NET estimates as of February 31st, 2019; ► denotes less than or equal to 10 percent change; ▲ denotes greater than 10 percent increase; ▼ denotes greater than 10 percent decrease.

Country	Item	2017/18	5-year Average (2012/13-2017/18)	2018/19	% change over one year	% change over 5- year average	Change one year	Change 5-year average
Uganda	Domestic Demand	232,549	207,230	265,973	14%	28%	▲	▲
Uganda	Domestic Balance	154,719	146,913	150,119	-3%	2%	▶	▶
Uganda	Self sufficiency	167%	171%	156%	-6%	-8%	▶	▶
Regional Total	Opening Stocks	643,064	847,007	395,069	-39%	-53%	▼	▼
Regional Total	Production	8,413,637	9,655,050	10,220,077	21%	6%	▲	▶
Regional Total	Supply	9,056,701	10,502,057	10,615,146	17%	1%	▲	▶
Regional Total	Other Uses	1,707,167	2,175,269	2,078,663	22%	-4%	▲	▶
Regional Total	Consumption	6,859,161	7,493,665	8,058,186	17%	8%	▲	▶
Regional Total	Demand	8,566,328	9,668,934	10,136,850	18%	5%	▲	▶
Regional Total	Balance	490,373	833,124	478,297	-2%	-43%	▶	▼
Regional Total	Self-sufficiency	106%	109%	105%	-1%	-4%	▶	▶

Source: FEWS NET estimates based on data from regional governments and multi-agency assessments.

Annex 2. East Africa Other grains Balance Sheets and 2018/19 Projections by Country (MT)³

Country	Commodity	Average balance	Average production	Average % Contribution to total grain consumption	Domestic Consumption
Ethiopia	Barley	241	2,007	9%	1,998
Ethiopia	Corn	1,941	6,106	27%	6,165
Ethiopia	Millet	24	925	4%	931
Ethiopia	Sorghum	322	3,631	16%	3,691
Ethiopia	Teff	-	4,485	19%	4,400
Ethiopia	Wheat	(694)	4,369	25%	5,764
Ethiopia	Total Grain	1,834	21,523		22,949
Somalia	Corn	(3)	145	17%	148
Somalia	Rice, Milled	(339)	1	40%	341
Somalia	Sorghum	(47)	132	21%	179
Somalia	Wheat	(341)	-	40%	341
Somalia	Total Grain	(727)	133		861
South Sudan	Corn	(85)	207	28%	383
South Sudan	Millet	-	8	1%	8
South Sudan	Sorghum	(59)	821	66%	905
South Sudan	Rice, Milled	(38)	1	3%	38
South Sudan	Wheat	(32)	-	2%	32
South Sudan	Total Grain	(214)	1,037		1,366
Sudan	Millet	-	1,045	12%	1,045
Sudan	Rice, Milled	(17)	8	0%	25
Sudan	Sorghum	470	4,752	54%	4,687
Sudan	Wheat	(2,096)	499	34%	2,990
Sudan	Total Grain	(1,643)	6,304		8,747
Uganda	Corn	668	2,662	73%	2,706
Uganda	Millet	-	237	6%	237
Uganda	Rice, Milled	(74)	146	6%	220
Uganda	Sorghum	147	320	6%	207
Uganda	Wheat	(325)	21	10%	356
Uganda	Total Grain	416	3,386		3,726

Source: FEWS NET, USDA and Observatory of Economic Complexity.

² Other grains include maize millet and wheat for Ethiopia and Uganda, maize and wheat for Somalia, millet and wheat for Sudan, and maize and millet for South Sudan. Figures based on data from USDA.

³ Data for the 2018/19 marketing year (MY 2018/19) are FEWS NET estimates as of February 28th, 2019; ► denotes less than or equal to 10 percent change; ▲ denotes greater than 10 percent increase; ▼ denotes greater than 10 percent decrease.