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Ethiopia

Grain and Feed Annual

Worst Drought in Decades Pushes Grain Production Down 4.5 MMT

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Report Highlights:
Ethiopia is dealing with the worst drought to hit the country in decades. The production of major grains is estimated to have dropped by 4.5 million metric tons in MY15/16 (Oct-Sep). In response to the drought-related humanitarian needs, the Ethiopian government and international partners have ramped up emergency food relief, most of which is imported wheat. Wheat imports during this period are forecast to hit a record 2.5 million metric tons, more than double the previous year. Assuming improved weather conditions prevail, grain production is expected to partially bounce back in MY16/17, though still below pre-drought levels.

Overview of Ethiopian Grain Situation

Ethiopia is facing its worst drought in decades because of a strong El Nino weather phenomenon. Untimely and insufficient rainfall through many parts of the country has pushed national MY15/16 grain production steeply downward, which has in turn led to upward pressure on grain prices. In particular, production of major grains corn, sorghum, wheat, *teff*, barley and millet fell about 4.5 million metric tons, a drop of nearly 20 percent from the previous year. However, of these grains, it is important to note that *teff* and barley production were only down marginally since the regions where these crops are grown were only slightly affected by the drought. See table 1 for a summary of the grain production situation.

With weather conditions expected to improve, grain production is expected to partially rebound in MY16/17. The production of major grains in MY16/17 is expected to reach about 21million metric tons, but still about 1 million tons lower than the MY14/15 pre-drought production figures. A full recovery, in terms of grain production, is expected to take a couple years as farmers re-build assets, purchase seeds and fertilizer, and gradually begin to resume normal living patterns.

Over the past year (Jan-Dec), retail grain prices have gone up, with the biggest increases in *teff* and sorghum prices, which grew 19 and 16 percent, respectively. Corn marked the smallest price increase for this period at just 3 percent. In the latter part of the year, the drought-related production losses have been exerting additional upward price pressure. Typically, right after the major harvest, prices normally soften as the newly-produced grain comes onto the market. For the most part, the monthly price of maize and wheat followed this typical pattern, but *teff* and sorghum did not. In the case of wheat, prices came down in November and December largely because of the influx of imported wheat, but otherwise wheat prices would have increased. Meantime, corn prices, after having declined monthly from September to November, shot up in December. Grain prices are expected to continue their upward trajectory this year, especially during the summer lean season as stocks run low just before the major harvest. See table 2 for national retail price data.

Owing to these drought-caused losses in grain production, more than 10 million people are targeted for emergency assistance.[1] In response, the Government of Ethiopia (GOE) and international donors have ramped up food relief, largely consisting of wheat imports. The GOE has purchased huge volumes of foreign wheat, totaling around 1.8 million metric tons. Donors are expected to supply an additional 700,000 metric tons of wheat, bringing the projected MY15/16 wheat import estimate to 2.5 million metric tons. However, MY15/16 wheat imports could, possibly, go as high as 3.0 million metric tons.

The GOE has not released its grain production estimates due to perceived sensitivities. Therefore, there are no government-provided national grain production figures available to use as a benchmark for our projections. Post estimates contained in this report are based on field surveys and information from key sources.

[1] December 2016 Humanitarian Requirements Document

Table 1. Drought Impact on Production of Major Grains (1,000 MT)							
Crop	MY14/15 a/	MY15/16 b/	Year-to-Year Difference	% Change	MY16/17 c/	Year-to-Year Difference	% Change
Corn	6,500	5,050	-1,450	-22%	6,300	1,250	25%
Teff	4,330	4,260	-70	-2%	4,300	40	1%
Sorghum	4,000	2,604	-1,396	-35%	3,700	1,096	42%
Wheat	4,400	3,340	-1,060	-24%	3,800	460	14%
Barley	2,100	1,944	-156	-7%	2,040	96	5%
Millet	750	384	-366	-49%	726	342	89%
Total	22,080	17,582	-4,498	-20%	20,866	3,344	19%

a/ USDA official numbers with the exception of teff.

b/ and c/ Post estimates

	Table 2: National Average Retail Cereal Prices for 2015 (Birr/MT)					
Commodities / Month	*Teff*	Wheat	Barley	Maize	Sorghum	Millet
January	14,160	10,410	10,160	5,360	8,460	8,880
February	14,250	10,290	9,900	5,230	8,320	8,610
March	14,240	10,460	10,050	5,280	7,410	8,730
April	14,670	10,770	10,240	5,350	8,390	8,660
May	15,000	10,850	10,640	5,320	8,350	8,560
June	15,420	11,100	11,290	5,660	8,580	8,750
July	15,590	11,550	11,510	5,740	8,680	8,920
August	15,790	11,580	11,340	5,570	8,790	8,890
September	16,150	11,660	11,450	5,480	8,940	9,140
October	16,360	11,670	11,510	5,330	8,860	9,120
November	16,460	11,400	11,020	5,290	9,600	9,160
December	16,790	11,250	11,030	5,500	9,800	9,360
% change from Jan-Dec	19%	8%	9%	3%	16%	5%

Source: CSA

Wheat

Production:

Post is cutting its MY15/16 wheat production estimate to 3.3 million metric tons, which is down slightly more than 1.0 million metric tons from USDA official production figure for the previous year. National wheat yields during this period are estimated to have dropped 12 percent to 2.1 MT/HA. Meantime, because of the dry growing conditions, wheat rust levels were minimal and had little impact on production.

As part of its drought recovery response, USAID is supplying emergency wheat (and corn) seed to help ensure drought-affected households have sufficient seeds for planting for the MY16/17 growing season. With access to seed and assuming improved weather conditions will prevail, MY16/17 wheat production is forecast to partially rebound to 3.8 million metric tons, but still below USDA's pre-drought figures of 4.4 million metric tons in MY14/15. Post anticipates that it will likely take another year or two for wheat production to return to pre-drought levels.

Wheat production doubled over the last decade (05/06-14/15), thanks in part to USAID-led interventions to improve wheat seed, and introduce new production and harvest technologies. These increases in wheat production have helped the country become more resilient and adept in responding to the current drought. In the future, the government hopes to increase wheat production and reduce the country's dependence on wheat imports. However, future increases in production, while expected, will be constrained to a certain degree due to the inefficiencies associated with small-scale farming, lack of irrigation, degraded soil, as well as the insufficient supply of improved seed and fertilizer.

After South Africa, Ethiopia is the second largest wheat-producing country in Africa. Wheat accounts for about one-fourth of the nation's total cereal production. More than 90 percent of Ethiopia's wheat production is grown on small farms, most of which are in the highlands and completely dependent on rain. The vast majority of domestically-grown wheat is used to make bread.

Consumption:

Wheat consumption is projected to reach 5.8 million metric tons in MY15/16, up a little more than 500,000 metric tons from the previous year's USDA official estimate due to the influx of imported wheat in response to the drought. MY16/17 consumption is expected to come down slightly to 5.7 million metric tons as production of wheat and other crops is expected to improve.

Consumers are eating more wheat-based products, such as breads and pasta, since teff – the traditionally-preferred grain – has become increasingly expensive in recent years. Further, given the ease of preparation, urban consumers are beginning to opt for wheat-based products that are easier to prepare at home than *injera*, the traditional flat bread made from *teff*. The fact that wheat is cheaper than *teff* is also fueling this increase in wheat consumption. As of December 2015, the retail price of *teff* was 50 percent higher than wheat.

While there is adequate mill capacity to keep up with demand, insufficient wheat supplies – imported and domestic – are artificially holding consumption back from greater growth. There are an estimated 300 flour mills in the country with a combined capacity of 4.5 million metric tons. However, over the

last several years, most of the mills have been operating at or below 50 percent capacity due to the limited supplies of wheat in the country.

Trade:

In response to the drought, the GOE alongside the international donor community have increased wheat imports (ET1535). Post is conservatively predicting that wheat imports will more than double, hitting at least 2.5 million metric tons in MY15/16. This figure, however, could climb to as much as 3.0 million tons to adequately respond to the anticipated humanitarian needs. Imports of U.S. wheat, all of which are going for food aid, are forecast at about 700,000 metric tons during this period. From Oct-Mar, about 1.5 million metric tons of Ethiopia-destined wheat has been unloaded or is awaiting discharge at the Port of Djibouti. Looking ahead, imports in MY16/17 are forecast to come down to 1.8 million metric tons as the production of wheat and other crops is expected to improve.

Imported wheat is mainly used for food relief, price stabilization, and the replenishment of the strategic grain reserves. At present, the government purchases most, if not all, commercially-imported wheat. Most of this wheat comes from the Black Sea region because of its price competitiveness. Imported wheat from this region is about half the price of locally-produced wheat. Domestic prices are higher because of market inefficiencies, obstacles making imports difficult (e.g. access to forex), and rising demand for wheat-based products.

In order to alleviate some of the financial burden from its wheat subsidy scheme, the government is considering a plan, whereby the Ethiopian Millers' Association (EMA) would receive an allocation to import some wheat for its membership. For this to work, though, EMA would require guaranteed access to foreign exchange to make its purchases.

Policy:

The government considers wheat as one of the key strategic crops in maintaining the country's food security situation. In order to reduce dependence on imports, the government hopes to increase production in the coming years with the use of improved technologies and the expansion of commercial farming. However, from post's perspective, the envisioned expansions in wheat production are not expected to keep pace with rising consumer demand and will be constrained for the above-cited reasons.

The Ethiopian Grain Trade Enterprise (EGTE), the government's state trading arm, and the Ministry of Trade control and manage the import and distribution of commercially-imported wheat. The government subsidizes the price of the imported wheat and imposes a price cap on the bread made from this wheat. As previously mentioned, the growing cost of maintaining this subsidy has led the government to look for ways to reduce this growing financial burden.

Stocks:

While addressing the effects of the drought, the government is also working with international partners to replenish stock levels as a hedge against future crises. Post is estimating stock levels at 364,000

metric tons in MY15/16 and 244,000 metric tons in MY16/17. Based on storage capacity, the Emergency Food Security Reserve Administration (EFSRA) is believed to hold 50-60 percent of ending stocks, with millers and private traders accounting for about 25 percent. Meanwhile, EGTE holds roughly 5 percent of total ending stocks and farmers make up the difference.

Production, Supply and Demand Statistics

Wheat	2014/2015		2015/2016		2016/2017	
Market Begin Year	Oct 2014		Oct 2015		Oct 2016	
Ethiopia	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	1,800	1,580	1,800	1,590	0	1,590

Beginning Stocks	509	509	559	302	0	364
Production	4,400	3,790	3,900	3,340	0	3,800
MY Imports	900	900	2,500	2,500	0	1,800
TY Imports	1,100	950	2,400	2,000	0	2,000
TY Imp. from U.S.	170	120	0	700	0	300
Total Supply	5,809	5,199	6,959	6,142	0	5,964
MY Exports	0	0	0	0	0	0
TY Exports	0	0	0	0	0	0
Feed and Residual	750	310	550	228	0	300
FSI Consumption	4,500	4,587	6,100	5,550	0	5,420
Total Consumption	5,250	4,897	6,650	5,778	0	5,720
Ending Stocks	559	302	309	364	0	244
Total Distribution	5,809	5,199	6,959	6,142	0	5,964
(1000 HA) ,(1000 MT)						

Corn

Production:

Considering the impact of the drought, post is lowering the MY15/16 corn production estimate to 5.1 million metric tons, down nearly 1.5 million tons from last year's USDA official estimate. In contrast to wheat, corn production, particularly in mid highland and lowlands, was more heavily affected by the drought because of delayed and inadequate rains which, in some cases, made it impossible for farmers to plant corn or entirely destroyed their corn crop in the field. As a consequence, post is lowering area harvested to 2.15 million hectares, down 250,000 hectares from the official USDA estimate for MY15/16.

As part of its drought recovery response, USAID is supplying emergency corn seed to help ensure drought-affected households have sufficient seeds for planting for the MY16/17 growing season. With access to seed and assuming improved weather conditions prevail, MY16/17 corn production is forecast to partially recover to 6.3 million metric tons, just below pre-drought figures of 6.5 million metric tons in MY14/15. Area harvested is expected to gently climb to 2.2 million hectares. Post anticipates that it will likely take another year or two for corn production to return to pre-drought levels.

With a few ups and downs over the last decade, corn production has shown a steady upward trend. These increases in production are in part attributed to USAID-funded interventions in disseminating improved seed, fertilizer and other inputs, providing farmer training, opening market channels for surplus corn, and constructing grain storage facilities.

After South Africa and Nigeria, Ethiopia was the third largest corn-producing country in Africa in 2014/15. Corn accounts for about 29 percent of the nation's total production of major cereals. Almost 95 percent of Ethiopia's corn production is grown on small farms, most of which are in the western part of the country and completely dependent on rain. Commercial farms account for 5 percent of total corn production and mainly produce seed.

Consumption:

Owing to the drought related impacts on production, MY15/16 corn consumption estimate is dropped to about 5.2 million metric tons, down nearly 2.0 million metric tons from last year's official USDA figure. Consumption in MY16/17 is expected to increase, climbing to nearly 6.2 million metric tons as production is projected to grow.

Corn plays a major food security role in rural areas, especially since it is generally the cheapest grain available. Given its affordability and accessibility, per capita corn consumption in rural areas is generally higher than urban centers. Rural consumption is estimated somewhere between 45-50kg/year, while urban consumption is a little lower at about 45kg/year. Meantime, some bakeries are substituting corn flour when making bread since it is cheaper than wheat flour. In addition to bread, corn is used to

make traditional foods, such as bread porridge, and local beverages. The use of corn in animal feed rations is expanding and is expected to keep growing as the country builds its livestock and poultry sector.

Trade:

Post does not anticipate any official corn exports or imports in either MY15/16 or MY16/17.

Production, Supply and Demand Statistics

Corn	2014/2015		2015/2016		2016/2017	
Market Begin Year		Oct 2014		Oct 2015		Oct 2016
Ethiopia	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	2,400	2,230	2,400	2,150	0	2,200
Beginning Stocks	969	969	374	380	0	280
Production	6,500	6,580	6,000	5,050	0	6,300
MY Imports	5	0	0	0	0	0
TY Imports	5	0	0	0	0	0
TY Imp. from U.S.	0	0	0	0	0	0
Total Supply	7,474	7,549	6,374	5,430	0	6,580
MY Exports	0	0	0	0	0	0
TY Exports	0	0	0	0	0	0
Feed and Residual	600	585	500	400	0	590
FSI Consumption	6,500	6,584	5,500	4,750	0	5,600
Total Consumption	7,100	7,169	6,000	5,150	0	6,190
Ending Stocks	374	380	374	280	0	390
Total Distribution	7,474	7,549	6,374	5,430	0	6,580
(1000 HA) ,(1000 MT)						

Sorghum

Production:

Post is cutting MY15/16 sorghum production to 2.6 million metric tons, down 1.4 million metric tons from last year's official USDA figure. After millet, sorghum was second most drought-affected grain in percentage terms of lost production. In some zones in the eastern part of the country, 50-100 percent of the crop was reported as lost because of late and insufficient rainfall. In other instances, because of the lack of rain, farmers did not plant sorghum and, instead, switched to other fast-maturing crops, like chickpeas, though sometimes with limited success. Post is, therefore, reducing the MY15/16 area harvested to 1.5 million hectares and cutting yields to 1.7 MT/HA.

In MY16/17, assuming more favorable weather patterns, sorghum production is forecast to partially bounce back to about 3.7 million metric tons, but still slightly lower than pre-drought levels of about 4.0 million metric tons. Future increases in production will be constrained by repeated rain shortages in the main sorghum-growing areas and farmers' preference to opt for non-improved, local seed varieties since they produce sorghum that is considered to be better for feed, fuel and construction.

After Nigeria and Sudan, Ethiopia is the third largest sorghum-producing country in Africa. It is a crop dominated by resource poor small land holders in the eastern and northwest part of the country where the weather is relatively dry and the soil fertility is low.

Consumption:

With sorghum production down, consumption is likewise reduced to 2.8 million metric tons in MY15/16, down from the earlier official USDA estimate of 4.1 million metric tons. In MY16/17, consumption is forecast to reach 3.7 million metric tons as local production improves.

About three-quarters of sorghum grain in Ethiopia is used for making *injera*, with small volumes used for livestock feed and local beer production. Sorghum is especially critical to the diet of households in the eastern and northwestern parts of the country where it accounts for upwards of 10 percent of households' daily caloric intake.

Trade:

Sorghum imports in MY15/16, all of which appear to be for food aid, are estimated at 100,000 metric tons. MY16/17 imports are forecast to decline to 50,000 metric tons as the country recovers from drought. No official exports for both MY15/16 and MY16/17 are expected due to the limited available supplies within the country. However, some informal trade may occur in the sorghum-growing areas along the border with Sudan.

Production, Supply and Demand Statistics

Sorghum	2014/2015		2015/2016		2016/2017	
Market Begin Year	Oct 2014		Oct 2015		Oct 2016	
Ethiopia	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	1,800	1,810	1,800	1,500	0	1,800
Beginning Stocks	328	328	228	173	0	85
Production	4,000	3,966	3,800	2,604	0	3,700
MY Imports	75	57	150	100	0	50
TY Imports	75	60	150	100	0	50
TY Imp. from U.S.	64	0	0	100	0	50
Total Supply	4,403	4,351	4,178	2,877	0	3,835
MY Exports	75	75	25	0	0	0
TY Exports	75	75	25	0	0	0
Feed and Residual	200	230	200	112	0	205
FSI Consumption	3,900	3,873	3,800	2,680	0	3,460
Total Consumption	4,100	4,103	4,000	2,792	0	3,665
Ending Stocks	228	173	153	85	0	170
Total Distribution	4,403	4,351	4,178	2,877	0	3,835
(1000 HA) ,(1000 MT)						

Barley

Production:

MY15/16 production is lowered to 1.9 million metric tons, largely unchanged from the previous year's official USDA estimate. After *teff*, barley was one of the least drought-affected grains due to better rainfall distribution and timeliness of the rain in barley-growing areas. Area harvested remains unchanged due to limited land availability in the highland regions of the country. Assuming more favorable weather patterns, post is projecting an incremental rise in barley production to 2.0 million metric tons in MY16/17.

Barley is cultivated in the northern and central regions of the country where the elevation is above 1800 meters above sea level. A number of producers, especially those supplying the brewing industry, are starting to use improved barley seed.

***Consumption*:**

Barley consumption for MY15/16 remains relatively unchanged at about 2 million metric tons and is expected to hold at roughly the same level in MY16/17.

Barley has wide range uses and is considered the "king of grains" amongst the highlander farming community. It is consumed in *injera* and porridge, as a roasted snack, and is used to make local beer. About 5 percent of barley production, or about 100,000 metric tons, goes for making malt that is used by the local brewing industry. There are two malt processing factories that supply 10 local beer factories. Barley straw is used as animal fodder and roofing material in barley growing regions.

Trade:

There is no barley trade. However, Ethiopia imports sizeable volumes of barley malt to satisfy the growing demand of the expanding domestic beer industry.

Stocks:

Barley stocks are lowered to 160,000 metric tons in MY15/16 and are expected to go largely unchanged in MY16/17. Most of barley stocks are held by the two major malt factories, while the remainder is in the hands of traders and farmers.

Production, Supply and Demand Statistics

Barley	2014/2015		2015/2016		2016/2017	
Market Begin Year		Oct 2014		Oct 2015		Oct 2016
Ethiopia	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	1,250	1,198	1,200	1,200	0	1,200
Beginning Stocks	271	271	302	215	0	160
Production	2,100	2,034	1,900	1,944	0	2,040
MY Imports	31	14	25	0	0	0
TY Imports	31	0	25	0	0	0
TY Imp. from U.S.	0	0	0	0	0	0
Total Supply	2,402	2,319	2,227	2,159	0	2,200
MY Exports	0	0	0	0	0	0
TY Exports	0	0	0	0	0	0
Feed and Residual	150	155	125	130	0	0
FSI Consumption	1,950	1,949	1,900	1,869	0	2,046
Total Consumption	2,100	2,104	2,025	1,999	0	2,046
Ending Stocks	302	215	202	160	0	154
Total Distribution	2,402	2,319	2,227	2,159	0	2,200
(1000 HA) ,(1000 MT)						

Millet:

Production:

MY15/16 production is lowered to 384,000 metric tons, down by almost half from the previous year's official USDA figure. Of all the grains, millet was the hit the hardest by the drought in percentage terms of lost production. Many farmers could not plant millet because of the shortage of rains and were forced to leave their fields fallow. In MY16/17, millet production is forecast at 726,000 metric tons, slightly below pre-drought levels in MY14/15.

Most farmers prefer to grow other grains over millet given its low returns. Millet has several qualities, such as drought and pest resistance, and is able to grow in marginal areas, like the semi-arid northern and eastern parts of the country where the soil is highly degraded. Little research is being done to improve millet production.

Consumption:

Due to the drop in production, millet consumption for MY15/16 is reduced to about 400,000 metric tons. With the expected increases in MY16/17 production, sorghum consumption is expected to climb to a little more than 700,000 metric tons. Low-income households use millet as a substitute for *teff* and wheat. Rural communities also use millet for animal feed and local homemade beer production.

Trade:

There is no official trade in millet, though there may be small amounts traded in border regions with neighboring countries.

Production, Supply and Demand Statistics

Millet	2014/2015		2015/2016		2016/2017	
Market Begin Year	Oct 2014		Oct 2015		Oct 2016	
Ethiopia	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	440	438	440	360	0	440
Beginning Stocks	29	29	29	28	0	11
Production	750	736	700	384	0	726
MY Imports	0	0	0	0	0	0
TY Imports	0	0	0	0	0	0
TY Imp. from U.S.	0	0	0	0	0	0
Total Supply	779	765	729	412	0	737
MY Exports	0	0	0	0	0	0
TY Exports	0	0	0	0	0	0
Feed and Residual	25	32	25	13	0	28
FSI Consumption	725	705	675	388	0	684
Total Consumption	750	737	700	401	0	712
Ending Stocks	29	28	29	11	0	25
Total Distribution	779	765	729	412	0	737
(1000 HA) ,(1000 MT)						