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# BELLMON ANALYSIS

## Crop Availability and Market Study in Ethiopia

**January 2018**

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# CROP AVAILABILITY AND MARKET ANALYSIS IN ETHIOPIA

Analyzing Crop Production, Availability and Market  
Functions for 2016/2017 and Estimations for 2017/2018

January 2018

**Evaluation Mechanism Number:** #AID-663-C-16-00010-EPMES

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## **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.

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Mildred Magut, on behalf of the Crop Availability and Market Analysis Study Team

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# ABSTRACT

Prior to the approval of a proposed US food aid program in a recipient country, the United States Government (USG) must make a positive “Bellmon Determination.” USAID/Ethiopia has commissioned in-depth Bellmon Analyses to Social Impact, implementing the Ethiopia Performance Monitoring and Evaluation Service. The purpose of the analysis was to determine that any direct cash transfer and distribution of U.S. agricultural commodities provided for use in Ethiopia during FY18 through Title II meet the criteria set forth in the Bellmon Amendment. The report examines food availability and demand in the country and potential impact of food distribution on the local markets in Oromia, Amhara, Southern Nations, Nationalities and People’s (SNNP), Tigray regions and Dire Dawa city administration. The report analyzes the interactions beneficiaries have with the surrounding markets, the dynamics of the markets, the capabilities of local traders to cope with increased demand, and households’ access to a diversified diet. Quantitative analyses are used to show historical trends, commodity flows, price volatility complemented by qualitative data from focus groups with farmers, key informant interviews with other stakeholders, and secondary data. Results from the analyses showed that food supply in 2017/18 is about 31.45 million metric tons. Food supply will be adequate to meet the minimum energy requirements, only if imports of grains reach 987,300 metric tons, otherwise, it will be inadequate. Cereal availability in Ethiopia is low both in the surplus and deficit areas, causing prices to increase throughout the country. Short-term and short-lived inflationary pressures are evident in the market immediately after a cash transfer. Ports, storage, and inland transportation seem to be adequate for the transportation and storage of food aid commodities. There is therefore no evidence that either a Title II food distribution or cash transfer would have a substantial negative effect on the marketing and production of grains in Ethiopia in 2017/18.

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# ACRONYMS

AAU	Addis Ababa University
AKLDP	Agriculture Knowledge, Learning, Documentation and Policy Project
AGP II	Agricultural Growth Program II
AISE	Agricultural Input Supply Enterprise
ANRD	Agricultural and Natural Resources Department
ATA	Agricultural Transformation Agency
CFI	Chronically food insecure
CIDA	Canadian International Development Agency
COMESA	Common Market for Eastern and Southern Africa
CPI	Consumer price index
CRS	Catholic Relief Services
CSA	Ethiopian Central Statistics Agency
CSB	Corn soy blend
DA	Development Agent
DFID	UK Department for International Development
DFSA	Development Food Security Activities
DRMFSS	Disaster Risk Management and Food Security Sector
EC	Ethiopian Calendar
EC ECHO	European Civil Protection and Humanitarian Aid Operations
ECX	Ethiopian Commodity Exchange
EDRI	Ethiopia Development Research Institute
EEA	Ethiopian Economics Association
EFSRA	Emergency Food Strategic Reserve Administration
EGTE	Ethiopian Grain Trade Enterprise
EPMES	Ethiopia Performance Monitoring and Evaluation Service
ETB	Ethiopian Birr
EU	European Union
FAO	UN Food and Agriculture Organization
FAOSTAT	UN Food and Agriculture Organization Corporate Statistical Database
FAS	USDA Foreign Agricultural Service
FEWS NET	Famine and Early Warning Systems Network
FFW	Food for work
FGD	Focus Group Discussions
FHI	Food for the Hungry
FSNWG	Food Security and Nutrition Working Group
FTC	Farmer Training Center
FY	Fiscal Year
GDP	Gross domestic product
GoE	Government of Ethiopia
GTP II	Growth and Transformation Plan II
HH	Households
HRD	Humanitarian Response Document
IGAD	Intergovernmental Authority on Development
IMF	International Monetary FUND
IP	Implementing partner
JEOP	Joint Emergency Operation Program
KII	Key Informant Interviews

MEWIT	Merchandise Wholesale and Import Trade Enterprise
MFEC	Ministry of Economic Cooperation
MoA	Ministry of Agriculture
MoANR	Ministry of Agriculture and Natural Resources
MoARD	Ministry of Agriculture and Rural Development
MoT	Ministry of Trade
MT	Metric ton
NBE	National Bank of Ethiopia
NDRMC	National Disaster Risk Management Commission
NGO	Non-governmental Organization
NMA	National Meteorology Agency
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
PDS	Permanent direct support households
PPPDS	Public Procurement and Property Disposal Service
PRA	Participatory rapid appraisal
PRRO	Protracted Relief and Recovery Operation
PSNP	Productive Safety Net Programme in Ethiopia
PWP	Public work participants
RDRMC	Regional Disaster Risk Management Commission
REST	Relief Society of Tigray
RRA	Rapid Rural Appraisal
SFRA	Strategic Food Reserve Agency
SI	Social Impact, Inc.
SNNPR	Southern Nations, Nationalities, and People's Region
SQE	Status quo estimate
TOT	Terms of Trade
UN	United Nations
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USAID/ALT	United States Agency for International Development/Asset and Livelihood Transition
USAID/FFP	United States Agency for International Development/Food for Peace
USAID/BEST	United States Agency for International Development/Bellmon Estimation Studies for Title II Programs
USD	United States Dollars
USDA	United States Department of Agriculture
USG	United States Government
VAT	Value added tax
WFP	World Food Program
WFP/VAM	WFP/Vulnerability Assessment Mapping
WTO	World Trade Organization
WVI	World Vision International

# EXECUTIVE SUMMARY

## BACKGROUND

The United States Agency for International Development/Ethiopia (USAID/Ethiopia) has contracted a Crop Availability and Market Study to Social Impact, Inc.'s (SI's) Ethiopia Performance Monitoring and Evaluation Service (EPMES). The study is meant to provide information about current and anticipated local market dynamics in Ethiopia, to enable USAID/Ethiopia to make a Bellmon Determination regarding potential Title II distributed food and possible cash transfers for fiscal year (FY) 2017/2018 programs. In 2015/2016, Ethiopia's highland areas experienced a severe El-Niño drought, followed by a La-Niña dry effect in the lowlands in 2016/2017. The Humanitarian Response Document (HRD) in January 2017 initially estimated that 5.6 million people needed humanitarian assistance through June 2017, but the National Disaster Risk Management Commission (NDRMC) revised this figure to 8.5 million people in August 2017. A food security emergency is expected to continue in Ethiopia through early 2018. For the 2017 Productive Safety Net Program in Ethiopia (PSNP) cycle, USAID partners are approved to provide food transfers to 1.3 million PSNP IV base beneficiaries in Amhara, Oromia, and Tigray Regions, and to the Dire Dawa Administrative Region of Ethiopia.

For FY 2017/2018 United States food aid programs to be approved, the United States Government (USG) must first ensure that:

1. The distribution of commodities in the recipient country will not result in a substantial disincentive to, or interference with domestic production or marketing in the country;
2. The importation of United States agricultural commodities and the use of local currencies for development purposes will not have a disruptive impact on the farmers or on the local economy of the recipient country; and
3. Adequate storage facilities will be available in the recipient country at the time of the arrival of the commodities to prevent the spoilage or waste.

## STUDY OBJECTIVES

The objectives of the Crop Availability and Market Study are to:

1. Provide evidence of the market demand and supply situation for 2016/2017, as well as an estimate for 2017/2018, for the staple foods in Ethiopia. The study will estimate:
  - a. Area to be planted (estimate for the 2017/2018 season)
  - b. Availability and use of inputs (estimate for the 2017/2018 season)
  - c. Incidence and impact of pests and diseases and net production (for the 2016/2017 season)
  - d. Forecast incidence and impact of extreme weather conditions
2. Provide detailed updates on:
  - a. Production, availability, and affordability of staple foods. To determine whether there is sufficient supply of key commodities (cereals and pulses via both local production and imports), both nationally and in relevant markets, serving Food for Peace (FFP)-targeted woredas during anticipated PSNP cash and/or food distributions. Food availability and affordability will ensure that PSNP beneficiaries will be able to access grain, pulses, and other important food commodities such as cooking oil at all times.
  - b. The market's ability to respond to an increase in effective demand without undue upward pressure on retail price. A switch to more cash in future Title II-supported woredas could cause a significant risk of inflation in local markets.

3. Provide information on the capacity of the country's warehousing and transportation infrastructure to store and distribute Title II-imported food aid in a timely fashion.
4. Perform a price trend analysis and projection for FY2017 and FY2018 to provide estimates of anticipated food supply gaps and/or inflation in post-Meher 2017 (for both cereals and pulses), in terms of food availability in local markets.

## STUDY DESIGN, METHODS, AND LIMITATIONS

Primary and secondary data were collected through the Rapid Rural Appraisal (RRA) approach to thoroughly assess: food grain production trends and prospects; how markets operate; market location (distance); market infrastructure conditions; marketing channels; main participants in the various food chains and their potential to influence price setting; availability of supplies; trader response capacity; and trade volumes (cereals and pulses) in the sampled woredas. Participants' perception of the cash-based and the food-based options of PSNP and cereal-only food baskets was also assessed. Primary data was collected from stakeholders in both PSNP and non-PSNP woredas in Oromia, Amhara, Tigray, SNNPR, and the Dire Dawa City Administration. Secondary data was collected from relevant governmental and non-governmental organizations (NGOs) at Federal and Regional levels, namely: the Ministry of Agriculture (MoA), the Ministry of Trade (MoT), the Ethiopia Grain Trade Enterprise (EGTE), the Strategic Food Reserve Agency (SFRA), the National Bank of Ethiopia (NBE), NDRMC, the Ethiopia Development Research Institute (EDRI), cooperative unions, regional agricultural offices, regional trade offices, FEWS NET, the United States Department of Agriculture (USDA), Catholic Relief Services (CRS), World Vision International (WVI), Food for the Hungry Ethiopia (FHI), the World Food Program (WFP), and the Relief Society of Tigray (REST).

Multiple data collection approaches, including desk reviews, focus group discussions (FGDs), key informant interviews (KIIs), market observations, and secondary data collection, were employed to provide sufficient information on the overall objective of current and anticipated local market supply and demand dynamics in Ethiopia. The data collected are to enable USAID to determine whether a proposed distribution of Title II food aid and possible cash transfer for FY 2017/2018 programs would have a substantial impact on local markets and production incentives.

Fifty-six woredas across four regions and the city administration were sampled. Of the sampled woredas, 34 woredas were PSNP woredas (16 from Title II PSNP and 18 from government-managed PSNP), two were from the Joint Emergency Operation Program (JEOP) woredas; while 20 woredas were sampled from the surplus-producing woredas that are of major influence on the grain market.

Within each woreda, data were collected from two kebeles sampled using one or more of the following characteristics: extent of food security, extent of food aid distribution/allocation, agro-ecology and existence of village markets, livelihood sources, and market channels. In each kebele, one FGD was conducted with smallholder farmers with an equal number of male and female participants. Key informant interviews were held with each agricultural office, trade office, cooperative union, and at least one wholesaler and one retailer per sampled woreda. In total, the study team interviewed 47 cooperatives and visited 61 markets.

Some challenges were experienced during the conduct of this study. The study was conducted during the rainy and peak production season, which affected the movement of the study team and the availability of respondents. The timeframe for conducting the study was also short, resulting in rushed data collection, triangulation and analysis. Security related issues caused some study Woredas to be inaccessible causing the study team to resample some Woredas at the last minute.

## FINDINGS

### Food Aid Overview

There are 8.5 million Ethiopians currently covered by PSNP, a program which entered its fourth phase in 2015, and will be running until 2020. The PSNP provides cash and/or food transfer to chronically food insecure households in food insecure woredas in rural Ethiopia. Currently, the program is implemented in seven regions (Afar, Amhara, Harari, Oromia, Somali, SNNP and Tigray) and one city administration (Dire Dawa). Currently, PSNP woredas distribute cash only, food only or a cash/food mix as payment for public work labor or as direct support to those who cannot perform on community labor projects. Participants engage in five days of labor per month, and therefore are paid either in food or cash.

The program transfers are typically provided for six months of the year, timed to coincide with the lean season.<sup>1</sup> The transfer value from the beginning of the program in 2005 was equal to 15 kg of cereals per household member per month, or its cash equivalent. In 2016, the transfer value increased to 15kg cereals and 4 kg pulses to increase the nutritional benefits of the transfer and provide the - kilocalorie requirement. However, beginning 2018, the pulse component of the food basket of the ration will be removed and there is a plan for a cereal-only basket.

USAID Food for Peace also funds JEOP to distribute emergency food aid and address transitory food insecurity in areas of vulnerability in four regions (Oromia, Amhara, SNNP, Tigray and Dire Dawa Administration), and a Protracted Relief and Recovery Operation (PRRO) to provide emergency food aid in the lowlands (Somali region only)<sup>2</sup>. These programs are currently complementary to the relief intervention undertaken by the government (federal and regional) and to the PSNP and address transitory needs that cannot be covered by the PSNP's contingency budgets.

### Food Security Overview

According to the United Nations Children's Fund (UNICEF), approximately 10 percent of the Ethiopian population is chronically food insecure and this figure rises to more than 15 percent during drought years (UNICEF, 2014). In 2015/2016, Ethiopia's highland areas experienced a severe El-Niño drought, followed by La-Niña dry effect in the lowlands in 2016/2017. As a result, NDRMC estimated that 7,997,298 people were food insecure.

Typical food security hazards in Ethiopia include poor spatial and/or temporal rainfall distribution, which can cause below-normal levels of crop production in agricultural areas and reduced access to pasture and water for animals in pastoral and agro-pastoral areas. The eastern half of the country is particularly prone to such rainfall distribution issues, and often faces consecutive seasons of drought-like conditions. Such hazards not only reduce the direct returns households can gain on productive assets (e.g., crops and/or livestock), but they can also lead to decreases in the labor opportunities available to households indirectly associated with these livelihoods. For example, below-average rainfall that leads to crop loss is likely to decrease the amount of labor required for crop harvests. Decreased supplies of these crops are also likely to result in increased prices for these crops.

In recent years, price inflation has become a food security hazard. In 2017, wholesale maize prices have increased sharply from \$21.76 in 2016 to over \$39.17 in mid-2017. The increase of maize prices has triggered the increase of sorghum prices, a close substitute to maize. Wholesale prices for white wheat have also increased since 2016 from \$29.25 per quintal in September 2016 to \$44.29 per quintal in September 2017.

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<sup>1</sup>This transfer season does not coincide with the lean season in parts of the lowlands.

<sup>2</sup> The JEOP is a consortium program implemented by a consortium of seven NGO partners, led by CRS, while the PRRO is implemented by the WFP in Somali region.

Vulnerability to poverty is very strongly associated with geographic locations in Ethiopia. The distance that rural households travel to the market town is one of the strongest predictors to food insecurity and poverty in Ethiopia. According to the 2014 World Bank Poverty Assessment, poverty rates increased 7 percent with every additional 10km distance from a market town of at least 50,000 people. This is an indicator that rural households who live far from towns are less likely to access farm inputs and to benefit from agricultural growth and more likely to be food insecure. Similarly, due to their poor infrastructure, lack of market accessibility and livestock based livelihood, pastoral regions like Somali, Afar and part of Oromia region (Borana, Arsi and Bale zones) are more vulnerable than other parts of the country.

The highest prevalence of perceived food shortages is found in Somali (25% of urban, 31% of rural), Southern Nation Nationality People Regional (mainly rural at 37%), Gambela (mainly rural at 35%), and Amhara (mainly rural at 26%). Though food shortage is a subjective concept, it aligns to some degree with other more quantitative measures of food access, consumption and poverty level of households. There are meaningful differences between regions of the country (CARE, 2014).

The Famine and Early Warning Systems Network (FEWS NET) released a food security alert on August 3<sup>rd</sup>, 2017 for the Somali region of Ethiopia. They report that the drought over the past year has resulted in large livestock losses which has sharply reduced household access to food and has resulted in large-scale displacement. They also warn about serious human disease outbreaks (acute watery diarrhea and measles) that are on-going and high levels of acute malnutrition, excess mortality among children and a heavy reliance on emergency food aid. The drought has been most severe in Dollo, Korahe, Afder, and Jarar Zones.

## **Food Availability and Demand**

**2016/2017 Food Supply:** The Meher season food grain production was good. However, owing to inadequate amounts of rain-fall, the belg season production is estimated to be lower than that of 2015/16. This is due to decline in both the cultivated area and yield. Commercial farm production, which showed fast growth over the preceding years, is estimated to grow by 3.5 percent, which is the same as the previous year's growth rate. Though the CSA estimate for the 2016/2017 Meher season is available, the study team preferred to use a three-year moving average to estimate the 2016/17 production rather than using the CSA estimate, which the team found to be extremely high when compared with the patterns for the previous years, and was inconsistent with the views obtained in the discussions with key informants. With this method the year 2016/17 total food grain production is estimated at 28.81 million MT.

**2017/18 Food Supply:** The 2017/18 Meher season land preparation in the surplus producing areas was adequate, timely and of good quality, thus favoring good crop growth and performance. This, however, was not the case in most of the deficit woredas such as East and West Hararghe and the rift valley areas, mainly due to delayed onset and inadequate rains. Moreover, use of improved seeds has substantially declined in both woreda categories in 2017/18 compared to the amount used in 2016/17, when in the latter year seeds were extensively distributed as a recovery mechanism from the preceding year's drought. Using the moving average procedure, the forecast for the 2017/18 total national production is estimated at 30.17 million MT.

The current livestock situation appears to vary between the low-lying central and eastern parts of the country on one hand and the central highlands and the western block of the country on the other. This is due to the consecutive rainfall failure in the lowland parts of the country. However, the situation of the livestock in the surplus producing areas is perceived to be good.

**Food Demand:** Food supply is forecasted to be inadequate to meet the minimum energy requirement in 2017/18. Based on the forecasted grain production of about 30.17 million MT and food commodity for all imports of 987,314 MT, the per capita amount of food supply after deducting post-harvest losses, export, wastage, seed,



animal feed and industrial use will be 202 kg per person for the year 2017/18, which is lower than the minimum recommended threshold of 218 kg per person per year. This means that while the total food requirement for human consumption in 2017/18 is estimated to be 21.04 million MT, the food supply including food imports is forecasted to be 19.5 Million MT, which leaves a food deficit of 1.54million MT.

This level of consumption will be met only if the government and donors can import of cereal equivalent food grains. The projected import amount accounts only 2.4 percent of local production, which is too small to create any disincentives in local production and/or markets in the country.

## **Market Conditions**

It is evident from market observations that the level of cereal availability, especially maize and sorghum are low in 2017, both in surplus and deficit areas. This was because of unusual and unexpected high official and informal exports (especially maize). The delay of belg maize planting and its harvest by about two months in SNNPR also contributed to the increased demand, which was mitigated by the supply of green maize from the region.

Prices of cereals especially teff, maize, wheat, sorghum and barley have increased over the past year. In 2017, wholesale maize prices have increased sharply from \$21.83 in 2016 to over \$39.30 per quintal in mid-2017. The increase of maize prices has triggered the increase of sorghum prices, a close substitute to maize. It has been confirmed from various sources that the main reason for this sharp increase in maize prices is Tanzania's maize export ban, which led to increased demand for maize within the region and expansion of cross border trade between Kenya and Ethiopia, exerting pressure on domestic maize prices. There was also an increase in exports to the Southern Africa countries.

It is this sharp increase in the price of maize that most affected cereal supplies to the most vulnerable areas. Teff and wheat are not consumed much by the poorer households. Sorghum and maize are the cheaper and dominant staple.

### ***Comparison of Grain Prices across Surplus and Deficit/PSNP Woredas***

Analysis of these prices reveals that cereal prices, particularly prices of teff, sorghum and barley are slightly higher in deficit areas than in the surplus areas. The wheat prices in the surplus areas are higher than prices in the PSNP woredas. Maize prices show very little variation between the surplus and deficit areas. There is no significant difference between prices of both chickpeas and haricot beans in PSNP and surplus woredas.

### ***Main Marketing Channels***

The marketing channels in both deficit and surplus areas are very complex at the beginning of the season, as traders in both areas source and sell grain to and from various market participants, including farmers and assemblers. In surplus areas, the channels include major roles for assemblers, Isuzu traders who tend to aggregate grain and sell to a range of market actors i.e. traders, millers, and retailers. These participants are less important in deficit areas. As grain flows lessen, the number of active players also lessens.

### ***Market participants***

Many different market actors participate in the market chain; they include farmers, retailer, assemblers, Isuzu traders, brokers, wholesalers, and retailers. It is difficult to quantify the number of actors in the market, but generally, retailers appear to be more in number.

### **Impact of PSNP Resources Transfer**

A cash transfer to PNSP households in deficit areas can provide incentives for traders to move grain from surplus to deficit regions. If the value of the cash transfer is either set too low or eroded by inflation over time, as is currently the case with the PSNP cash transfer, the cash transfers will not



increase effective demand as much as the PSNP intends. Faced with a weakened signal, traders will only react to opportunities for spatial arbitrage in some proportion to the increase in effective demand (after accounting for relative transportation and other transaction costs potential traders face).

Most PSNP beneficiaries strongly prefer a mixed cash and food ration because the value of cash ration continues to be eroded by inflation. Of the households surveyed, 10 percent preferred cash only, 20% preferred food only and 70 percent preferred a mix of cash and food. Until inflation is much lower, and/or the amount of cash transfer is adjusted upwards more frequently to account for loss of purchasing power, this beneficiary preference for a mix of food and cash or food only should to continue

## **Ports, Inland Transportation, and Storage**

**Ports:** Djibouti will remain the port of choice for a majority of food aid shipments to Ethiopia during 2017/18, despite seasonal congestion. Bulk grain discharge and loading facilities in Djibouti Port are modern and efficient, but need to be expanded to adequately service Ethiopian import demand for grain and fertilizer in the future.

**Transport:** Truck shortages are a commonly cited reason for freight delays. An ageing and limited Ethiopia national haulage fleet, at time directed by decree, contributes significantly to port congestion in Djibouti. Increasing commercial demands, food and fertilizer imports, and GoE prioritization of fertilizer imports all contribute to truck shortages. To ensure that the availability of trucks does not impair the port's discharge rate, it is critical that adequate distribution amongst warehouses and offloading capacity is maximized in each warehouse.

**Storage:** All four FFP Development Food Security Activity (DFSA) implementing partners (Catholic Relief Services, World Vision International, Food for the Hungry Ethiopia and Relief Society of Tigray) have adequate storage capacity to safely store the anticipated volume of grain.

# I. INTRODUCTION

## I.1. BACKGROUND

The United States Agency for International Development/Ethiopia (USAID/Ethiopia) has contracted with Social Impact, Inc. to provide sufficient information about current and anticipated local market dynamics in Ethiopia to enable USAID/Ethiopia to make a Bellmon determination regarding potential Title II distributed food and possible cash transfers for fiscal year (FY) 2018 programs.

Food insecurity in Ethiopia continues to grow, despite substantial progress that have been made over the years. Statistics show that ten percent of Ethiopians are chronically food insecure and this number has been rising to over fifteen percent during the frequent drought years. Economic statistics also show that eighty-two percent of the population remains dependent on subsistent agriculture and with over 90 million people, Ethiopia has one of Africa's highest rural and overall population growth rates.

To address the root causes of chronic food security in Ethiopia, the Government of Ethiopia (GoE) has been implementing the Productive Safety Net Programme in Ethiopia (PSNP) food security program since 2005. PSNP is a large-scale multi-donor food security program, with a current phrase, PNSP IV, having started in 2016, ending in 2020, with a budget of over USD \$3 billion financed by ten donors. USAID has been a major supporter of this program, contributing approximately 16 percent of the total budget for 2017/2021 implementations. Unlike the other phrases, PSNP IV is built on a “cash first” principle that states that cash should be the primary form of transfer, except in situation where food is not available in the market or where market prices for food are very high to protect beneficiaries from food shortages and asset depletion. USAID/Ethiopia therefore introduced cash transfers to beneficiaries under PSNP IV beginning in FY2017, with the hopes of expanding to other woredas in the coming years. One objective of this study is to analyze the market's ability to respond to increased disposable income and the feasibility of cash distribution to beneficiaries in operational area.

In 2015/2016, Ethiopia's highland areas experienced a severe El-Niño drought, followed by La-Niña dry effect in the lowlands in 2016/2017. As a result, the Humanitarian Response Document (HRD) in January 2017 initially estimated that 5.6 million people needed humanitarian assistance, but the National Disaster Risk Management Commission (NDRMC) revised this figure higher to 8.5 million by August 2017. Looking ahead, Famine and Early Warning Network's (FEWS NET's) July 2017 Food Security Alert, warns that, this major food security emergency is expected to continue in Ethiopia and the surrounding areas into early 2018, driving humanitarian needs even higher. For the 2017 PSNP cycle, USAID partners are approved to provide food transfers to 1.3 million PSNP IV base beneficiaries and in Amhara, Oromia, and Tigray Regions and Dire Dawa Administrative region of Ethiopia. In 2016/2017, 116,000 metric tons (MT) of Title II development food commodities that consists 91,600 MT of wheat and 24,400 MT of pulses are approved to be distributed in 39 chronically food insecure (CFI) districts.

For this US food aid program to be approved, the United States Government (USG) must first ensure that:

1. The distribution of the commodity in the recipient country will not result in a substantial disincentive to or interference with domestic production or marketing in the country;
2. That the importation of United States agricultural commodities and the use of local currencies for development purposes will not have a disruptive impact on the farmers or the local economy of the recipient country; and
3. Adequate storage facilities will be available in the recipient country at the time of the arrival of the commodity to prevent the spoilage or waste of the commodity.

## I.2. STUDY OBJECTIVES

The overall objective of the study was to provide sufficient information about current and anticipated local market supply and demand dynamics in Ethiopia to enable USAID to decide of whether a proposed distribution of Title II food aid and possible cash transfer for FY 2017/2018 program would have a substantial impact on local markets and production incentives.

Specifically, the study was intended to provide:

1. The best available evidence of the market demand and supply situation for 2016/2017 as well as an estimate for 2017/2018 for the staple foods in Ethiopia: The study will be looking to estimate:
  - a. Area to be planted (estimate for the 2017/2018 season)
  - b. Availability and use of inputs (estimate for the 2017/2018 season)
  - c. Incidence and impact of pests and diseases and net production (for current 2016/2017)
  - d. Forecast Incidence and impact of extreme weather conditions
2. Detailed updates on:
  - a. Production, availability and affordability of staple foods - To determine whether there is sufficient supply of key commodities (cereals and pulses via both local production and imports) both nationally and in relevant markets serving USAID/Food for Peace (FFP)-targeted woredas during anticipated PSNP cash and or food distributions. Food availability and affordability will ensure that PSNP beneficiaries will be able to access grain, pulses and other important food commodities such as cooking oil, at all times.
  - b. The market's ability to respond to an increase in effective demand without undue upward pressure on retail price - A switch to more cash in future Title II supported woredas could cause a significant risk of inflation in local markets.
3. Information on the capacity of the country's warehousing and transportation infrastructure to store and distribute Title II imported food aid timely.
4. Perform a price trend analysis and projection for FY2017 and FY2018 to provide estimates of anticipated food supply gap and or inflation in post-Meher 2017 (for both cereals and pulses), in terms of food availability in the local markets.

## I.3. RESEARCH QUESTIONS

The study was focused on answering the following seven research questions:

1. What's Ethiopia's current production performance of major food crops and aggregate food availability situation?
  - a. What are the quantity available from local production, GoE and private sector imports, and food aid and other sources (e.g., government-to-government donations)
2. How are markets performing, especially in food deficit areas?
  - a. Who are the major market players in the key cereal, pulses and edible oil markets?
  - b. What are the typical marketing channels?
  - c. For the main participants in the chain, what is their potential market power to set prices?
  - d. Markets locations (distance – mainly for food deficit areas), market infrastructure conditions?
3. What is the government's role in markets, and what formal and informal policies affect market capacity to supply food?
4. What factors could inhibit the ability of food insecure households to access food through markets and ability of food insecure households (HH) to access a healthy diet at affordable prices?

- a. What factors could inhibit the ability of food insecure households to access the livestock market?
  - b. How have Terms of Trade (TOT) and livestock prices changed over time?
  - c. What are the drivers that might change the current trend in TOT and livestock prices?
5. What is the level of risk of households' food security, now and in the near term, due to the withdrawal of food-based assistance from Title II-supported PNSP woredas, or the shift from cereal and pulses food basket to cereal only food basket?
6. What capacity do traders have to respond to an increase in demand without putting upwards pressure on prices?
  - a. Is there any risk of significant inflation in local markets should Title II programs shift to more cash in current Title II-supported highland regions/woredas?
  - b. If so, which regions/woredas are at low vs. high risk of experiencing inflation due to a shift in cash transfers?
7. Are inland transports and storage facilities adequate to support the effective importation and distribution of Title II food-based assistance in targeted woredas in Ethiopia?

#### I.4. STUDY AREA

The study areas come from four Regions and one City Administration namely, Amhara Region, Oromia Region, Tigray Region, SNNPR, and Dire Dawa City Administration. These study areas were chosen because they met at least one of the following criteria: have been beneficiaries of the PSNP interventions or Title II resources; or are surplus producing woredas (see map below). The PSNP and the Title II JEOP beneficiary woredas were selected to represent the food insecure woredas receiving assistance, and the surplus woredas are included in the study to assess the functioning of food markets and food availability.

## 2. METHODOLOGY

### 2.1. STUDY DESIGN AND APPROACH

The study used a mixed–methods approach, using both qualitative and quantitative techniques to collect evidence necessary to address the research questions. The bulk of the secondary data is quantitative in nature and the bulk of the primary data is qualitative in nature. Primary data was collected from smallholders and traders in both PSNP and non-PSNP woredas using the Rapid Rural Appraisal (RRA) methodology. Non–PSNP woredas were selected with preference being given to the most productive areas that have been included in the Agricultural Growth Program II (AGP II).

### 2.2. DATA SOURCES

The following methods were used to explore the characteristics of production, availability, affordability and major crop markets in Ethiopia:

1. **Desk Review:** The desk review provided a solid background or overview of the Bellmon Analysis methodology and past and or current Title II programs in Ethiopia. Documents reviewed included past Bellmon reports, needs assessments by the World Food Program (WFP) and other humanitarian agencies, policy documents, Wage rate study from Ethiopia Development Research Institute (EDRI), food security outlooks and alerts from FEWS NET, etc. A complete list of documents reviewed appears in Annex III.
2. **Key Informant Interview:** At field level, the analysis interviewed key stakeholders including Cooperatives Unions, traders, local agricultural officers, pulse and grain merchants, FFP Implementing Partners – Relief Society of Tigray, World Vision International (WVI), Food for the Hungry Ethiopia (FH) and Catholic Relief Services (CRS). Interviews were held with Chief of Parties, Deputy Chief of Parties and Program Managers at each of the Implementing Partner Offices. Key Informant Interviews were also conducted with: the pertinent regional government offices (like the bureaus of agriculture, trade, Regional Disaster Risk Management Commission (RDRMC) and cooperative promotion). At federal level, interviews were held with government ministries/agencies (like Ministry of Agriculture (MoA), NDRMC, Ministry of Trade (MoT), Federal Cooperative Agency, Ministry of Transport, Central Statistics Agency (CSA), National Meteorology Agency, Emergency Food Strategic Reserve Administration (EFSRA), Ethiopian Grain Trade Enterprise (EGTE), Customs Office, Ministry of Economic Cooperation (MFEC) and National Bank of Ethiopia; bilateral and multilateral organizations (like Food and Agricultural Organization (FAO), WFP, United Nations Office for the Coordination of Humanitarian Affairs (OCHA), European Commission Humanitarian Office (EC ECHO), FEWS NET, USAID, World Bank.
3. **Focus Group Discussions (FGDs):** FGDs were held with smallholder farmers to determine current and expected crop production and the extent to which food crops might be expected to come onto the market over the course of the year. One gender-mixed FGD with farmers was held in each sampled kebele in food insecure woredas; though the target was 50% of the FGD participants to be drawn from women the data collection was possible on average number 3.4 women and 6.5 men per FGD. Each FGD had 8-12 households. Guidelines are provided in Annex V.
4. **Secondary data collection** – The table below show the type of secondary data that was collected and the source of the data.

**Table 1: Secondary Data Types and Sources**

Source	Data
MoA (at Regional and Federal levels) CSA US Department of Agriculture (USDA) Food and Agriculture Organization Corporate Statistical Database (FAOSTAT) EDRI	Crop Production
Strategic Food Reserve Agency EGTE Ethiopian Commodity Exchange (ECX) MWIT (Merchandise imports and wholesale) Customs office National Bank of Ethiopia (NBE) FFP Title II Implementing partners WFP NDRMC	Imports data
MoA Customs Office MoT	Food demand
MoT Cooperatives unions MoA	Formal and Informal government policies
Road Transportation Authority Ethiopian Shipping and Logistics Ethiopian Railway Cooperation MWIT FFP Implementing Partners NDRMC WFP Strategic Food Reserve Agency	Port, Inland transportation and Storage data
FEWS NET CSA	Crop price data
FEWS NET	Food Security and market conditions Rainfall data Crop price data Cross board trade
<b>FFP Implementing Partners</b>	Beneficiary data

- Market Observation** – The team visited and observed the biggest market in the sampled woreda and major cities in the target area. Data on commodity types and volumes, crop prices, market infrastructure conditions (storage, roads, transportation, stalls), type of buyers and sellers in the market, commodity flows and food aid self-monetization were collected

Triangulating evidence from these multiple sources gave us an understanding of the supply and demand dynamics of Ethiopian markets and the different ways the markets could respond to an increase in effective demand and or food supply in the market.

## 2.3. SAMPLING AND SAMPLES

Purposive sampling was used in the selection of woredas, Kebeles and participants for the FGDs and key informant interviews (KIIs), to have participants who are known to have opinions and experiences on the topics for discussion.

There are 329 PSNP CFI woredas distributed across all regions of Ethiopia except in Benishangul Gumuz and Gambella. Thirty-nine of these chronically food insecure woredas are supported through PSNP development food security activities (DFSA) and/or Joint Emergency Operation Plan (JEOP) Title II programs. Thirty-two woredas out of these thirty-nine are beneficiaries of both DFSA and JEOP programs.

A total of 56 woredas were sampled for data collection as shown in Table 2. Of the 56 woredas, 36 were selected from PSNP/DFSA, JEOP and GoE managed PSNP woredas (some of these woredas overlap). Additionally, 20 woredas were sampled from surplus producing woredas important to grain markets. Of the 36 PSNP woredas, 16 were selected from woredas getting support from both relief (JEOP) and development (PSNP/DFSA) programs, 2 were selected from woredas getting only relief (JEOP) support (both were drawn from the Southern Nations, Nationalities, and Peoples' Region (SNNPR)). SNNPR is only supported by Title II JEOP program. Lastly, 18 woredas were selected from other PSNP woredas not targeted by Title II JEOP or Title II DFSA programs but obtaining resources from other donors operating in the country and managed by the government.

The regional distribution of the sampling frame depends on the number and regional distribution of the woredas under each of the food aid categories above and coverage of AGP II. While the summary of the sample of woredas is provided in the following table, the details are provided in Annex IV. Sampling of the assessment Kebeles was done in the field by a team of data collectors from PRIN, a sub-contractor to EPMES, in consultation with the local stakeholders.

**Table 2: Number of Sampled Woredas per Region**

Regional Distribution of Woredas			Number of Sampled Woredas by Program			
Region	No of Zones	No of Woredas	Title II (PSNP/DFSA +JEOP)	Title II (JEOP only)	GoE Managed PSNP	Surplus Producing Areas
<b>Amhara</b>	6	18	6		6	6
<b>Oromia</b>	9	21	5		6	10
<b>Tigray</b>	4	10	4		4	2
<b>Dire Dawa</b>		1	1			
<b>SNNPR</b>	3	6		2	2	2
<b>Total</b>	22	56	16	2	18	20

## 2.4. DATA COLLECTION DETAILS

As stated earlier, the study employed a mixed-method approach using both primary and secondary data collection approaches. The participatory rapid appraisal (PRA) approach was used, which included a



detailed desk review, KII, FGDs and market observation, to collect primary data from both PSNP and non-PSNP households.

Within each woreda, data were collected from a purposive sample of two Kebeles using one or more of the following characteristics, extent of food security, extent of food aid distribution/allocation, agro-ecology and existence of village markets, livelihood sources and market channels from those selected for the survey.

Interviews were conducted as follows:

1. In the **food insecure woredas**, there was one gender-mixed FGD with farmers in each sampled kebele; 50% of the FGD participants were women farmers. Moderators ensured equal participation of both women and men in the discussions by carefully directing questions and controlling one group from dominating the discussion. Each FGD had 8-12 households; (i) 4 households from PSNP beneficiary households; (ii) 4 from better-off (non-PSNP beneficiary) households; and (iii) 4 from PSNP beneficiaries who have graduated, or waiting for inclusion.
2. In the **surplus producing woredas**, one FGD was conducted with farmers in each sampled kebele. Each FGD had 8-12 households and 50% of the participants were women farmers.
3. KII with each Agricultural Office, trade Office, Cooperative Promotion Office and Cooperative Unions per woreda. We also had KII with at least one retailer and one wholesaler in each woreda. In total, we interviewed 47 cooperatives, 27 from PSNP woredas and 20 from surplus producing woredas.
4. One major market in sampled woredas and Capital Cities was observed. In total, we visited 61 markets.

Ten data collection teams (two data collectors per team-total of 20 people) were deployed into the 5 Regions. Three independent teams were deployed to Oromia; one team to Oromia and Dire Dawa; one team to Oromia and SNNPR; two independent teams to Amhara; two teams to Amhara and Tigray and one independent team to Tigray (see Annex IV).

## 2.5. DATA ANALYSIS

Data collected were analyzed using the following approaches:

1. Descriptive analysis was used to analyze quantitative data on staple food price trends and some KII questions;
2. Emergent patterns and themes approach was used to analyze data from qualitative sources i.e. review of documents, interviews and focus group discussions
3. To estimate the total local grain production in 2016/17, and to forecast the 2017/18 production, a three- year moving average method was employed. The evaluation team preferred to use a moving average instead of the trend approach because the experts consulted perceived that the 2015/16 CSA grain production estimate seems skewed positively when compared with: (i) the severe drought experienced in 2015/16 affected grain production; (ii) a large number of people was reported as needing food assistance during this period; and (iii) as a result, the quantity of food assistance imported into Ethiopia was higher than the previous years. Therefore, the average grain production of 2013/14, 2014/15 and 2015/16 was calculated and used as the production estimate for 2016/17. Subsequently, a new moving average was calculated for 2017/18 forecast; this was computed taking into consideration the growth rate of the moving average for 2016 and computing a new production value for 2016/17 as 2015/16 production, plus the moving average growth rate for 2016/17 multiplied by the 2015/16 production.

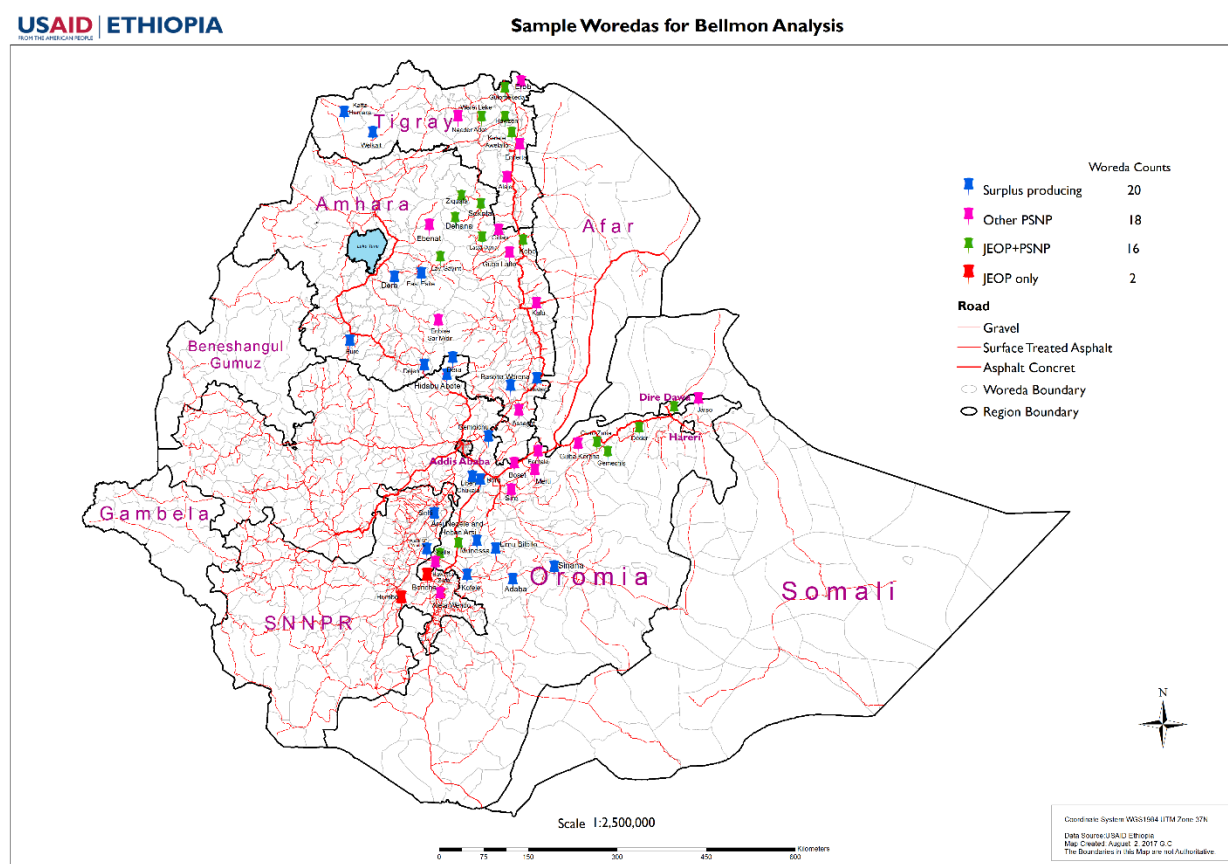


Analysis of both the quantitative and qualitative data provided information on each of the research questions posed for the study.

## 2.6. LIMITATIONS

Some challenges were experienced during the conduct of this study. The study was conducted during the rainy and peak production season, which affected the movement of the study team and the availability of respondents. The timeframe for conducting the study was also short, resulting in rushed data collection, triangulation and analysis. Security related issues caused some study Woredas to be inaccessible causing the study team to resample some Woredas at the last minute.

**Figure 1: Geographic Distribution of the Sample Woredas**



## 3. CONTEXT ANALYSIS

### 3.1. GOVERNMENT POLICIES AFFECTING THE AGRICULTURAL SECTOR

There are several government policies that directly affect the Ethiopian agricultural sector. This section will discuss these policies and the impact they have had on the sector.

**Increased emphasis on Agricultural Extension Services:** To facilitate knowledge and skills transfer to smallholder farmers, the GoE has invested heavily on the deployment of extension workers to every rural kebele. The government has increased the number and education of Development Agents (DAs) through providing extensive technical, vocational education and training in agriculture and through the establishment of Farmer Training Centers (FTCs) to transfer improved agricultural technologies and give adequate services at a closer reach (Yared Gebremeden, 2016). So far, over 71,000 agricultural experts have been deployed to provide extension services for farmers and semi-pastoralists and over 12,000 training stations established to modernize the agricultural system<sup>3</sup>.

Real progress on the ground has been mixed with respect to DA deployment and FTC start-ups. According to the 2014/2015 Bellmon, the impact of the DAs has been compromised by the time they spend on non-farm activities. Another study based on panel data from the Ethiopian Rural Household Survey by Dercon et al. (2009), reports significant effect of extension workers' visit on poverty headcount and consumption growth between 1994 and 2004. Nonetheless, the entire body of evidence on agricultural extension suggests that its impact on productivity and poverty has been mixed to date (Dercon et al, 2009).

**Increased emphasis on provision of Agricultural Inputs:** Since 2007, the GoE has promoted the distribution of improved seeds and chemical fertilizer to small-scale, resource-poor farmers. Controlled importation of fertilizer is being done through the Agricultural Input Supply Enterprise (AISE) and distributed to small-scale farmers by the local farmer cooperative network.

**Market Stabilization:** To stabilize markets, the GoE established EGTE in 1992, and its mandates included (1) stabilizing prices with objectives of encouraging production and protecting consumers from price shocks, (2) earning foreign exchange through exporting grains to the world market, and (3) maintaining a strategic food reserve for disaster response and emergency food security operations (Paul Dorosh and Shahidur Rashid, 2013).

Since then, EGTE has been instrumental in stabilizing the wheat market. According to the 2016 Turf's report, in 2008, in response to the dramatic price increases, EGTE was mandated to sell wheat to stabilize the market. The first tranche was drawn from the Emergency Food Security Reserve, but subsequent sales were direct imports. EGTE has consistently sold wheat into the market at a subsidized price of \$23.94/qt.

Even though EGTE has distributed over 500,000 MT of wheat yearly in the past four to five years, this exercise has not reduced domestic wheat price to import parity levels. Instead, EGTE's imports have been instrumental in stabilizing the price of bread, which remains at ETB 0.3 (\$.01)/100gm loaf. The flour derived from wheat sold by EGTE to miller must be sold at a fixed price to bakers, who in turn are required to produce bread at a fixed price. From this perspective, the market stabilization exercise has achieved at least one desired impact: controlling the price of bread for the urban poor (United States Agency for International Development, 2016).

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<sup>3</sup> Ministry of Agriculture and Natural Resource website

**Price Control:** According to the 2014/2015 Bellmon report, the GoE employed significant resources to arrest increases in the prices of bread, edible oil and sugar. The current price of a 100g loaf of bread is \$0.05 per loaf. In October 2017, local prices of wheat have sold for about \$44.29/qt in Addis Ababa. To ensure that the price control is sustainable, the GoE has been importing cheaper wheat, which is sold to millers at a lower price to enable them to produce cheaper bread.

In the case of edible oil, the GoE has been the sole importer of edible palm oil through the parastatal institution Merchandise Wholesale and Import Trade Enterprise (MEWIT) since 2010. MEWIT imports oil and sells it to cooperatives and consumer associations, who, in turn, sell it to the public at a fixed price. The current price for 3 liters of palm oil is \$3.27 and \$5.24 for 5 liters. Commercial traders have been able to import edible oil, but are obligated to pay 30 percent duty and 15 percent VAT so that the high retail cost can discourage sales and import (United States Agency for International Development, 2015). The government imports about 435,000MT of edible oil yearly.

**Strategic Food Reserve Agency (SFRA):** Formally known as the Emergency Food Security Reserve Administration (EFSRA), the SFRA was established in 2013 with four mandates:

- Purchase of grain (mainly locally)
- Food distribution (directly or through others)
- Market stabilization
- Grain sell/export – mainly for reserve grain recycling

In collaboration with EGTE and PSNP, SFRA works on various food related issues like relief and emergency responses and price stabilizations. SFRA does not get involved with any buying, selling, transportation or distribution of grain. The government and donors make pledges to build stock, mainly through food aid and imports. It is a vital partner of donors i.e. WFP and government organizations i.e. NDRMC implementing food-related emergency activities in the country. It maintains a rotating stock of cereals and once pledges from donors are confirmed, both non-governmental organizations (NGOs) and governmental organization can borrow cereals for distribution. When the pledge arrives in the country, it is repaid to the SFRA. This mechanism helps as an invaluable tool in reducing the time between donor pledges and actual distribution of the cereal. SFRA has been supported by many organizations such as the Canadian International Development Agency (CIDA), the British Overseas Development Assistance (ODA), USAID, UFP, and the European Union (EU) (Mulugeta, 2015).

## 3.2. AGRICULTURAL OVERVIEW

Agriculture is the backbone of Ethiopia's economy. It contributes 36.2 percent of the country's gross domestic product (GDP) and 72.7 percent of employment and 70 percent of export earnings. Due to its contribution to the GDP, agriculture highly impacts the performance of the other sectors of the economy. Ethiopia's export commodities are agricultural i.e. coffee, oil seeds, and sesame. Owing to the fact that these commodities are the main source of foreign earning, agriculture determines the country's capacity to import other materials used in manufacturing. Above all, current policies propose agriculture to be the main source of capital to be accumulated for the process of establishing future industrialized Ethiopia, which again shows the importance of the sector in bringing about sustainable economic development for the country in the years to come.

### Production Base

The agricultural sector is dominated by approximately 19.2 million fragmented smallholdings averaging about 0.95 ha in size. The land cultivated by the small-scale farmer accounts for 95.9 percent of the total area under agriculture and these farmers are responsible for more than 90 percent of the total agricultural output. The small-scale farmers practice rain-fed mixed farming by employing traditional methods of cultivation. Because of the small average holdings, most rural households cannot survive on

farming alone. They are obligated to find alternative sources of income and are effectively net consumers in the market.

Commercial farms are not widely spread in Ethiopia. Private and state commercial farms produce just 6 percent of food crops. They use about 5 percent of the total cultivated land.

### **Climate and agro-ecological zones**

Ethiopia has a wide variety of climatic features, due to its extensive altitude range and heterogeneous rainfall patterns. Temperature and rainfall are the most important climatic factors for agricultural production in the country. Altitude plays a role in climatic factors and land suitability, and influences the types of crops that are cultivated, growth rates, and natural vegetation. Temperature can vary between annual means of 34.5° C in the Dinakil Depression, to a mean of below 0° C in the Mt Ras Degen region (FAO, 2006). The lowlands, particularly the east, south east, and the north east, have much lower levels of precipitation (Platform for Agricultural Risk Assessment, 2016).

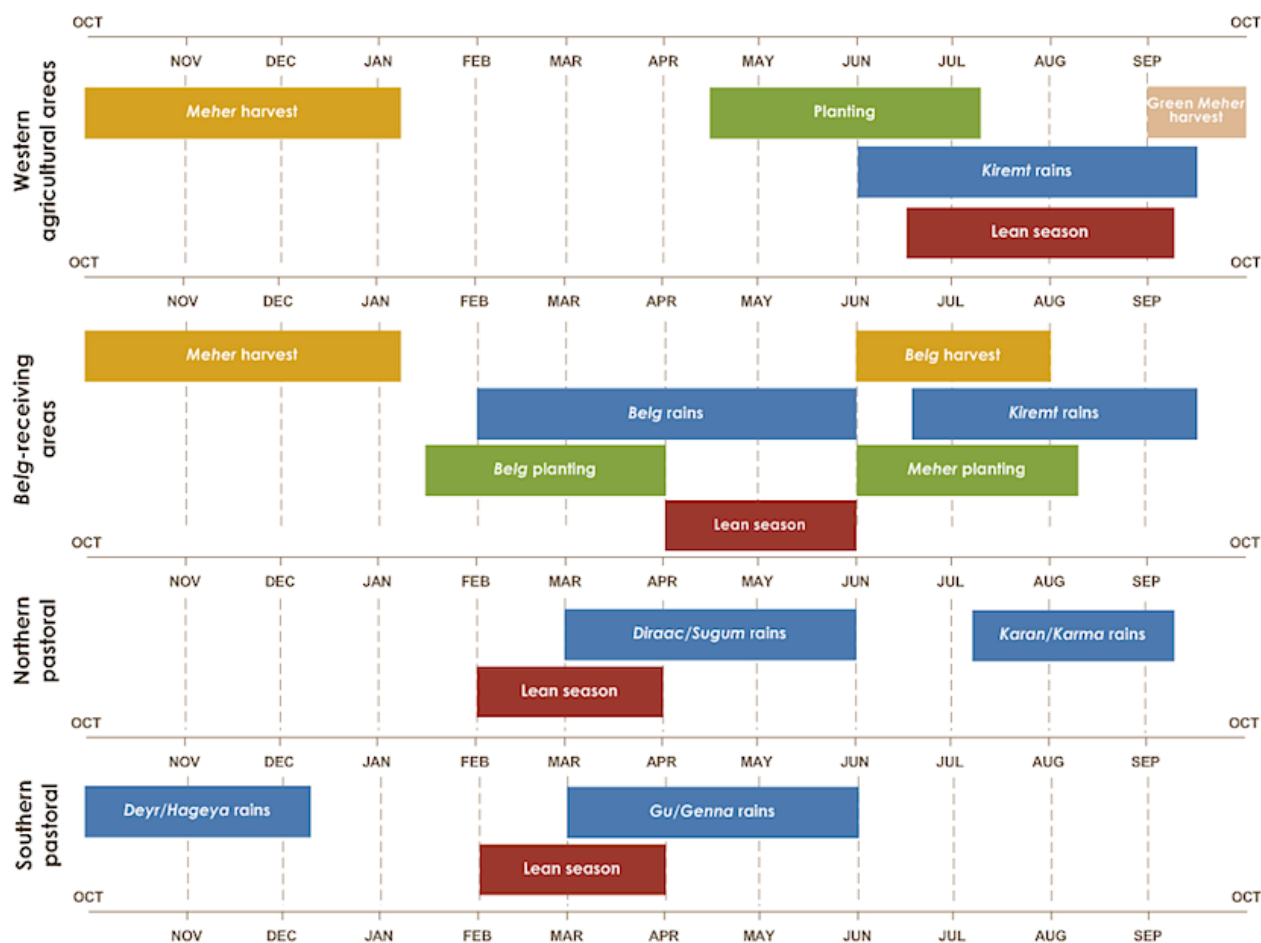
Climatic factors and soil types are reflected in the various agro-ecological zones of Ethiopia. They can roughly be categorized as Behera (<500 m), Kolla (500-1500 m), Weyna Dega (1500-2300 m), Dega (2300-3000m), Wurch (3000-3700 m) and High Wurch (>3700 m). Most of these zones can be subdivided into dry, moist, and wet areas (Platform for Agricultural Risk Assessment, 2016).

### **Seasonality**

There are two cropping seasons in Ethiopia; Belg and Meher seasons. The Belg season receives rainfall from February to June and harvesting is done between March and September. During the Belg period, short cycle crops like maize, barley, wheat, teff and pulses are grown. Only four regions produce large volumes of belg crops; Amhara, Tigray, Oromia and SNNP. The Meher season receives rain from June to October and harvesting is concentrated within the months of September and February. Ninety percent of the country's cereal's output comes from the Meher crop season.

In some highland regions, both seasons are merged into one extended growing period, allowing growth of both long cycle grains such as sorghum and maize as well as short cycle grains such as wheat, barley and teff.

**Figure 2: Ethiopia's Seasonal Calendar**

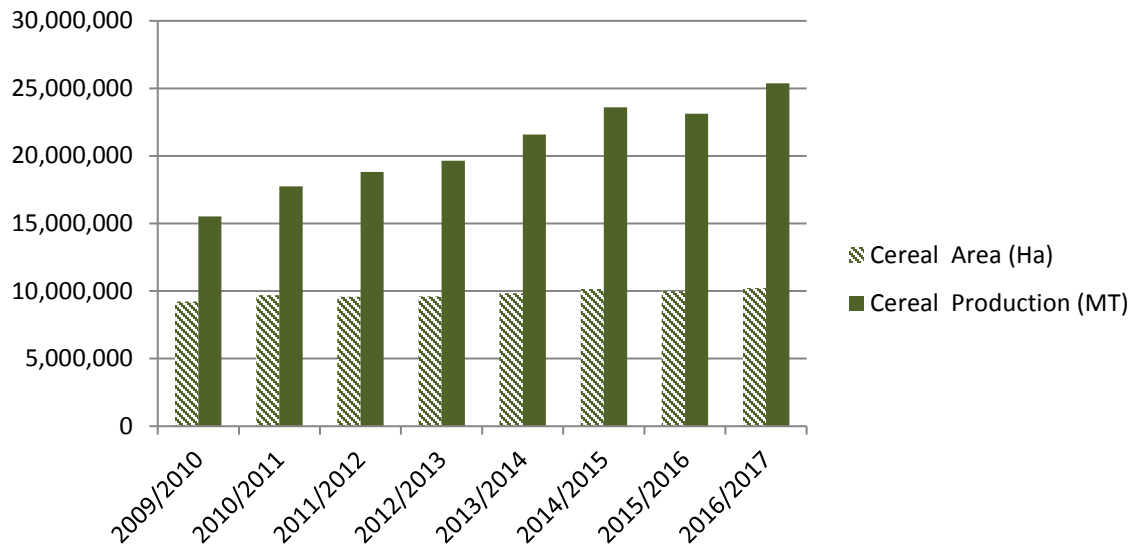


Source: FEWS NET

## Production

Most of the land in Ethiopia is not suitable for cultivation; cultivated crop area was about 14 million hectares in 2016/2017 accounting for just 13 percent of the total area of Ethiopia. Teff, wheat, maize and sorghum are the main cereal crops produced and consumed locally. In 2016/2017, cereals were grown in approximately 72 percent of the total area and were cultivated by a total of 16.3 million farmers. Together, these farmers produced a total of 25.3 million tons of cereals. Teff accounted for 30 percent of the total cereal area cultivated and only 20 percent of the annual cereal production, while maize comprised 31 percent of total annual cereal production, with only 21 percent of the cereal area cultivated. Production of cereals has generally been rising, especially since 2009, except for a 2 percent decrease in production in 2015/2016 as shown in Figure 3 below.

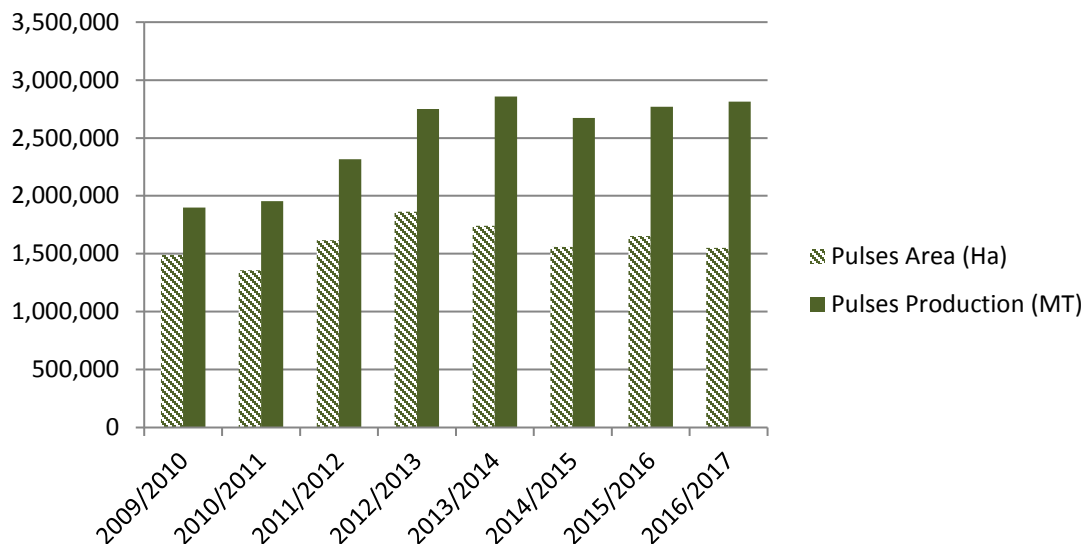
**Figure 3: Cereal Production in Ethiopia (2009-2016)**



Source: Data from CSA.

After cereals, pulses are the second most important crop group in terms of acreage. In 2016/2017, 9.06 million farmers grew pulse on 11 percent of the total area cultivated. Total pulse production was about 2.8 million tons. Oilseeds form the third most important crop group. In 2016/2017, oilseeds were cultivated on 6.9 percent of the total area cultivated by 3.5 million holders who produced an average of 0.8 million tons of oil. Production of pulses had been steadily rising from 2009/2010 to 2013/2014, dropped by 11 percent in 2014/2015 but has have slightly increased year over year since then.

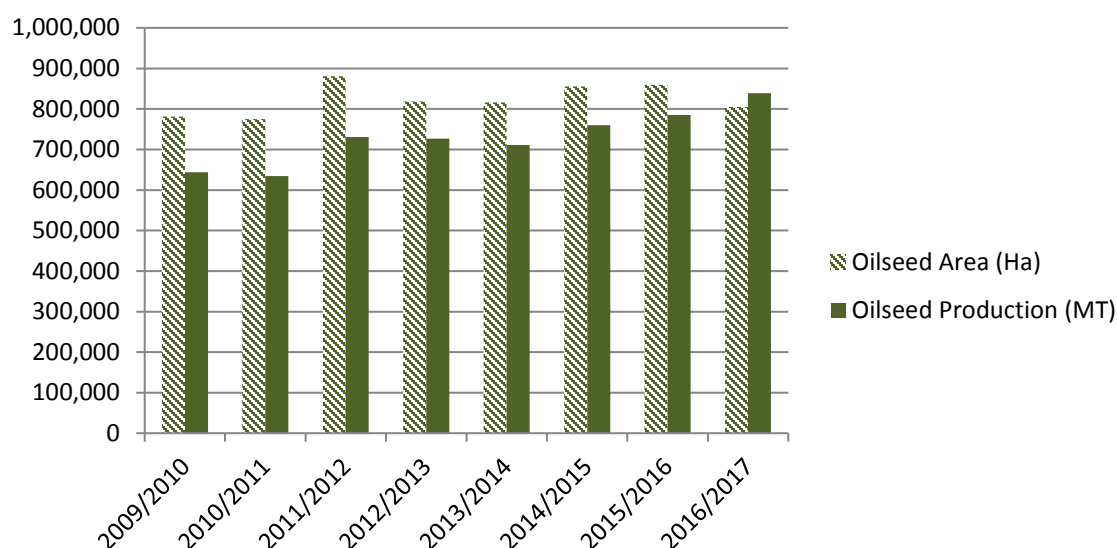
**Figure 4: Pulses Production in Ethiopia (2009-2016)**



Source: Data from CSA

Oil seed production, however, has been increasing for the past three years with some fluctuations during the 2009 – 2013 period.

**Figure 5: Oilseed Production in Ethiopia (2009-2016)**

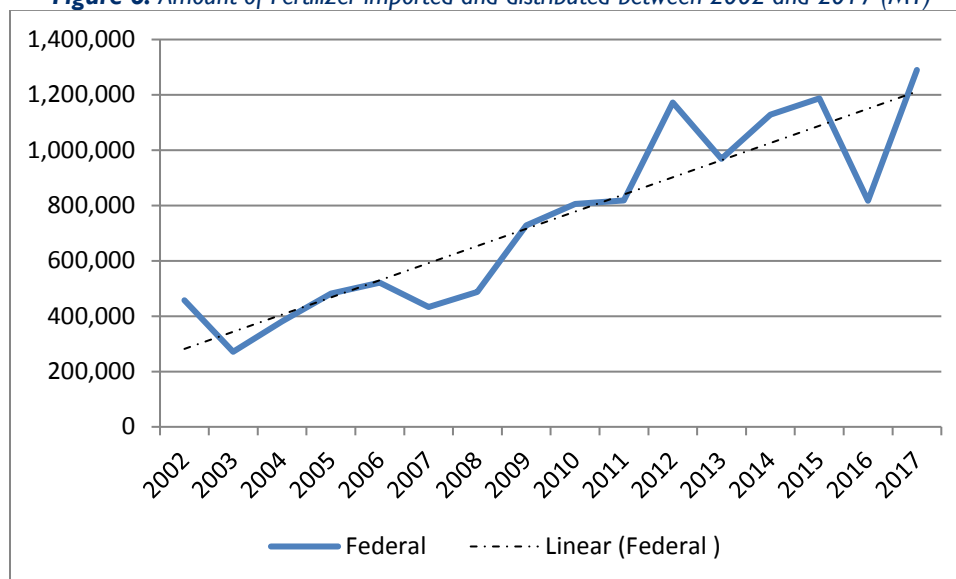


Source: Data from CSA

According to the Agricultural Transformation Agency (ATA), the importance of the pulses and oilseed sectors is not only to increase food security and improve income but to also to contribute to environmental sustainability by being intercropped with cereals. These crops are known to produce important agronomic benefits when intercropped with cereals i.e. increasing the fertility of soil, reducing incidence of plant diseases and pests, therefore leading to higher cereal yields.

The application of fertilizer to crop fields in Ethiopia is gaining momentum. All fertilizer is imported by the government through AISE. Since 2007, the GoE increased emphasis in the use of fertilizer and improved seeds and has been distributing these inputs to smallholder farmers using cooperative networks all over the country on credit basis. Total sale of fertilizer has grown from 352,309 MT in 2010 to 777,499 MT in 2014. An interview with MoA revealed that 817,463 MT of fertilizer was available for the 2016/17 cropping season. For the 2017/18 cropping year, fertilizer availability is about 12.9 million MT, a 35.46 percent increase. A significant portion of smallholders use fertilizer: 39 percent according to CSA. Teff, wheat, and maize cultivation account for the majority of fertilizer use.

**Figure 6: Amount of Fertilizer imported and distributed between 2002 and 2017 (MT)**



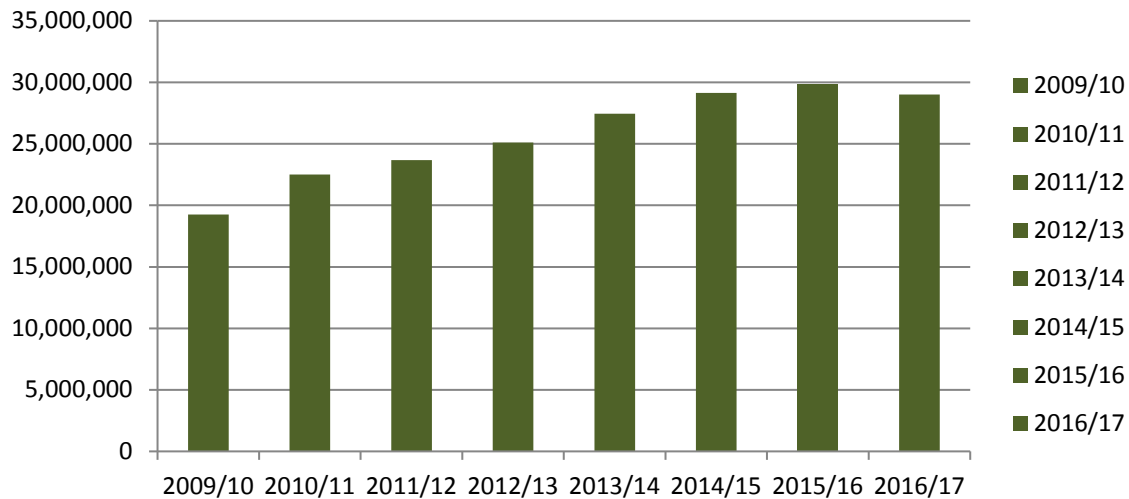
*Source: Original data from MoANR and Regional Agricultural and Natural Resources Department (ANRD) Bureaus*

Both the Meher and Belg conditions have been largely affected by drought. In 2015/16, the Meher rains were not adequate and El-Niño effects lead to a 1.3 percent decrease in Meher crop production, but the total annual production marginally increased due to an increase in the belg production (CSA data, 2015/16). In 2016/17, the weather conditions were normal. The onset and performance of the Meher rains were good and crop production for the year was up 8 percent. However, parts of the northern, north-eastern, eastern, central and southern rift valley areas did not receive adequate rainfall.

The 2017/18 belg rain started late, delayed land preparation for the next/Meher season planting in the south and may affect yields. According to CSA data, 2016/17 production was 290 million qt. which is 90.6 percent of the plan set out in the Growth and Transformation Plan (GTP II). The MoA is forecasting 2017/18 production to be 345 million qt. from 10.7 million ha of land that is already cultivated and planted. Annual crop production trends are shown in the figure below.



**Figure 7: Ethiopia's Annual Crop Production 2009/10 -2016/17<sup>4</sup>**



Source: CSA Agricultural Sample Survey: 2009/10 -2016/17

**Fall Armyworm:** A threat to production is the effects of the fall army worm infestation. Of the 2,475,906-ha land covered by maize during the main (Meher) season, 557,000 ha (22%) was infested by fall armyworm in six regions (SNNPR, Oromia, Gambella, Benishangul Gumuz, Amhara and Tigray). The pest is controlled on 414,648 ha (74%) of the infested area; and the effort is going on. About 55% of the infestation was controlled by biological method (hand picking).

Re-infestation by the third generation (the first was on irrigated farms, the second was on belg and long cycle crops) of the worm is expected (and already observed) on the already controlled areas –of the Meher crops. Given the favorable climate of the infested regions, the worm could continue up to the next dry season.

### 3.3. FOOD SECURITY OVERVIEW

#### Definitions (Drawn from USAID Policy Determination 19, 1992)

“Food security exists when all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life.”

**Food availability** refers to the presence of food, e.g. when “sufficient quantities of appropriate, necessary types of food from domestic production, commercial imports, commercial aid programs, or food stocks are consistently available to individuals or within their reach.” Hence, food availability is largely a function of macroeconomic factors.

**Food access** refers to the resources the households must obtain foods, either through own production or through purchase. “Individuals have assets or incomes to produce, purchase, or barter to obtain levels of appropriate foods needed to maintain consumption of an adequate diet/nutrition level.” Hence, food access is largely related to household income and own production.

**Food utilization** refers to the nutritional benefits derived from food consumption. “Food is properly used; proper food processing and storage techniques are used; adequate knowledge of nutrition and

<sup>4</sup> The 2016/17 data is based on a calculated three years moving average of CSA data.

child care techniques exist and are applied; and adequate health and sanitation services exist.” Hence food utilization is largely related to nutrition, health and sanitation.

## **Food Security Situation in Ethiopia**

In 2017, Ethiopia had an estimated population of 94.4 million people (Ethiopia Central Statistics Agency). It is the second most populous country in Africa, after Nigeria. Ethiopia has 32.1 million people who are undernourished or hungry, ranking first in this category<sup>5</sup>. This also makes it the fourth African Country scoring (37.1 percent) of the population being undernourished/in hunger (Africa Development Bank, 2014). Rural Ethiopian livelihoods are very sensitive to climate. Hunger and food insecurity are linked to seasonal and rainfall patterns in Ethiopia; Hunger trends show a downward trend after the rainy seasons. Climate related shocks affect productivity, hamper economic progress and exacerbate existing social and economic problems (Anderson et al., 2015). Ethiopia’s food insecurity situation is highly linked to severe, recurring food storages and famine, which are associated to recurrent drought. Poverty and food insecurity seem to be closely related in Ethiopia. Droughts and other related disasters (such as crop failure, water shortage, and livestock disease, land degradation, limited household assets, low income) are significant triggers, more important factors which increase vulnerability to food security and undermined livelihoods (MoARD, 2009). Other triggers of food insecurity are rapid population growth, low per capita income, red-fed agriculture, under development of water resources, land degradation, low economic development, weak institution, conflicts, livestock and human diseases, production fluctuations, high levels of illiteracy, poor health and sanitation etc.

According to UNICEF (UNICEF, 2014), about 10 percent of the Ethiopian population is chronically food insecure and this figure rises to more than 15 percent during drought years. In 2015/2016, Ethiopia’s highland areas experienced a severe El-Niño drought, followed by La-Niña dry effect in the lowlands in 2016/2017. As a result, the HRD in January 2017 initially estimated that 5.6 million people needed humanitarian assistance, but NDRMC revised this figure higher to 8.5 million in August 2017.

FEWS NET released a food security alert on August 3<sup>rd</sup>, 2017 for the Somali region of Ethiopia. They report that the drought over the past year has resulted in large livestock losses which has sharply reduced household access to food and has resulted in large-scale displacement. They also warn about serious human disease outbreaks (Acute Watery Diarrhea and measles) that are on-going and high levels of acute malnutrition, excess mortality among children and a heavy reliance on emergence food aid. The drought has been most severe in Dollo, Korahe, Afder and Jarar Zones.

## **Food Security Vulnerability by Region**

Vulnerability to poverty is very strongly associated with geographic dimensions in Ethiopia. The distance that rural households travel to the market town is one of the strongest predictors to food insecurity and poverty in Ethiopia. According to the 2014 World Bank Poverty Assessment, poverty rates increased 7 percent with every additional 10km distance from a market town of at least 50,000 people. This is an indicator that rural households who live far from towns are less likely to access farm inputs and to benefit from agricultural growth and more likely to be food insecure. Similarly, due to their poor infrastructure, lack of market accessibility and livestock based livelihood, pastoral regions like Somali, Afar and part of Oromia region (Borana, Arsi and Bale zones) are more vulnerable than other parts of the country.

The highest prevalence of perceived food shortages is found in Somali (25% of urban, 31% of rural), Southern Nation Nationality People Regional (mainly rural at 37%), Gambela (mainly rural at 35%), and Amhara (mainly rural at 26%). Though food shortages are a subjective concept, it aligns to some degree

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<sup>5</sup>Africa Food Security and Hunger/Undernourished Multiple Indicator Scorecard

with other more quantitative measures of food access, consumption and poverty level of households. There are meaningful differences between regions of the country (CARE, 2014).

**Figure 8:** Percent of Households falling below the food poverty line by rural/urban areas

Region	Rural	Urban	Rural & Urban (Total)
Tigray	33%	19%	30%
Afar	27%	20%	25%
Amhara	38%	20%	35%
Oromia	28%	24%	27%
Somali	22%	16%	21%
Binishangul Gumuz	30%	18%	28%
SNNPR	22%	20%	22%
Gambela	19%	22%	20%
Harari	4%	3%	4%
Addis Ababa	-	19%	19%
Dire Dawa	12%	19%	17%

Source: CARE 2014

## Households' Coping Strategies Practiced in Ethiopia

The coping strategy a household adopts depends on their food insecurity levels. Households facing extreme hunger and starvations for long periods of time may end up adopting negative coping practices like going without food for long periods of time and minimizing the number of meals consumed in a day.

Households in pastoral and Agro-pastoral areas of the country move from one place to another especially in dry seasons looking for water and pasture for their livestock. Alternative coping strategies amongst the pastoralist are sale of livestock more than usual, borrowing food, reducing the number of meals, reducing the size of meals, sale of firewood and charcoal, seasonal migration, seeking alternative or additional jobs, seeking relief assistance, household splitting, remittances, etc.

## Food Security Policy Context

As an intervention to the food insecurity problem, the GoE has its level of intervention. The GoE launched a large scale PSNP in 2005 PSNP's main goal is to improve the food security status for chronically food insecure household members. It does that through direct grant to labor-poor, elderly or incapacitated individuals and payments to able-bodied members for participation in labor intensive public work activities (MoARD, 2014). PSNP operates in Afar, Amhara, Dire Dawa, Harari, Oromia, SNNPR, Somali and Tigray Regions.

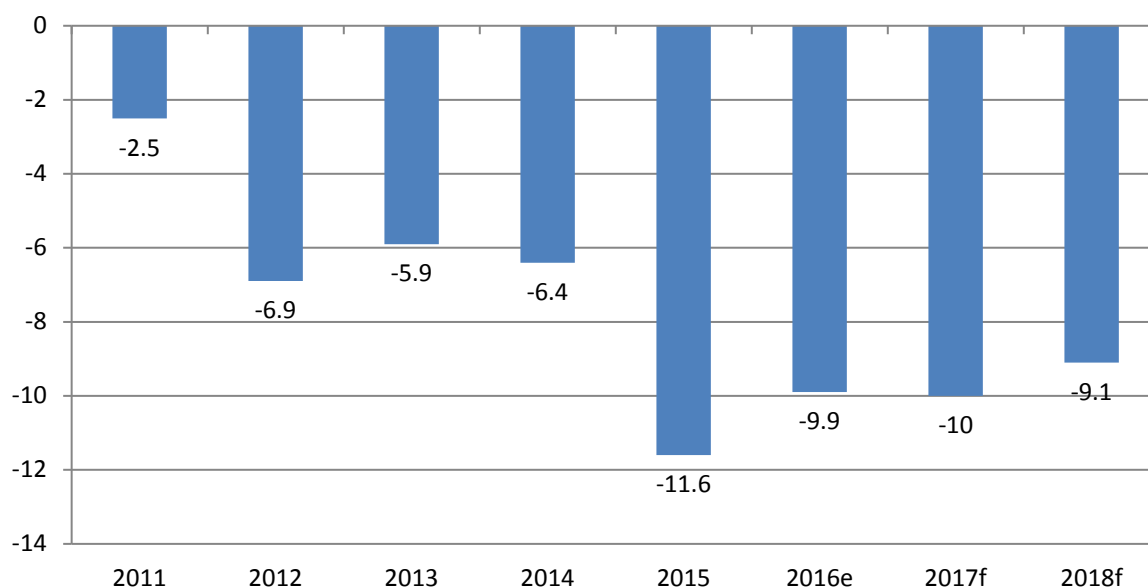
## 3.4. TRADE OVERVIEW

Export performance has remained sluggish. The average value of export earnings between 2012 and 2016 was USD \$2.7 billion. In 2014/15, the value of merchandise exports totaled USD \$3 billion, posting an 8.5% decline year-on-year. This was due to a fall in the volume of exports (such as coffee and pulses) and decreases in gold, oilseeds and pulses prices. Imports have increased substantially since 2011/12. The annual merchandise-import bill, largely driven by capital goods, increased from USD \$11 billion in 2011/12 to USD \$16.4 billion in 2015/16, thereby widening the current-account deficit. Poor performance and volatility in export earnings and a never-increasing demand for imports were the main reasons behind the worsening trade-account deficit. The effect on the overall balance-of-payments

deficit, however, was not pronounced (-0.8% of GDP) as surpluses in services and capital account had a mitigating effect. Private transfers, including remittances, also offset the rise in imports. Favorable prospects for export diversification have nonetheless been boosted by an improved environment for foreign direct investments in the manufacturing sector and potential electricity exports.

A persistent and recently widening-current account deficit is evident in Ethiopia. The country's heavy reliance on agriculture and exposure to adverse weather conditions makes the current account vulnerable to agricultural shocks that can be unpredictable and volatile. The government has therefore started with substantial investment in power infrastructure to diversify exports away from only agriculture. Ethiopia is exporting electricity to Djibouti (up to 60 MW) and to Sudan (up to 100 MW) and has concluded power export deals with Kenya and South Sudan. Construction of an Ethio-Kenya-Tanzania transmission line is expected to be completed by 2018. Ethiopia has plans to export up to 400 MW of electricity to Tanzania (Kassu, 2017). These export earnings will help to narrow Ethiopia's current-account deficit in coming years, while the cheap power will additionally provide a timely boost to Ethiopia's emerging manufacturing sector. The International Monetary Fund (IMF) estimates that the current account deficit will narrow to 9.1% in 2018 from the large 11.6% GDP growth level experienced in 2015.

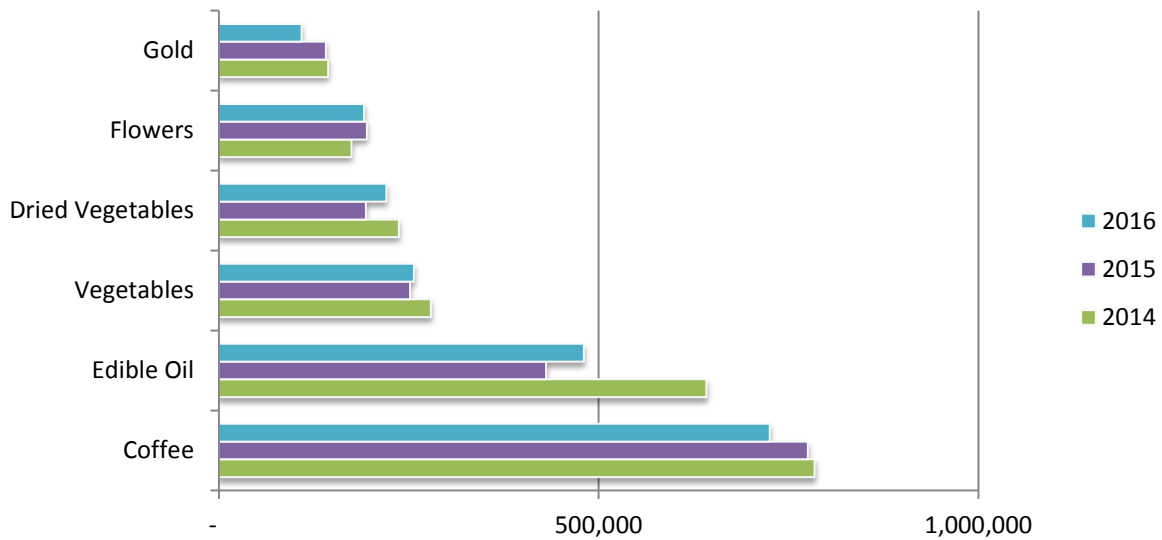
**Figure 9: Current Account Balance (% of GDP)**



*Source: Trade Map*

Ethiopia's major exports include coffee, gold, leather products, flowers, vegetables, and oilseeds. Purchasing approximately 14 percent of Ethiopia's exports in 2016, China is Ethiopia's largest trading partner. Somalia is next purchasing approximately 10.4 percent of Ethiopia's exports. The other major export partners are Saudi Arabia with 7.1 percent of exports, Netherlands 6.9 percent, USA 6.9 percent and Germany 6.4 percent of exports. Djibouti is also a major partner in Africa, a neighboring country through which Ethiopia must conduct all its importing and exporting since Ethiopia is landlocked and thus lacks a port of its own.

**Figure 10: Main Exports**



Source: Trade Map

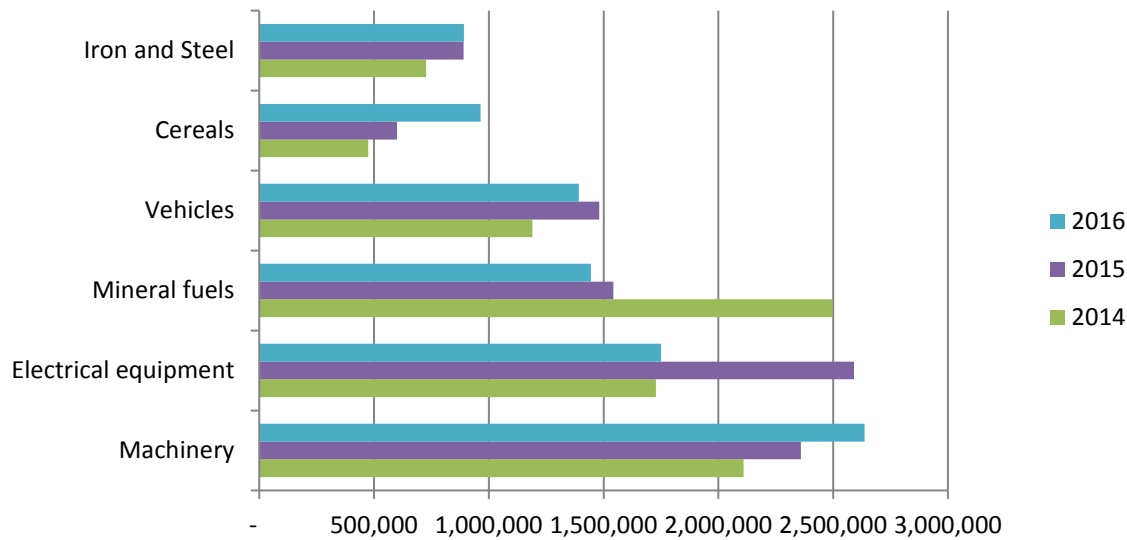
**Table 3: Exports: Percent of Share of Total**

Main Exports: % share of Total	2014	2015	2016
Coffee	26.34	28.75	27.73
Edible Oil	21.55	15.97	18.36
Vegetables	9.38	9.33	9.82
Dried Vegetables	7.96	7.17	8.43
Flowers	5.86	7.22	7.3
Gold	4.83	5.22	4.16

Source: Trade Map

Ethiopia's major imports include Machinery, Electrical Equipment, vehicles, cereals, mineral fuels and iron and steel. In 2016, Ethiopia's largest import partner is China, with imports worth \$5.8 billion. The United States comes second with \$1.5 billion and India comes third with \$1.3 billion. In Africa, Morocco is Ethiopia's number one exporter, followed by Egypt.

**Figure 11: Main Imports**



Source: Trade Map

**Table 4: Main Imports: Percent Share of Total**

Main imports: % share of Total	2014	2015	2016
Machinery	14.33	14.49	16.07
Electrical equipment	11.74	15.91	10.67
Mineral fuels	16.96	9.47	8.81
Vehicles	8.08	9.1	8.49
Cereals	3.22	3.68	5.88
Iron and Steel	4.94	5.46	5.44

Source: Trade Map

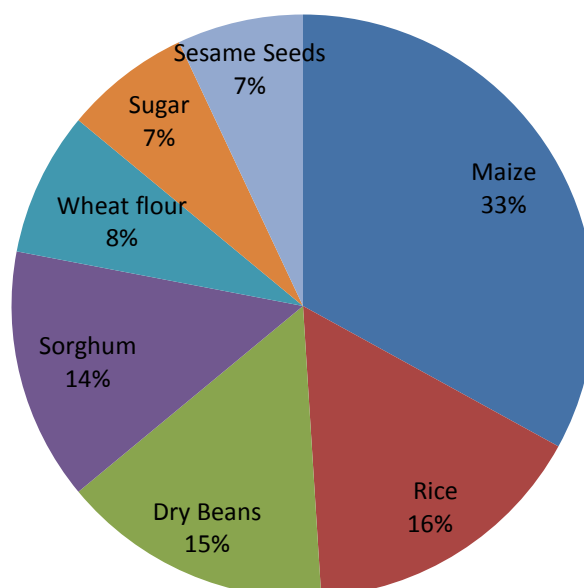
The limited availability of foreign exchange has resulted in a situation where domestic prices for some local commodities, especially wheat and edible oil, exceeded import parity at the official exchange rate (United States Agency for International Development, 2010). The disparity between the official and “real” exchange rate negatively impacts exports that are currently key to economic growth.

## Cross Border Trade

Cross Border informal trade is trade between two countries that have a common border. Informal cross border trade therefore consists of commodity flows outside the formal system and has not been recorded in government statistics. These flows vary from very small quantities moved by bicycle to large volumes trucked over the long distance (Food Security and Nutrition Working Group (FSNWG), 2017). The bulletin reports cross trade between the following East African Countries, Tanzania, Burundi, Rwanda, Uganda, Kenya, Somalia, Sudan, South Sudan, Djibouti, Ethiopia, and Democratic Republic of the Congo.

According to the East African Cross Border Trade Bulletin, the main crops traded across these borders in the first quarter of 2017 were maize, rice, dry beans, sorghum, wheat flour, sugar, sesame seeds.

**Figure 12:** Main Staple Food Commodities Informally Traded Across Selected Borders in East Africa in the first quarter of 2017



Source: FSNWG Food Security and Nutrition Working Group

**Maize:** According to the East African Cross Border Trade Bulletin, maize was the most informally traded commodity in the region in the first quarter of 2017 accounting for 33 percent of the total trade. The total trade volumes were however lower compared to 2013-2016 average due to tight supplies following below average harvests across most of the countries. The total amount of maize grain traded in the region by March 2017 was reported at 426,000 MT about 66 percent below the recent four-year average. Most of this grain was destined for Kenya about 44 percent, Tanzania, 37 percent, South Sudan 12 percent and Rwanda, 5 percent. Uganda was the main maize exporter accounting for 40 percent of the total regional exports, followed by Kenya, 38 percent, Ethiopia, 11 percent and Tanzania 6 percent. The 2017 exports from Ethiopia to northern and northeastern Kenyan were reported at 8,300 MT, much higher than 2016 first quarter and four years average levels because of lower supply and higher prices from source markets within Kenya. Exports from Ethiopia to Somalia were reported at 860 MT lower than normal but still higher than the 2016 first quarter and four years average levels.

**Sorghum:** The bulletin also reports that 40,000 MT of sorghum was traded in the East African region in the first quarter of 2017, accounting for 36 percent of the four years average volumes. Of the total imports to the East Africa Region, most of the sorghum went to South Sudan (41 percent), to Kenya (29 percent) and to Eritrea with 22 percent. The main exporting countries were Sudan and Uganda with 53 and 43 percent respectively.

**Rice:** Cross border trade in locally produced rice was reported at 57,000 MT during the first three months of 2017. Tanzania was the main exporting country with 64 percent of the total exports, followed by Somalia at 21 percent which were mainly re-exports of imported rice, and then Uganda at 12 percent. Kenya, Uganda, Sudan, and South Sudan accounted for 73, 11, 5, and 5 percent respectively of the total imports in the region.

**Dry Beans:** A total of 47,000 MT of dry beans were trade in the region in the first three months of 2017, representing about 55 percent of 2013-2016 average volume. The main importers were Kenya at 73 percent, Uganda at 11 percent, Sudan at 5 percent and South Sudan at 5 percent of the total imports.

The main exporters were Uganda at 65 percent, Ethiopia at 23 percent and Rwanda at 10 percent of total exports. Export of beans from Ethiopia to northern and northeastern Kenya was about 7,400 MT about 27 percent higher than the four years average volumes. Broad beans exports from Ethiopia to Sudan also increased at 3,700 MT due to increased availability in Ethiopia from the recent harvest.

**Livestock:** Ethiopian exports to Somalia were; Goats were 60,000, cattle at 26,000 and camel at 7,500 MT, accounting for a seasonal decline of about 60 percent in the first quarter of 2017. The decline was a result of poor animal body conditions in the Somali region of Ethiopia because of poor rains during October to December 2016.

## **Economic Cooperation, Regional Integration, and Trade**

Ethiopia is a member of the key regional groupings, including the Common Market for Eastern and Southern Africa (COMESA) and the Intergovernmental Authority on Development (IGAD), and it has signed all the regional integration protocols. The country has taken further steps since 2012 to facilitate increased regional trade with its neighboring countries. Amongst recent steps were the signature of a Memorandum of Understanding (MoU) and a Transport Corridor Service Agreement with Kenya and South Sudan in 2014. This will help Ethiopia to spread the risks of relying too heavily on Djibouti for export-import trading activities and for shipping, logistics and port services.

Ethiopia has made slow progress in gaining formal membership in the World Trade Organization (WTO). The GoE started the process of accession in 2003. Since 2012, no tangible progress has been made, although there are now indications that the accession process may resume. The donors and some sections of the GoE support the members but the business community is reluctant to open the economy internationally, particularly in terms of foreign direct investment, which accompanies WTO membership.

Meanwhile, developments in the WTO have been ambiguous. On the one hand, the organization will soon have 164 members and is thus approaching universal membership. On the other hand, the failure to conclude the Doha Development Round has prompted members to redirect their policy attention to negotiate and conclude trade agreements with trading partners on a bilateral or regional basis. Some observers have indeed suggested that the WTO may have outlived itself. Ethiopia thus faces the decision of whether and to what extent to prioritize multilateral or regional trade integration (Bienen, 2016).

## **3.5. FOOD AID OVERVIEW**

### **Introduction**

Food aid programming in Ethiopia has improved since it first began in the 1980s. According to the 2010 Bellmon, when the country first began receiving food aid, the GoE would make regular requests according to needs assessments collected after each Meher harvest and the Implementing Partners would program for importation in April through June, with distribution during the lean season of June through September. Food aid typically covered a discrete period, and was distributed for relief purposes. Around 2004, it became apparent that there were chronically food insecure communities that had recurring emergency needs. To cater for their needs, the GoE and the donor community designed the PSNP, which distributes food and cash transfers to chronically food insecure households in exchange for labor.

### **PSNP and Relief**

#### **PSNP**

PSNP is now in its fourth phase, and is a food security program that targets food insecure households in Ethiopia. PSNP was formally launched in 2005.



The PSNP provides cash and/or food transfer to chronically food insecure households in food insecure woredas of rural Ethiopia. Currently, the program is implemented in seven regions (Afar, Amhara, Harari, Oromia, Somali, SNNP and Tigray) and one city administration (Dire Dawa) of Ethiopia; and covers a caseload of approximately 7.9 million individuals.

The program transfers are typically provided for six months of the year, timed to coincide with the lean season.<sup>6</sup> The transfer value from the beginning of the program to 2015 was equal to 12 kg of cereals per household member per month, or its cash equivalent. In 2016, the transfer value increased to 15kg cereals and 4 kg pulses to increase the nutritional benefits of the transfer and provide the required kilocalorie requirement. However, beginning 2018, the pulse component of the food basket of the ration will be removed and there is a plan for a cereal-only basket.

In return for the cash transfer and/or food distributions, households with able-bodied adults provide labor in the form of public works that contribute to the development of their communities. Households participate in public works during six months of the year, for five days per month per family member, up to a cap of 25 days of public work per household or 15 days per able-bodied individual (Food Economy Group, 2015).

According to the report, women's public workload is equal to 50 percent that of men to accommodate childcare and other household duties. In addition, women are exempt from public work while pregnant and breastfeeding.

There are three kinds of beneficiaries for PSNP:

1. Permanent direct support households (PDS) – these are households with no able-bodied adults and they are not required to participate in public works. Beginning last year, these PDS households receive transfer year-round rather than for six months of the year.
2. Public work participants (PWP) – receive transfers for only six months of the year.
3. Households that are temporarily affected by food insecurity due to crop failure or other shocks are included in the PSNP through contingency budgets.

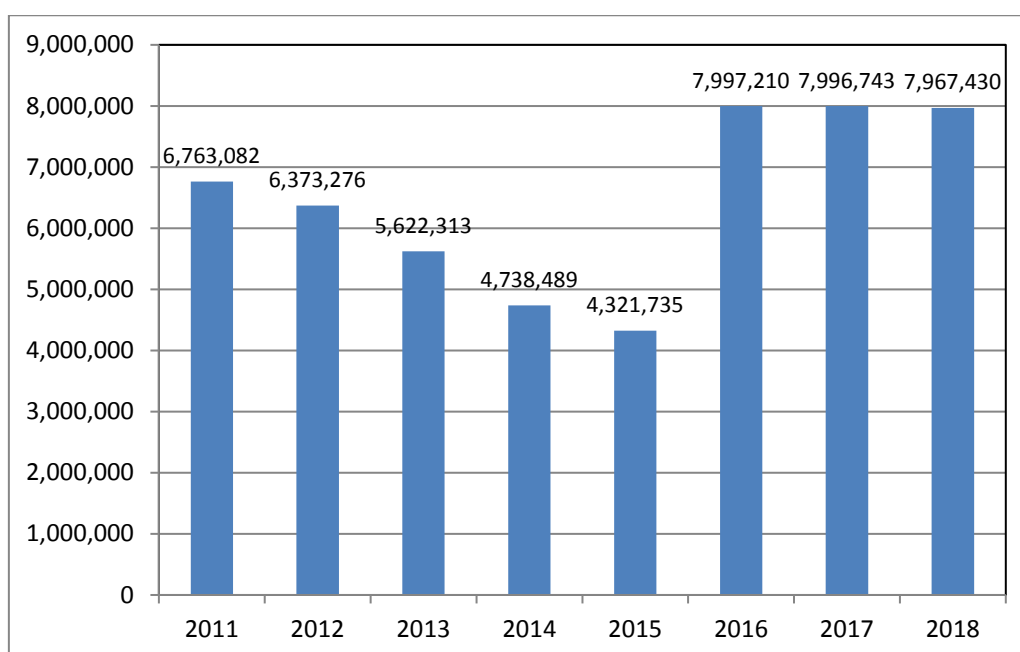
There is also a livelihood component to PSNP, formerly a separate program called the Household Asset Building Program). The program helps PSNP households to rebuild their livelihoods through three pathways i.e. crop and livestock, off-farm, and/or employment. The program also provides financial literacy training, technical and business advice, linkage to credit or livelihood transfers, as well as follow-up support (Food Economy Group, 2015).

**PSNP beneficiary number:** When PSNP I was launched, number of the beneficiaries was 4.4 million people. Though expected to decline through successive graduations because of the positive effects of the program, this number has grown to 7.9 million during the current Program (PSNP IV). Besides, the prevailing practical need for including more beneficiaries in the program and raise this number to 10 million has been limited by resource scarcity. Table 5 provides beneficiary number between 2011 and 2017. Owing to the undesirable impact of drought, there has not been graduation from PSNP program since (2014/15).

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<sup>6</sup>This transfer season does not coincide with the lean season in parts of the lowlands

**Table 5: Number of Beneficiaries per Year**



Source: Data compiled from Ministry of Agriculture and Natural Resources data (MoANR)

### **Relief**

USAID Food for Peace also funds JEOP to distribute emergency food aid and address transitory food insecurity in areas of vulnerability in four regions (Oromia, Amhara, SNNP, Tigray and Dire Dawa Administration), and a Protracted Relief and Recovery Operation (PRRO) to provide emergency food aid in the lowlands (Somali region only). The JEOP is a consortium program implemented by a consortium of seven NGO partners, led by CRS, while the PRRO is implemented by the WFP in Somali region. These programs are currently complementary to the relief intervention undertaken by the government (federal and regional) and to the PSNP and address transitory needs that cannot be covered by the PSNP's contingency budgets (Food Economy Group, 2015).

In almost all cases, relief is given to beneficiaries in terms of food. In principle, a beneficiary is given 15kg grain, 1.5kg pulse, 4.5kg corn soy blend (CSB) and 0.45kg edible oil per month. However, the package could be short of one or more of these items depending on resource availability.

### **PSNP Wage Distribution Modalities**

PSNP woredas distribute cash only, food only or a cash/food mix as payment for public work labor or as direct support to those who cannot perform on community labor projects. Participants engage in five days of labor per month, and therefore are paid either in food or cash.

The team found that cash/food mixes vary greatly from woreda to woreda. Likewise, the number of months for cash versus food versus cash/food mix varied widely, depending on the extent of food grain production and availability, access to food grain markets and food availability in the local markets.

The government seems to prefer the cash-based modality for many reasons that include: the possibility to stimulate local grain production and market; ease in terms of management and logistics; and opportunity in terms of obtaining hard currency.

**Table 6: Number of PSNP Beneficiaries per year and Payment Modality**

Year	Category			
	Cash	Cash & Food	Food	Total
2011	1,307,062	2,758,620	2,697,400	6,763,082
2012	1,189,231	5,033,495	150,550	6,373,276
2013	3,233,142	1,787,535	601,636	5,622,313
2014	2,577,611	1,575,506	585,372	4,738,489
2015	2,181,649	1,563,284	576,802	4,321,735
2016	3,074,495	1,812,295	3,110,420	7,997,210
2017	4,657,749	2,746,136	592,858	7,996,743
2018				7,967,430

Source: MoANR

Currently, in 2017, 58 percent of the beneficiaries receive cash only payments, 34 percent receive a cash /food mix and 8 percent receive only food. However, this proportion change depending on the beneficiary preferences and resource availability. Overall, cash transfers have increased over the years and food distributions are decreasing (see figure above).

Timeliness of payments has been uneven. The 2010 Bellmon pointed out that PSNP gains are reduced if payments are not timely. The study also noted the decline in purchasing power of those receiving cash versus food for the PSNP. This was anecdotally corroborated during the team interviews with stakeholders.

### **The Current PSNP Wage Rates**

**Food-based modality:** Beneficiaries are paid 3kg of grain (usually wheat) per day for five days in a month, i.e., 15kg per month. When pulses were available and constituted part of the ration, beneficiaries received 4kg of pulses (usually yellow split peas).

**Cash-based modality:** An annual wage rate study, commissioned by the Food Security Coordination Directorate, determines the cash transfer rates to be used in the program. Rates can vary geographically to reflect the differing costs of food items in different markets. The wage rate study is conducted in September of each year and accesses how wage rates need to be adjusted to maintain benchmarking against the 15kg of cereal and 4kg of pulse standard. Each adjustment includes a buffer to account for projected inflation for the following year in such a way that the cash wage rate will enable clients to purchase the in-kind transfer equivalent during the lean season. Wage rate decisions are made by November of each year and operationalized in the following January.

The study team found the following ranges of wage rate in Oromia:

1. In 2005 of the Ethiopian Calendar (EC) (2013), the wage rate was between \$0.61 and \$0.78 per day per person.
2. In 2006 EC and 2007 EC (2014 and 2015), the wage rate had risen to between \$0.73 and \$1.00 per day per person.
3. Since 2008 EC (2016), the wage rate increased to between \$1.61 and \$2.00 per day per person.
4. The same will be used in 2017/18 due to resource limitation.

In Tigray, three daily wage scales were found:

1. For Central Tigray, the wage rate was \$2.39
2. For North West Tigray, \$2.05

3. The rest of Tigray, \$1.92.

As of July 8, 2017, the PSNP-4 wage rate was reduced to exclude the pulses as the program does not have sufficient resources to continue with the full food basket.

**Cash and food modality:** Cash and food mix modality depends on the type of beneficiary:

1. PWP beneficiaries receive 3 months cash and 3 months food
2. PDS beneficiaries who are paid throughout the year, depending on local preferences and resource availability, receive either
  - a. 3 months cash and 9 months food
  - b. 6 months cash and 6 months food
  - c. 9 months cash and 3 months food

These split in the cash and food mix appears to be uniform throughout the country except for Simada woreda in South Gonder that receive 5 months food and 1-month cash as reported by Food for the Hungry.

### **Relief payment modalities – the case of Oromia**

In almost all cases, relief is given to beneficiaries in terms of food. In principle, a beneficiary is given 15kg grain, 1.5kg pulse, 4.5kg CSB and 0.45kg edible oil per month. However, the package could be short of one or more of these items depending on resource availability.

In this region, cash is not often used for relief purposes; but in January 2017, at the beginning of relief transfers, cash was provided to 25 woredas. Currently, cash is being transferred in only one woreda. The amount of the cash transfer varies from zone to zone in the region and is determined by a market study conducted by WFP. The amount of relief cash payment is different from the amount of wages paid to PSNP intervention. For example, in Oromia, the following commodities and cash were distributed in 2016/17:

- Grain = 415,564.20 MT
- Pulses = 38,734.44 MT
- Edible oil = 12,027.60 MT
- CSB = 61,961.50 MT
- \$11,136,600.00 – (roughly equal to 36,553MT wheat).

## **3.6. FOOD AID INTERVENTIONS**

### **Previous Initiatives**

PSNP is directly implemented by the GoE with the support of 10 donors. All donors except USAID mobilize their resources and put their contribution to Government Accounts where the government has the direct access to the donors' contribution for the program.

USAID is one of the development partners who fund the PSNP. USAID's resources are channeled to non-governmental organizations (NGOs) in a subset of woredas for the distribution of food now piloting cash-transfers to chronically food insecure households. USAID-funded NGOs also support woredas through capital expenditures for public works as well as non-salary administrative expenditures for program management at the woreda level. In addition, USAID-funded NGOs also implement complementary nutrition activities targeted at pregnant and lactating women and children under two, disaster risk management activities with a focus on support to the Early Warning System (EWS), and recently a degree of livelihood activities through supplemental funding (Food Economy Group, 2015).

USAID Food for Peace also funds a Joint Emergency Operation (JEOP) to distribute emergency food aid and address transitory food insecurity in areas of vulnerability across the country, and a Protracted Relief and Recovery Operation (PRRO) to provide emergency food aid in the lowlands (Somali region only). The JEOP is a consortium program implemented by seven NGO partners, led by Catholic Relief Services (CRS), while the PRRO is implemented by the World Food Program (WFP). These programs are currently complementary to the PSNP and address transitory needs that cannot be covered by the PSNP's contingency budgets.

Over the last five years, USAID has imported 2,000,753 MT (average of about 400,151 MT per year) of food aid through Implementing Partners to support development and emergency programs. Most of the food aid to Ethiopia from 2012 – 2017 has been cereals distributed through Title II programs. Table 7 shows that except for 2016 when Ethiopia faced severe drought and lower production due to El-Nino, the amount of food aid import has been declining.

**Table 7: Annual USAID Food Aid Supplied to Ethiopia (MT)**

	PSNP/DFAP	Relief		Refugee	
Arrived in Country	PSNP/DFAP MT	JEOP MT	WFP MT	WFP MT	Total MT
2012	127,090	98,840	111,290	28,180	365,400
2013	111,500	59,830	71,770	31,670	274,770
2014	97,170	80,420	45,390	51,770	274,750
2015	105,490	95,510	43,010	49,700	293,710
2016	115,750	531,183	93,110	52,080	792,123
<b>Total</b>	<b>557,000</b>	<b>865,783</b>	<b>364,570</b>	<b>213,400</b>	<b>2,000,753</b>

**Source: USAID/Ethiopia**

In addition to food aid from USAID, WFP data shows that 3,021,783 MT of food aid was provided to the GOE by the other nine PSNP donors over the past five years. The average amount of food donation during this period was 604,356 MT per year. Table 8 summarizes the food aid quantities supplied by other donor through three operators – NDRMC, JEOP and WFP.

**Table 8: Humanitarian Food Assistance Operation in Ethiopia, 2012-16**

	Through GOE	Through JEOP	Through WFP	Total
2012	168,031.77	98,840	158,402.00	412,487.77
2013	101,487.85	59,830	82,626.83	260,773.68
2014	99,442.72	80,420	68,201.50	238,238.31
2015	374,043.61	95,510	134,952.70	711,392.51
2016	832,495.33	531,183	193,443.68	1,398,890.96
Total	1,575,501.28	865,783	637,626.71	3,021,783.24

Source: WFP/Ethiopia

## USAID Implementing Partners

There are currently four FFP funded NGO partners, implementing the PSNP program: CRS, Food for the Hungry (FHI), Relief Society of Tigray (REST), and World Vision (WVI). These four USAID supported implementing partners (IPs) implement the PSNP, in collaboration with GoE counterpart and local partners. USAID supported woredas account for almost 39 of the 329 PSNP woredas.

**CRS:** CRS' PSNP/DFSA activities are centered around East Hararghe, Dire Dawa, parts of Arsi and East Shewa Zones; the JEOP activities operate in four regions, in more than 70 woredas. CRS and partner NGOs account for roughly one-third of food aid distributed under JEOP. CRS also possesses the largest storage capacity of current IPs, about 134,329 MT, and serves 340,000 beneficiaries.

**FHI:** FHI operates in Amhara region in 6 woredas; 3 woredas in south Gonder and 3 woredas in Waghimira. Currently, FHI is supporting 373,705 beneficiaries and about 14,500 MT of storage capacity.

**REST:** REST's activities are centered in the Central, Eastern, and Southern zones of Tigray Region. REST is unique in that it is a local NGO and has been a USAID Partner since 1992. Currently, REST implements PSNP IV program in 12 of the 31 target woredas in the region using Title II food aid. They currently have 498,707 beneficiaries of whom 20 percent of them are PDS and the rest are paid through participation in public works.

**WVI:** WVI is USAID's newest IP and operates in two regions: Amhara (Wagimra and North Wollo zones) and Oromia (East Hararghe, West Hararghe and West Asri zones). In total, WVI operated in 12 woredas. Currently WVI is supporting 309,538 beneficiaries and possesses a food storage capacity of about 32,000 MT.

## Current Programs/initiatives

This section outlines major initiatives affecting food security in Ethiopia which are known to be planned in the next year.

**FFP:** Below are next year's plans but not approved for food distribution by IPs are 597,344 MT of food.

**Table 9: Title II Program Proposed Requirements for 2017/2018**

Implementing Partner	DFSA
CRS	16,820
WVI	33,920
REST	50,470
FHI	21,570
Total	122,780

Source: USAID Implementing Partners

**GoE:** As a coping mechanism for the chronic national food supply shortfall and the consequent prices increases, the GoE has been importing cereals, pulses and edible oils. The imports include food aid program interventions and subsidized market stabilization programs. The EGTE did not have any plans yet of importing food commodities for next year 2017/18.

The National Disaster Risk Management Commission (NDRMC) which often imports food aid commodities for relief interventions did not have any import plans yet for 2017/2018. In general, government agencies like SFRA, MoANR, MoT, EGTE and PPPDs that usually import grains for different purposes do not have plans, at least so far, of importing food commodities for 2017/18.

The other donors were still developing their PSNP Annual Plans.

## **National Food Reserve**

Formally known as the Emergency Food Security Reserve Administration (EFSRA), SFRA was established in 2013 with four mandates:

- Purchase of grain (mainly locally)
- Food distribution (directly or through others)
- Market stabilization
- Grain sell/export – mainly for reserve grain recycling

In collaboration with EGTE and PSNP, SFRA works on various food related issues like relief and emergency responses and price stabilizations. SFRA does not get involved with any buying, selling, transportation or distribution of grain. The government and donors make pledges to build stock, mainly through food aid and imports. It is a vital partner of donors i.e. WFP and government organizations i.e. NDRMC implementing food-related emergency activities in the country. It maintains a rotating stock of cereals and once pledges from donors are confirmed, both NGOs and governmental organization can borrow cereals for distribution. When the pledge arrives in the country, it is repaid to the SFRA. This mechanism helps as an invaluable tool in reducing the time between donor pledges and actual distribution of the cereal. SFRA has been supported by many organizations such as CIDA, the British Overseas Development Assistance (ODA), the United States Agency for International Development (USAID), the World Food Program (WFP) and the European Union (EU) (Mulugeta, 2015).

## **SFRA Capacity and Location**

Interviews with the Head of the SFRA's Stock Strategic Planning relieved that, the Agency has a total storage capacity of 316,100 MT (effective capacity) to 338,750 MT (efficient capacity) – provided in the table below. It has plans to reach 1.5 million MT capacity by end of GTP II. To this end, it has planned to build six additional warehouses in different parts of the country including the surplus producing areas. The construction process has started for some of the planned warehouses.

## **Grain Stock Currently Available**

Theoretically, the Agency has 673,000 MT cereal in stock; what exists at hand, however, is 258,000 MT wheat. The rest is an amount collectable from borrowers (all of which are government agencies: NDRMC, Food Security Office/PSNP, EGTE). They borrowed the cereal in 2015/16, and have not repaid it yet due to reasons that include lack of hard currency for import of the grains; and delays in the procurement of the commodities before the end of the budget year. There is no concrete evidence showing that it will be repaid in 2017/18. The Agency does not have any clear plan for importing grain during the 2017/18 year.

**Table 10:** Strategic Food Reserve Agency Warehouse Capacity in MT

Warehouse location		Warehouse Capacity (MT)	
Region	Town	Regular capacity as per Regulations	Maximum Capacity Violating Regulations
<b>Amhara</b>	Kombolcha	75,600	81,600
<b>Amhara</b>	Woreta	39,000	39,750
<b>Oromia</b>	Shashemene	21,500	23,600
<b>Oromia</b>	Adama	55,000	62,900
<b>Tigray</b>	Mekele	45,000	46,800
<b>SNNPR</b>	Sodo-Wolaita	50,000	51,500
<b>Somali</b>	Shinile	30,000	32,600
<b>Total</b>		<b>316,100</b>	<b>338,750</b>

Source: Strategic Food Reserve Agency



## 4. FOOD SUPPLY AND DEMAND ESTIMATION

### 4.1. FOOD SUPPLY

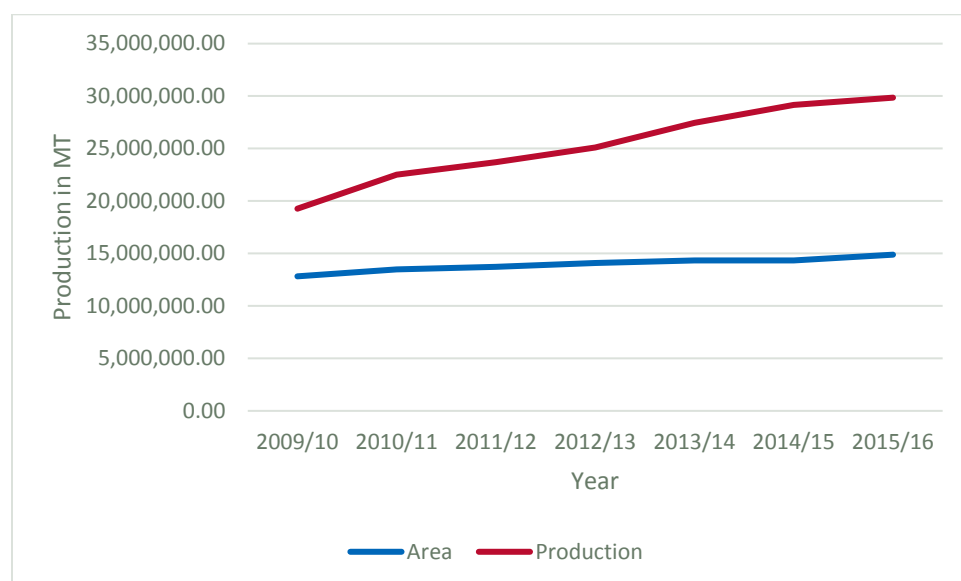
#### Food Grain Production Trend

The study team used CSA data with recommendation from the Ministry of Agriculture and Natural Resources and from the Regional Agricultural and Natural Resources Bureaus. CSA production data appears to be the only systematically collected and analyzed data available for the country.

Attempts made to crosscheck and triangulate the CSA data were not successful. For example, United States Department for Agriculture's Foreign Agricultural Service (FAS) provides data only for a few commodities i.e. Wheat, barley, maize, sorghum and rapeseeds. Production data for teff, sesame, millet, oats, pulses etc. are not reviewed. Furthermore, FAS only reports production and estimates data for the Meher season and not for the Belg season.

Over the years, production of food grains has been increasing in Ethiopia, even though area planted has not changed much (see Figure 13 below).

**Figure 13:** Area cultivated and food grain production (2009/10 - 2016/17) in MT



Source: Data from the CSA

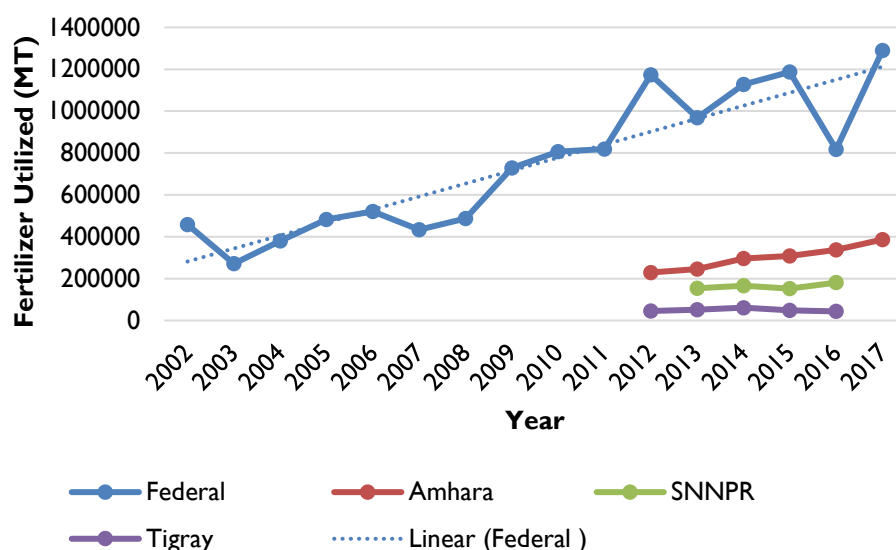
The yearly growth in grain production is correlated with use of improved and better performing farm inputs and practices like fertilizers and improved seeds. For instance, Figure 14 shows that the amount of fertilizer supplied to farmers has been increasing over years. The figure also shows the same increasing trends in regional fertilizer use.

Fertilizer is imported by the government and distributed to smallholder farmers through cooperatives. The three crops that receive the most fertilizers are teff, wheat and maize. The GoE has set up domestic blending plants to allow cooperative unions to blend and sell specific compounds adapted to local

growing conditions. Improved seeds of most cereals and pulses are also available to smallholder farmers through public enterprises at both the Federal and Regional levels.

The study team assumes that all fertilizer imported and distributed is fully utilized in the same year or in the next year since fertilizer supply is lower than effective demand and leftover stock from the preceding year is often utilized in the next year. Improved seed supply for 2017/18 is lower than the supply in 2016/17, when improved seeds were supplied in larger quantity through a special government program. Better farm management like row planting and crop protection practices appear to be increasingly adopted by farmers.<sup>7</sup>

**Figure 14:** Amount of Fertilizer imported and distributed between 2002 and 2017



Source: Original data from MoANR and Regional ANRD Bureaus

## The 2016/2017 and 2017/18 Food Grain Production Estimates

A three-year moving average was computed to calculate the food grain production in 2016/17 and 2017/18. This approach was chosen to arrive at a more objective estimate of production. Despite the drought that affected the 2015/16 crop production, CSA had reported that 29.8 Million MT of grain was produced. The moving average was therefore used to soften the effects of the irregularities in the grain production data, particularly in the 2015/16 crop production year.

The three-year moving average was determined as follows:

- The average grain production of 2013/14 and 2014/15 and 2015/16 (refer to Figure 13 for grain production trends) was calculate and used as the production estimate 2016/17.
- Subsequently, a new moving average was calculated for 2017/18 forecast. This was computed taking into consideration the growth rate of the moving average for 2016 and computing a new

<sup>7</sup> We could not get timeseries data for fertilizer use in Oromia during the data collection exercise. However, the available data (discussed in this report) shows substantial increase in the use of fertilizer in 2017/18. We did not attempt to get data from fertilizer blending coop unions like Bacho Waliso.

production value for 2016/17 as 2015/16 production, plus the moving average growth rate multiplied by the 2015/16 production.

Using the moving average method, a total grain production of 28.81 million MT food grain was estimated for 2016/17. The study team are cognizant of the limitations to using moving averages in the grain production forecasts—such as the seasonality variations in grain production, climatic irregularities and other unforeseen factors.

Though the Meher season production was good, owing to poor performance of the rains, the belg season crop production is expected to be low. FEWS NET (June 2017) predicts that the 2017 belg crop production will likely be below average in most belg-producing areas, particularly in northeastern Amhara, southern Tigray, and southern SNNPR, because of erratic and below-average rainfall and the prevalence of extended dry spells.

Due to the fact that: 1) the 2016/17 (the last) belg was not a complete failure; 2) improved seed supply was low for 2017/18, not 2016/17 (Usually MoANR do not supply inputs for belg season), and the Fall Army Worm infestation was mainly an issue for the main season producing areas in the western block of the country, the 2016/17 belg grain production is expected to be lower than of the preceding year (2015/16), which was reported as a normal year in terms of rainfall performance, input supply and overall production. Commercial farm production, which showed fast growth over the preceding years, is estimated to be higher than the previous year's growth rate.

### **The 2017/2018 Food Availability**

The year 2017/18 food availability depends on:

1. The 2017/18 local production;
2. Imports planned/estimated for the year; and
3. Carryover stocks from 2016/17.

Food availability from these sources is discussed in the following sections of the report.

### **2017/2018 Local Food Production**

The 2017/18 year local food grain production was obtained from the two seasons: Meher and belg season. About ninety-six percent of the production will come from smallholder farmers and the rest from commercial farms. About 85 percent of the country's food crops are grown during the main Meher season. In addition to the size of land cultivated and quality of land preparation, production is influenced by weather conditions, farm input utilization, crops pests and disease occurrence. These factors are discussed below in relation with the 2017/18 Meher season performance,

#### **a) Cultivated land and land preparation**

Over the years, the amount of land cultivated by smallholder farmers has not changed much. However, area planted for the belg season fluctuates depending on availability of moisture. This fluctuation can be seen with data from Gimbichu in East Shewa, a surplus producing woreda with 48,459.8 ha in 2016/17 and 49,028 ha in 2017/18 and Bora, another surplus producing area cultivating 32,431 ha in 2016/17 and 32,439 ha in 2017/18.

Conversely, land cultivated by commercial farmers has shown an increasing trend over the years. Over the past few years, commercial farmers have been developing virgin and remote lands that have not been tilled before, thus increasing the area available for cultivation.

Because of the poor performance of the 2016/17 belg rains, the area planted for 2017/18 belg season is estimated to be about 27.9 percent less than last year's belg season. This reduction of the area planted for the belg season, reduces the overall amount of land cultivated for the year.

The pattern and performance of the 2017/8 Meher season rains is perceived as favorable for land preparation. Even though, the belg season rains were not good for crop production, it provided enough moisture for animal pasture, for the Meher season land preparation and planting of the long cycle crops. In general, the Meher season land preparation has been adequate, timely and of good quality, thus favoring good crop growth and performance, especially in surplus producing areas. These findings were confirmed by the KIIs and FGDs.

In the deficit woreda, due to delayed onset of the rains, quality and adequacy of the 2017/18 Meher season land preparation was not as good as it was in 2016/17. However, in the case of the surplus producing woredas, timeliness and adequacy of land preparation was better in 2017/18 than the preceding year.

#### **b) Farm input supply and utilization**

**Fertilizer:** As discussed above (,) use of fertilizer has been growing both in terms of number of the user households and the amount used per household. For instance, more than 90 percent of the total FGDs held with farmer groups reported that participants use fertilizers. Seven types of fertilizers are distributed in Ethiopia depending on need. A total of 817,463 MT of fertilizer was available (carryover + import in the year) for the 2016/17 production year. This amount has grown to 1.29 million MT (57.80% increase) for the 2017/18 cropping season. Compared to the 2016/17 prices, the 2017/18 fertilizer prices are lower by an estimated average of \$15.23/qt. (as high as \$21.76/qt. in areas that are relatively close to the port and where there was small amount of carryover stock; and as low as \$8.70/qt. in areas that are far from the port and where carryover stock was large). For example, prices of a quintal of NPS and Urea fertilizers at Adama were \$53.10 and \$41.55, respectively, in June 2016. The corresponding prices in 2017 were \$39.22 and \$31.29; a reduction of \$13.87 and \$10.26, respectively. The price reduction has happened due to direct negotiation and purchase by government from manufacturers, not from international exporting traders which was a case before.

The Ministry of Agriculture and Natural Resources and the Regional Agriculture Bureaus claim that the reduced prices encouraged farmers to buy and use more fertilizer than they initially planned; and necessitated supplying more fertilizer than was originally planned based on the initial demand of farmers.

In line with the countrywide status, as provided in Figure 14, the available data shows that fertilizer utilization in Amhara and SNNPR has increased. In Amhara Region, in comparison with the preceding year, the current year amount has increased by close to 15 percent. However, this is not the case for all woredas of the region. For instance, in the case of Enebse Sarmidir, a food deficit woreda in East Gojam, the amount of fertilizer distributed this year is lower than that of last year; and less than the prevailing effective demand in both years. This could have been caused by late delivery of inputs in some woredas.

In Oromia, the amount of fertilizer distributed in 2017/18 is higher than in 2016/17. The initial demand for the region for the year was 3.7million quintal, but it increased to 3.9 million by the end of the year. The increase is said to be mainly related to reduction in fertilizer prices though other enabling factors like better income earned by framers just before the planting season due to grain price increases were also mentioned.

In Tigray, improved farm inputs utilization was increasing before the 2015 severe drought when farmers lost their crop. Since then, the use of fertilizers and improved seeds has decreased as farmers' weight their investment risk on farm inputs. FGD results in Kafta, Humera and Wolkait show that availability, timeliness and prices did not influence the low uptake of fertilizer and seeds in these areas.

In Dire Dawa and other moisture stressed woredas, farmers do not use fertilizers mainly because of inadequate precipitation, and other associated risks and not because of economic reasons. This behavior was also seen in Fentale, a food deficit mainly pastoral woreda in East Shewa in the rift valley and in

Borecha in the SNNP Region, where regional informant confirmed that delivery of inputs was timely and adequate.

In line with the above discussion, Table 11 below shows that amount of fertilizer supplied to the sample deficit (PSNP) and the sample surplus (non-PSNP) woredas has increased in the 2017/18 production year by 4.9% and 3.3%, respectively.

**Table 11:** Amount of Fertilizer and Improved Grain Seeds Requested and Supplied to the Sample Deficit and Surplus Producing Woredas for the 2016/17 and the 2017/18 Production Years (MT)

Item	Year	Fertilizer amount by sample deficit woredas				Fertilizer amount by sample surplus woredas			
		Requested	Supplied	%	Change	Requested	Supplied	%	Change
<b>Chemical fertilizer</b>	2016/17	1,194	939	(21)		4,663	3,427	(27)	
	2017/18	1,662	985	(41)	5	5,128	3,540	(31)	3
<b>Improved seeds</b>	2016/17	240	279	17		859	541	(37)	
	2017/18	220	142	(35)	(49)	953	436	(54)	(19)

Source: Woredas KII Informants.

In the sample surplus producing woredas, KIIs reported that there was no significant difference in the timeliness of fertilizer delivery between 2016/17 and 2017/18. About 71.4 percent of these woredas reported the fertilizer distributions were timely in both years. By comparison, 64.7 percent of the deficit sample woreda KIIs reported that fertilizer distribution was late in 2017/18 compared to 70.6 percent in 2016/17.

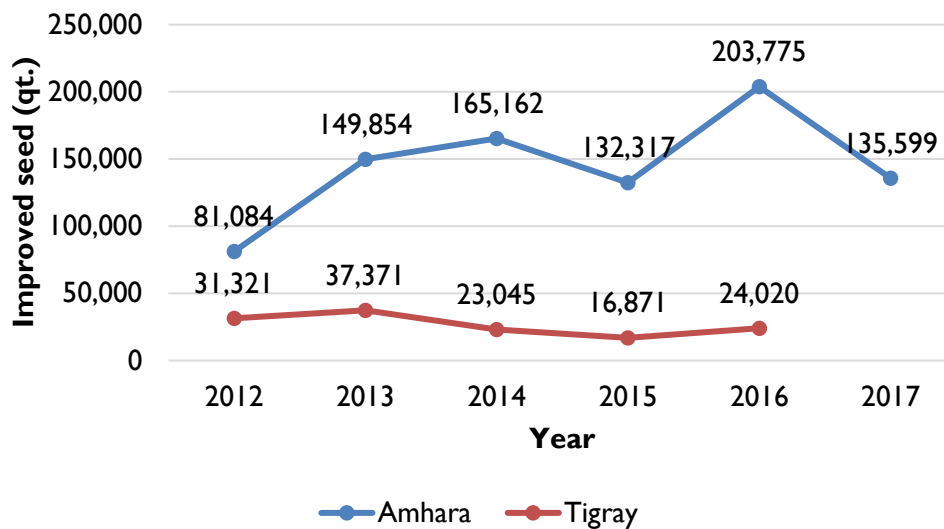
**Improved grain seeds:** There were discrepancies in the data from MoANR and the regional bureaus on amounts of improved seed supplied to farmers. The team preferred to use the data from the regional bureaus because the regional bureaus are closer to the farmers. MoANR reports that 90,000 MT of improved seed was supplied for the 2016/17 planting season compared with 145,000 MT in 2017/18 (61% increase). However, data from Oromia Agricultural Bureau shows a decrease in the amount of improved seed supplied in 2017/18. A total of 74,522.5 MT of improved seeds were distributed in 2016/17, an amount that reduced to 59,618 MT in 2017/18 (20 percent decrease). On one hand, the farmers complain that the prices of improved seed are very high resulting in reduced demand. On the other hand, the producers complain of high improved seeds production costs, but low prices paid to them. It is known that factors like delayed delivery also limit use of improved seeds. Farmers are now using C2 generation seeds for up to four years consecutively. Seed producers have a lot of operating costs (land, labor, input) ~~cost~~ to produce seeds, however, the GoE expects them to sell the seeds for lower prices, which are still high for farmers.

Use of second and subsequent generation seeds as improved seed for teff, wheat and maize was also reported by farmers in East Este, a surplus producing woreda in South Gonder who reported availability of these seeds in the community.

Like Oromia, improved seed supply in Amhara Region has decreased both in type and quantity. Figure 15 shows that improved seed supply in the region in 2017 declined by 33 percent compared to the supply in 2016<sup>8</sup>, as a result of short supply from producers. In Tigray, owing to moisture stress, extent of improved seed utilization has shown a declining trend.

<sup>8</sup> The 2016 high improved seed utilization in the country is due to the emergency seed distribution made owing to the El Nino effect.

**Figure 15: Improved Seed Supply**



*Source: The respective region Agriculture Bureaus*

The figure above shows that the woreda level findings confirm the regional level findings.

The Woreda Agricultural Offices in surplus areas received on average 541MT of improved seeds in 2016/17 and 436 MT for 2017/18; a 19 percent decline. This could be the impact of the emergency seed distribution in 2016. However, there is no noticeable difference between the two years in terms of timing of supply of the seed.

The deficit woredas received fewer amounts of improved seeds in 2017/18 (an average of 142.3 MT) as compared to 2016/17 (an average of 2879MT): a 49 percent decline. In the deficit woredas, supply of improved seeds was timelier (69 percent) in 2017/18 than it was in 2008/09 (56 percent). However, there is no difference in terms of access to local seeds in these woredas in both years.

Majority (77 percent) of the FGDs conducted by the study reported that improved seeds are available in their community; and in the case of 73 percent of them, the seeds are also accessible to the households in the community.

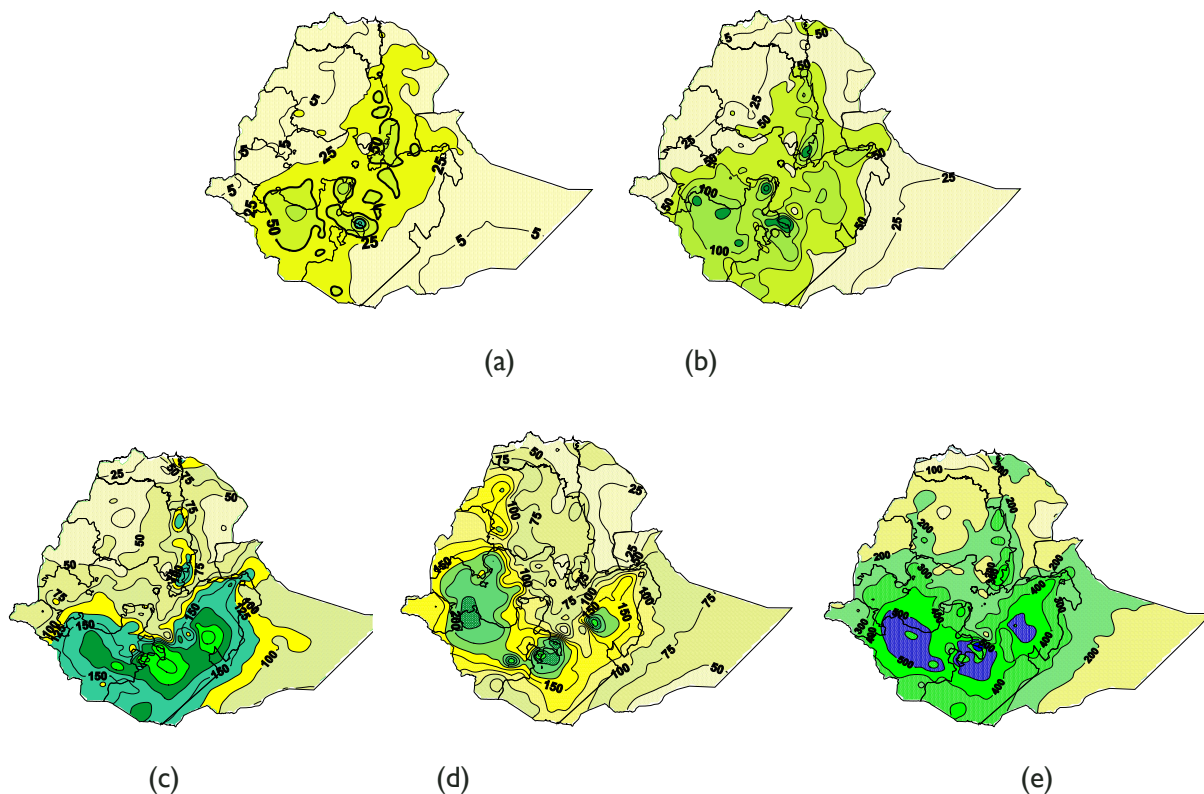
**Farm chemicals:** Farmers have adequate access to crop protection chemicals like pesticides and herbicides that are supplied by private traders in addition to the government extension service. Chemicals needed for crop pest and disease outbreak control are supplied by the government.

#### **a) Rainfall onset and performance**

**Belg rains (February to May):** The National Meteorology Agency (NMA) reports that the Belg 2017 rains started late in most parts of the Belg rain benefiting areas. Prolonged dry spell was also observed over the central, eastern, northeastern, southeastern and the southern lowlands during February to mid-April. However, heavy rain fall was recorded over northeastern, eastern, central, southwestern and southern highlands of the country. Extreme temperatures were also recorded in some low lands of the country. However, better weather system prevailed after mid-April (Figure 16) resulting in the improvement of the drought situation.



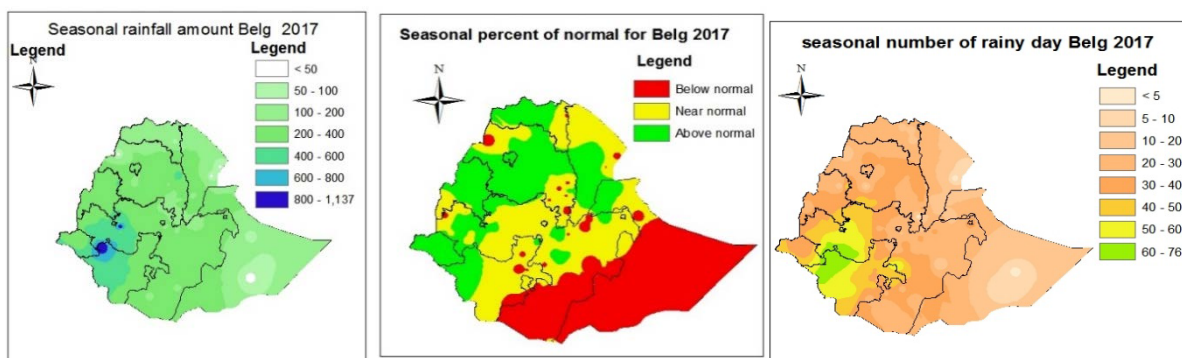
**Figure 16:** Mean Rainfalls (mm) for the months of February (a), March (b), April (c) and May (d); and for the Belg Season in general (e)



Source: NMA

**Figure 17** provides details of the Belg rainfall distribution. Among the others, it shows that except for most parts of Somali Region and southern parts of Oromia, the country has received near normal to above normal precipitation. However, there are complains that not the amount, but timing and distribution of the rains was a problem.

**Figure 17:** Seasonal Rainfall amount, percent of normal and number of rainy day for Belg 2017



Source: NMA

According to MoANR, performance of the 2016/17 belg rain was not good and suitable for crop production. The main problem was that it started late. In SNNPR, in comparison with the preceding year, the 2017 belg rain was delayed by up to two months. In addition, the amount and distribution of

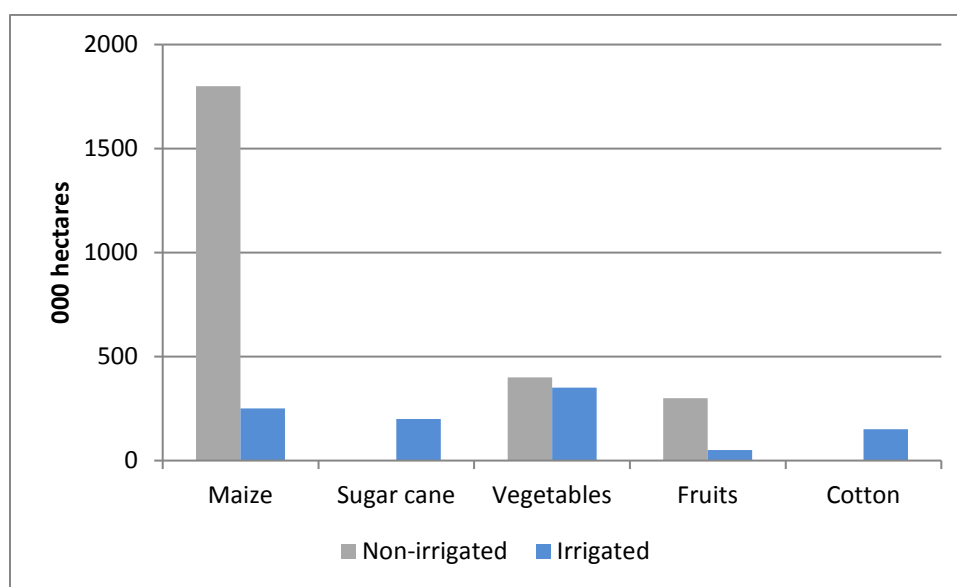
the rains was below the normal season belg rains. This situation has resulted in late planting in many Belg-harvesting areas, especially in lowland areas of SNNPR, including Gamo Gofa, Wolayita, Alaba, Segen, parts of Sidama and Siltie, and eastern Gurage zones. This situation has also resulted in reduced total belg planting area. In addition to its negative impact on belg production, the situation had also delayed land preparation for the Meher season planting in the belg producing parts of SNNPR. It is estimated that this condition has caused a 30 percent belg production loss.

In Oromia, delayed onset of the belg rains and its subsequent fragmented and erratic distribution in East Hararghe and West Hararghe has necessitated replanting of long cycle crops (sorghum and maize) up to three times and/or necessitated shifting the land to short cycle cereals when circumstances allowed. In Bale, the belg rain was inadequate. Similar problems were observed in some parts of Borana, West Guji, East Guji; and parts of Arsi, West Arsi and East Shewa in the Rift Valley.

Performance of the belg rains was not good in the belg producing parts of the Amhara Region as well. It was not only late, but also irregular and uneven. Consequently, due to inadequacy of the rains (moisture stress), the belg harvest is expected to be much below the normal. This situation was confirmed in woredas like Asagirt (deficit) where the delay has caused reduction in area cultivated to some crops like barley and pulses and necessitated shifting to other crops like teff and wheat.

**Irrigation:** Both irrigated and rainfed agriculture are important in the Ethiopian economy. Nevertheless, virtually all food crops (97 percent) in Ethiopia come from rainfed agriculture, with the irrigation subsector accounting for only about 3 percent of the food crops. Industrial crops such as sugarcane, cotton, and fruit are mostly irrigated. The estimated harvested area for the major irrigated crops is shown in Figure 18.

**Figure 18:** Area estimates for the most irrigated crops in Ethiopia - 2012



Source: FAO

Rainfed farming has always been the main livelihood for most Ethiopian people. It is supported by traditional water harvesting practices, particularly in central-north, eastern, and southeastern areas of the country. The proportion of traditionally irrigated land (almost half of the total irrigated area) and the number of farmers involved indicate the significant economic and social role of traditional irrigation for rural society. Urban and peri-urban irrigation are not significant in terms of area coverage and production, but the traditional irrigation practiced around Addis Ababa plays an important role in



supplying vegetables to the Addis Ababa market. The use of irrigation technology, although currently not widespread, can reduce risk and improve production (FAO, 2015).

**Meher rains (June to September):** The NMA found performance of the 2017 Meher rains being Analogue with what the country had in 2010 and 2014. The general perception and understanding of NMA is that performance of the Meher rains is normal or above normal for the western block of the country; normal for the central and north-eastern part of the country while it is poor for the southern and south-eastern (including Afar) parts of the country. Even in the latter parts of the country, its distribution was fair in areas like Yabelo, Bule Hora, Aysha and Jigjiga. This has created favorable situation for pasture growth. In general, the onset of the Meher rains followed normal pattern; and its performance has been improving over time.

Latest observations and subsequent predictions show that the Pacific Temperature will be normal ( $-0.5^{\circ}\text{C}$  to  $+0.5^{\circ}\text{C}$ ). Based on this, it has been predicted that cessation of the Meher rains would be normal. Weather related natural calamities like flood, hailstorm, and windstorm have not occurred so far; and there is no indication of its occurrence during the season.

Agricultural experts also predict the same. The 2016/17 Meher weather was favorable for agricultural production compared to what prevailed in 2015/16. However, parts of the northern, the north-eastern, the eastern and the central and the southern rift valley areas did not get adequate rains. The onset and performance of the 2017 Meher season rains is also perceived as very good, especially for the surplus producing highland areas of the country. Though its performance in the northern, the north-eastern, the eastern and the central and the southern rift valley areas is still not as good as that of the surplus producing parts of the country, it is normal for these areas.

In Oromia, despite the slight delayed onset in a few areas, that in turn delayed planting of long cycle crops, performance of the main season rains in the surplus producing areas of the region has been perfect a much better than last year. It is estimated that a slightly extended cessation would make its performance excellent. However, if it stops raining early in this area, long-cycle crop filling and maturity will be affected leading to yield and grain quality problems. Since planting time of the short-cycle crops was good, early cessation of the rains would not affect these crops. The FGDs and KIs also found that performance of the Meher rains was very good for the surplus producing sample woredas like Liben and Gimbichu (east Shewa), and Munesa (West Arsi).

In Amhara, the Amhara Meteorology reported that performance of the Meher rains is good, especially in the west block of the Region, which is also surplus producing. To collaborate this, the KIs and FGDs found that surplus woredas of the region expect the Meher season harvest to be very good. However, this is not the case for woredas like Kobo (North Wollo) where the Meher rains did not perform well.

In SNNPR, the onset of the Meher rains was timely/early and the amount has been adequate. It is favorable for planting activities, germination and establishment of long cycle crops, including maize, sorghum and millet.

In Tigray, though the onset of the Meher rains was a bit late, especially in Eastern Tigray, its distribution has been normal and adequate though. However, its cessation pattern, which is more important for crop performance, might be early for this part of the country.

Regarding impact of the rains on crop performance, FEWS NET's June's 2017 Food Security Outlook predicted that the national Meher production is likely to be average. The reasons given are existence of adequate rainfall since the end of April for land preparation and planting of long-maturing Meher crops as well as the forecast for average to below-average total cumulative Kiremt rainfall that is expected to support crops planted beginning in June.

In general, key informants of the study in the surplus Woreda Agriculture Offices rated performance of the 2017/18 Meher rains as better than what prevailed in 2016/17. This is also confirmed by the finding provided in Table 12 below.

**Table 12:** Comparison of Perceptions regarding timeliness of onset and adequacy of Meher rains between the deficit and the surplus woredas and between 2016/17 and 2017/18.

Perception rank	Timeliness (% of KII respondents)				Adequacy (% of KII respondents)			
	Deficit woredas		Surplus woredas		Deficit woredas		Surplus woredas	
	2016/17	2017/18	2016/17	2017/18	2016/17	2017/18	2016/17	2017/18
<b>Poor</b>	27	50	19	19	32	32	5	14
<b>Fair</b>	15	24	14	0	15	53	10	19
<b>Good</b>	41	18	24	33	9	15	38	19
<b>Very good</b>	18	9	38	43	0	0	38	38
<b>Excessive</b>	0	0	5	5	0	0	10	5

Source: KII woredas

The table shows that the onset of the rains was timely in both years in the surplus producing woredas, and the timeliness is even better in 2017/18 Meher than the corresponding previous year. In the case of the deficit woredas as well, onset was timelier in 2017/18 Meher season than in the preceding year.

#### **b) Pest and disease outbreaks and natural calamities**

Fall Armyworm (*Spodoptera frugiperda*) surfaced in Ethiopia (seen in western zones of SNNPR -Bench Maji, Shekka and keffa Zones) in March 2017 for the first time, and infested farmlands planted with maize in SNNPR, Oromia, Gambela, Benshangul Gumuz, Tigray and Amhara. According to MoANR, 22 percent of the land covered by maize was infested by this worm in these regions. The pest is controlled on 74 percent of the infested area; and the effort is going on. About 55 percent of the infestation was controlled by biological method (hand picking).

Re-infestation by the third generation (the first was on irrigated farms, the second was on belg and long cycle crops) of the worm is expected (also already observed) on the already controlled areas –of the Meher crops. Given the favorable climate of the infested regions, the worm could continue up to the fifth generation - up to the next dry season. Regarding its impact, the pest does not kill the affected plant, but could affect its physiological performance leading to yield reduction. Assessment of impact of the worm on grain production and yield is planned by the MoANR. However, as the worm was controlled early, significant negative impact is not expected.

In Oromia, the worm did not cause substantial damage on the affected crops (sorghum and maize); the common understanding of the experts is that it would not cause significant impact on yield and production. It was controlled before it caused substantial damage on the crops.

The same situation was reported by the Amhara Region Agriculture Bureau. The worm was observed in the western parts of this region. Its occurrence has significantly decreased (exists only in North Gonder and South Gonder Zones); and its impact is expected to be minimal. In line with this, FGD participant farmers in Bure Woreda (West Gojam), one of the major maize producing woreda in the country, reported occurrence of the worm, but nullified its impact as they controlled it timely.

The worm is also controlled in SNNPR where it was first seen, and where its infestation was severe. In this region, the worm mainly affected maize and sorghum crops by infesting a total of 113,320.2 ha. Nevertheless, through monitoring activities and appropriate control measures undertaken, the worm has been controlled by hand picking (on 49026.20 ha) and chemical spray (on 51646 ha).

Even so, the NGOs and international organizations appear to be very worried about the damaging impact of this worm, not only in the infested areas but also all over the country.

In general, unless stronger and systematic monitoring and control system is put in place, the worm might eventually infest all maize fields in Ethiopia, and entail significant risk of loss on maize and other crop production in the country.

Farmers in sample woredas in East Hararghe reported significant damage by pest on maize and sorghum. It appears that this is stock borer, which is chronic problem in the area. Also, the occurrence and subsequent control of African Army Worm (*Spodoptera exempta*, locally known as *temch*) in some areas in that part of the country was also reported:-

The woreda level KIs conducted in the surplus and the deficit producing woredas confirmed that occurrence of natural calamities like hailstorm, windstorm, flood and landslide that could compromise grain production and yield did not occur or its extent was lower than that of the previous year's, which was also very mild.

### c) **Implication on 2017/18 grain production**

Judging from the situation assessment made above, the following factors predicted better grain yields and production next year:

- The near normal, normal and above normal Meher season rainfall pattern for almost all the surplus producing parts of the country;
- The timely cessation forecast of the rains for almost all the areas that has been true up to mid-September;
- Adequacy of the last belg rains for Meher season land preparation;
- Increased availability and reduced price of fertilizer; and
- Notwithstanding the inconclusive case of the Fall Army Worm, absence of other significant crop pest and disease outbreak.

The following factors are identified to compromise the 2017/18 crop production and yield:

- Decline in use of improved seeds compared to last year;
- Delay in supply of fertilizer in some of the areas;
- Land preparation gaps in some of the deficit producing areas;
- Failure of the Meher rains in some deficit areas like East and West Hararghe;
- Though inconclusive or insignificant, impact of the Fall Army Worm;
- Possibility for occurrence of calamities like hailstorm and windstorm in the future; and
- Possible occurrence of out of rains after cessation of the main rains at harvest time.

Based on these factors, the 2017/18 grain production is forecasted to grow by 2.91% which is an average growth rate of the previous two years; i.e., 2015/16 which was bad year due to El-Nino and 2016/17 which was good year. Therefore, the next year total food grain production is predicted to be 32.36 million MT. Table 13 provides the details.

**Table 13: Annual Total Food Grain Production and Yield (2009/10 – 2017/18) (MT)**

Year	Total		Growth		Yield
	Area	Production	Area	Production	
<b>2009/10 (2002)</b>	12,821,767.48	19,268,266.64			1.50
<b>2010/11 (2003)</b>	13,482,697.09	22,517,280.99	5.15	16.86	1.67

<b>2011/12 (2004)</b>	13,711,895.89	23,690,607.27	1.7	5.21	1.72
<b>2012/13 (2005)</b>	14,083,525.54	25,105,001.59	2.71	5.97	1.78
<b>2013/14 (2006)</b>	14,337,647.66	27,442,714.83	1.8	9.31	1.91
<b>2014/15 (2007)</b>	14,344,674.77	29,148,155.29	0.05	6.21	2.03
<b>2015/16 (2008)</b>	14,885,697.90	29,849,531.15	3.77	2.41	2.00
<b>2016/17 (2009)</b>		28,813,467.09	-		
<b>2017/18 (2010)</b>		30,167,600.75			

Source: The 2016 and 2017/18 are calculated using a 3-years moving average; other figures are actual values from the CSA data

In general, informants from the regional, woreda and community level assessments all expect a higher harvest in 2017/18 than last year's. Both the surplus area and deficit area key informant share this view.

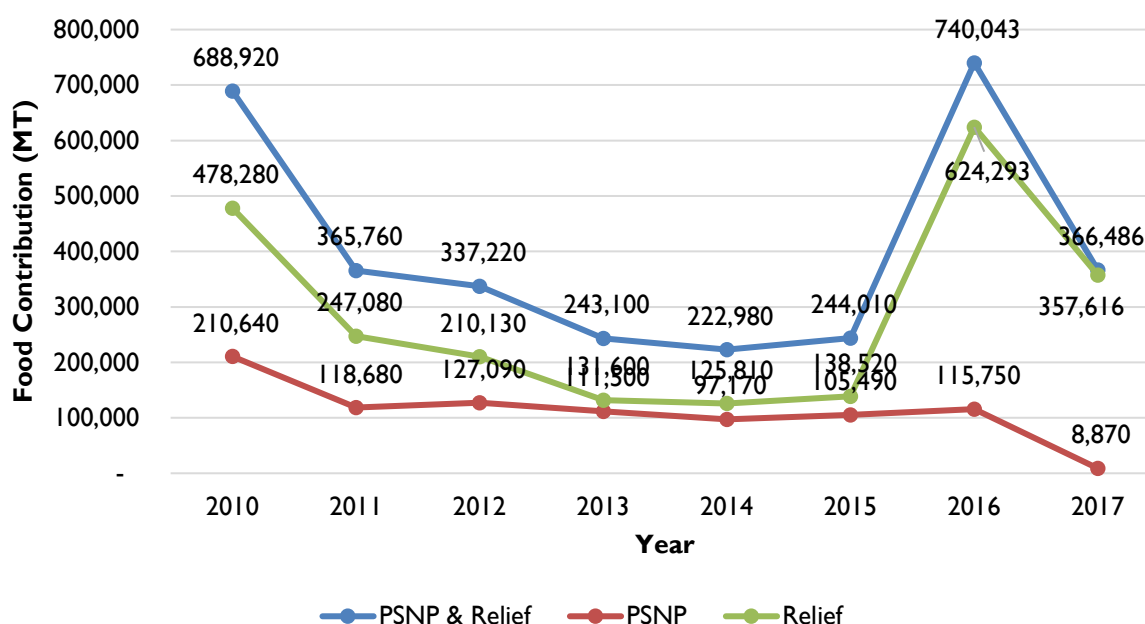
In summary, overall grain production is estimated to increase by 2.91 percent based on the following factors: Good performance of the Meher rains, good and timely land preparation, reasonable amounts of improve seed supply compared to recent trends, the larger quantity of fertilizer supply, insignificant impact of the FAW and the absence of other calamities (So far – mid September).

## 4.2. FOOD IMPORTS

Food commodities are imported to Ethiopia through a couple of channels and for different purposes. Food is imported as food aid interventions (safety net program and humanitarian/relief); for market stabilization and commercial imports. Documents show that in the recent past, Ethiopia annually imported an average of 1,116,500MT of cereal and 25,000 MT of pulses. However, it appears that due to the increasing shift away from the food-based interventions, the amount of the annual import may decline. Of late, only USAID, WFP and the government import food aid to Ethiopia.

**USAID:** Figure 19 shows USAID food contribution to PSNP and relief during the last eight years. The figure indicates that except for 2016 when Ethiopia faced severe drought and lower production due to El-Nino, amount of the food aid imported by the Agency for the two interventions has been declining.

**Figure 19: USAID Food Contribution to PSNP and Relief 2010 to 2017 (MT)**



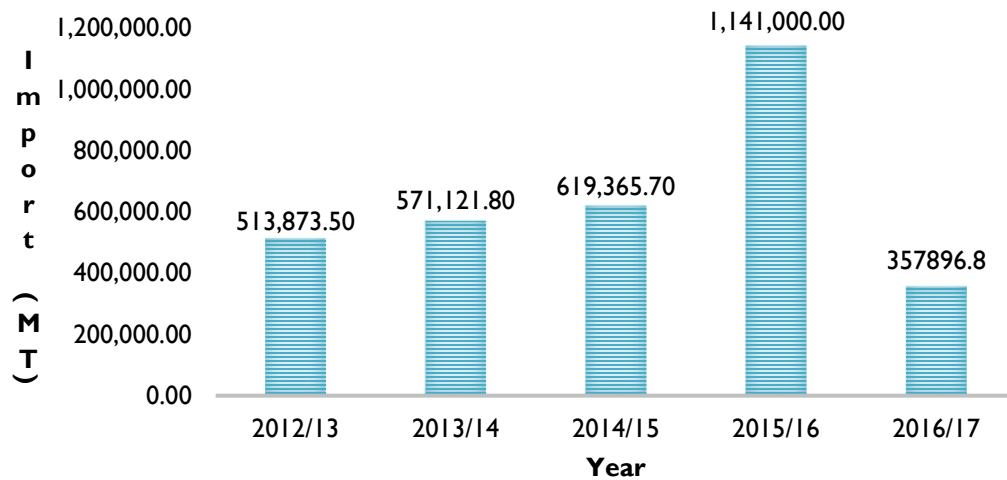
Source: Original data from USAID

Estimates of the amount of food aid that the Agency will import in 2017/18 have been determined. In the case of PSNP, it is estimated that the food imports for 2017/18 will be 122,780 MT. Food import under the relief operation USAID contribution through JEOP and WFP largely depends on the HRD, which is released once in a year and updated bi-annually. In 2016/17 for instance, JEOP started with supporting 887,230 beneficiaries (15.8 percent of the total beneficiaries); and in August, following an increase in the number of beneficiaries, JEOP is currently covering 1.4 million (16.5 percent) beneficiaries, at least, up to the end of 2017. The USAID the food import for 2017/18 will decrease by 10% compared to the 2016/17, amounting to 294,520 MT. Thus the total estimated USAID import in 2017/18 will be 417,300 MT (i.e. 294,520 + 122,780 MT).

**WFP:** With its current resource envelop for 2017/18, WFP expects to acquire and provide 54,000 MT of food from donors (apart from USAID) where approximately up to 20,000 MT of the grain is to be procured locally, leaving an estimated 30,000 MT grain to be imported by WFP in 2017/18.

**Government grain imports:** As a coping mechanism for the chronic national food supply shortfall and the consequent price increases, the Ethiopian Government has been importing cereals, and edible oils. This has been especially the case since the 2008 unprecedented grain price increases. The imports include food aid program interventions and subsidized market stabilization programs of the government. Figure 20 shows that EGTE alone has imported an average of about 0.64 million MT wheat every year during the last five years. Figure 20 also shows that, compared to the previous years, though the import had increased by 84 percent in 2015/16 (the severe food shortage year), it declined by 68 percent in 2016/17.

**Figure 20:** Volume of annual wheat imports by EGTE in the last five years (MT)

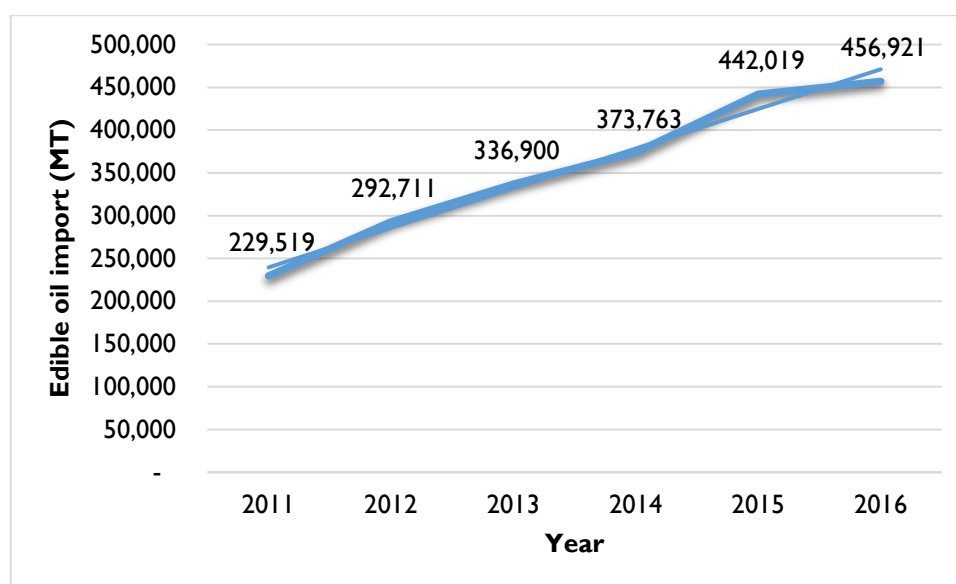


Source: Original data from EGTE

Based on consultations with USAID, it is estimated that the government will import 540,000MT of grain (i.e. 140,000MT as GOE PSNP import and 400,000MT GOE other imports) of in 2017/18. Government grain imports are usually intended to ensure market stabilization and to subsidize bread prices. The observed scarcity of foreign currency (USD, Pound Sterling, Euros) will likely limit imports of wheat by government. Additionally, the study team assumes an increase in local wheat production.

The National Disaster Risk Management Commission often imports food aid commodities for relief interventions. For instance, in 2016, it imported 36,700MT food commodities that were donated by the Ethiopian Government. The Commission does not have plans yet to import food commodities in 2017/18.

**Figure 21: Edible Palm Oil Import by the Government between 2011 and 2016**



*Source: Produced from ERCA data*

In the past few years, all government bulk imports were made through the Public Procurement and Property Disposal Service (PPDS). The latter provided its service up on request of the federal government bodies. The Service imported 2.137 million<sup>9</sup> MT of wheat for MoANR and EGTE in 2015/16 (2008 EC) which appears to be the highest import to be shipped to Ethiopia. This import seems related to the severe drought and food shortage caused by El-Nino. In 2016/17 (2009 EC) the Service imported only 400,000MT wheat for Ministry of Trade that was used for market stabilization. It has no current or planned so far for 2017/18.

In general, government agencies like the SFRA, MoANR, MoT, EGTE and PPDS that usually import grain for different purposes do not have plans, at least so far, of importing food commodities in 2017/18. Nevertheless, we believe that the government will continue to import grain for market stabilization and to subsidize bread prices. Accordingly, as previously mentioned, the study team assumed that at least 540,000MT of grain will be imported.

**Commercial private imports:** It is known that processed or semi processed food commodities are imported to the country both legally and through illicit cross-border trades. For instance, about 44 percent of the sample food deficit woredas reported that imported wheat flours is traded in their respective woredas. However, the study could not get access to data on the formal imports. Besides, it was not possible to estimate the illicit imports. Therefore, the private commercial imports are excluded from this study. As its amount is perceived not to be substantial, it is believed that its exclusion does not affect findings of the study.

In general, the 2017/18 food imports to Ethiopia are estimated to be 987,314MT i.e. 30,000MT by WFP; 417,300MT by USAID; and 540,000MT by GOE.

<sup>9</sup> 1,039,639.74MT was purchased for MoANR/MoA in three lots; 600,000MT was purchased for EGTE and 499,536 MT was purchased for NDRMC.



### 4.3. CARRYOVER STOCKS

Grain carryover stock could, in principle, exist with producers, traders, donors/aid agencies and government grain handling agencies. Last year's Bellmon determination study found the total carryover stock in the country to be 2.97 million MT. However, for our study, it is assumed that grain stock carryover to 2017/18 may not be significant due to one or more of the following.

- Usually grain surplus producers and traders keep stocks to wait for better prices. The sudden grain prices skyrocket since May/June 2017 mainly due to: (i) unprecedented formal grain export to Kenya; (ii) failure of the last belg crop production, in SNNPR a supplier of green maize to the market starting from June; and (iii) suspected increased illicit grain export to neighboring countries, mainly Kenya. It is believed and observed that the souring price situations have initiated producers and traders to sale out their stocks with the unusually higher margins. Therefore, the grain stock held with producers and traders is assumed to be not more than 1 million quintals.
- Failure of the last belg season in many areas including parts of SNNPR (Gamo Gofa, Segen and Wolayita Zones) northeastern Amhara, southern Tigray, and parts of Afar bordering Amhara and Tigray, that decreased grain supply and then contributed to increased demand, hence sharp increase in prices. To collaborate this, market observations revealed that this year, grain unusually flow to parts of SNNPR that traditionally harvest and sell belg maize. Additionally, the June 2017 food security outlook provides that the 2017 Belg harvests are estimated to be below average in most Belg-producing areas of the country, which will lead to a significant reduction in household food access. Therefore, it is assumed that this situation has also contributed to the dwindling in grain stock.
- Inadequate performance of the last Meher season that affected not only many of the deficit areas, but also few of the surplus producing areas of the country, hence contributing to reduced supply and increased demand.
- The increased shift of food aid resource and payment modality from grain to cash has increased demand for grain, and contributed to declines in the traditional grain carryover.
- Government institutions and agencies that usually hold grain carryover stocks do not have any or substantial stock this year. The GoE grain imports planned for 2016/17 did not materialize first and foremost because of the shortage of hard currency. The SFRA normally has about 673,000MT of cereals in its warehouses; currently it has only 258,000 MT of wheat in its stores. The rest was borrowed by government agencies (NDRMC, MoANR Food Security Office/PSNP and EGTE) in 2015/16 and has yet to be paid back. There is no evidence that it will be paid back in 2017/18. MoANR has only 40,000 MT of wheat in stock, the other federal and regional government organizations do not have any carryover stock.
- Donors and NGOs in the country do not report having any carryover stock.

Therefore, the only stock that can be carried over to 2017/18 is the amount available with SFRA and MoANR which is a total of 298,000 MT. Including the amount estimated to exist in the hands of the producers and traders, the total grain carryover stock is approximately 348,000 MT.

### 4.4. SUMMARY OF THE OVERALL 2017/2018 FOOD GRAIN AVAILABILITY

Table 14 provides a summary of the food grain available for year 2017/18. By adding the local grain production, imports and carryover stock, Ethiopia is estimated to have a food grain supply of 31.45 million MT.



**Table 14:** Summary of the Food Grain Availability in MT for Year 2017/18

Source/type	Amount (MT)
Local production	30,167,601
Imports	987,314
Carryover stock	298,000
<b>Total</b>	<b>31, 452,915</b>

## 4.5. LIVESTOCK SITUATION

The current livestock situation appears to vary between the pastoral settings and the sedentary farming areas. The difference could also be categorized as that existing between the low-lying central and eastern parts of the country on one hand and the central highlands and the western block of the country on the other.

In the pastoral settings, following the below-average 2017 *Gul/Ganna* season rains, pasture and water sources were not able to regenerate. Consequently, from June onwards, until the *Deyr/Hagaya* seasonal rains (October to December), the availability of pasture and water is expected to be below-average. However, beginning in late October, following the onset of the rains, both pasture and water availability are expected to improve.

The below-average 2017 *Gul/Ganna* season rains resulted, in addition to the massive livestock death that is estimated to 2 million heads, in deterioration of the surviving livestock body conditions and productivity. The animals are expected to stabilize and/or marginally and temporarily improve with enhanced late season rainfall. Assessments conclude that they will likely remain below average and deteriorate further during the dry season until the start of the *Deyr/Hagaya* rains in October 2017. Beginning in November, it is likely that with increased pasture and browse, livestock body conditions and productivity will improve. At least throughout the period, calving, lambing, kidding and milk production are expected to remain below average. Assessments report that in Somali Region, goats and sheep are expected to conceive in June and July but at below-average rates given the drought conditions (FEWS NET, 2017).

This situation is expected to negatively affect livestock performance and household income at least up to the next rains. Livestock sales are low because of poor body conditions. Livestock prices are predicted to remain below average as staple food prices have risen and are expected to continue to rise, or remain high, through September ahead of the *Meher* harvest. The rise in grain prices has led to high food grain –livestock terms of trade. After October, the forecasted above-average 2017 *Deyr/Hagaya* rains are expected to lead to gradual improvements in livestock body conditions and productivity, improving household food and income access.

The situation prevailing and observed in the other parts of the country is different from this. In most cases, the belg rains had substantially improved feed availability. Besides, early onset of the *Meher* rains and its continued better performance has also favored better performance of the livestock in this part of the country. Further, important livestock disease outbreak was not reported. These findings were also confirmed by the field level assessments and observations. Furthermore, good crop production in 2016/17 means better availability of crop residue and leftovers for livestock feed.

About 47 percent of the sample surplus woredas reported occurrence of livestock diseases in their woredas. For about 67 percent of them the damage was low to very low while it was high to very high for the rest 33 percent. Half of the sample deficit woredas reported occurrence of such diseases; and the damage was low to very low for half of the reporting woredas and high to very high for half of them.

About 24 percent (5) of these woredas reported that maize is used for livestock feed (for upgrading cattle) in their woredas. However, the amount of maize used is said to be only 0.01 percent to 5 percent of the annual production. Only 14.7 percent (5) of the sample surplus woredas reported the use of maize for livestock feed in the woreda.

Participants of the FGDs conducted in the sample study kebeles reported that the livestock husbandry practice in their communities are faced with problems that include shortage of feed and grazing area (62 percent), livestock diseases (22.5 percent), and veterinary service related problems (11 percent).

## 4.6. FOOD DEMAND

### Food Demand Estimation

Earlier discussions and supply data presented reveal that grain production has been increasing throughout the 2009/10 to 2016/17 period. However, the growth rate between the years varied. It is also noted that drought is one of the principal constraining factors for sustained grain production growth in Ethiopia. Agricultural production in the country is dependent on rain which is unpredictable. It also varies greatly across geographic locations.

Domestic grain production is utilized in many distinct ways; quantities for export, animal feed, seed, food use and non-food use processing, and human consumption. Losses during storage and transportation occur and are a component of food crop utilization.

### Food Needs and Supply Assessment

According to production data obtained from CSA, more than 62 percent of the domestic grain production was used for human consumption in the past five years. Cereals constitute 87 percent of the total grain crops production. Pulses and oilseeds account for 10 percent and three percent respectively. Local production of cereals, pulses, oilseeds, and starchy roots including enset/Kocho are the major source of food that makes up the staple food basket in Ethiopia.

The following table presents the required food demand, and local grain crop production for human consumption and then calculates the level of food self-sufficiency in the country for the 2012/13-2016/17 period. The amount of food imports, both commercial and food aid, is presented in the table and its role in narrowing the food gap is reviewed. Based on the food supply and demand situations observed in the past five years, food requirement for the 2017/18 is projected.

**Table 15: Trends in Local Grain Crops Production and Demand during 2012/13-2016/17 period**

Year	2012/13	2013/14	2014/15	2015/16	2016/17
<b>Population</b>	85,838,000	87,952,000	90,074,000	92,205,000	94,352,000
<b>Grain production (MT)</b>	25,105,002	27,442,716	29,148,155	29,849,531	28,813,467
<b>Domestic Production consumed (MT) <sup>11</sup></b>	15,663,010	15,069,520	17,984,412	18,426,116	17,457,619
<b>Per capita consumption per year (kg)</b>	182.5	171.3	199.7	199.8	185.0
<b>Food Needs (MT) <sup>12</sup></b>	18,712,684	19,173,536	19,636,132	19,636,132	20,568,736
<b>Deficit/surplus (MT)</b>	(-3,049,673)	(-4,104,016)	(-1,651,720)	(-1,210,016)	(-2,622,456)
<b>Deficit/surplus (percent)</b>	-16.3	-21.4	-8.4	-6.2	15.1
<b>Total Food imports (MT)</b>	788,644	845,872	913,076	1,934,123	763,533
<b>Per capita import (kg)</b>	9.2	9.6	10.1	21.0	8.1
<b>Per capita grains available including imports (kg)</b>	191.7	180.9	209.8	220.8	190.2

- Food needs is estimated based on the following assumptions:
- The basic requirements, assuming all energy comes from cereals, is set at 2,100 kilocalories/person/day, on average, which translates to about 218 kg of cereal equivalents/person/year, assuming about 3,000 kilocalories from 1 kg of cereal.
- Production and demand quantities are recorded in grain equivalent
- The breakdown of the calorie intake is based on the average Ethiopian food basket including:
  - Cereals = 63.5%;
  - Pulses = 10%;
  - Oil crops = 8%;
  - Enset and Root Crops = 6.5%;
  - Livestock and livestock products = 6%; and
  - Sugar = 6%

On average, domestic production covers nearly 90 percent of the food requirements of the Ethiopian population. The food deficit ranges from 6.2 percent in 2015/16 to 21.4 percent in 2013/14. The level of food self-sufficiency through local production has been fluctuating during this period. From the table above, we learn that the food gap was wider in the earlier two years, 16.3 percent in 2012/13; and 21.4 percent in 2013/14. We also note that food imports (both concessional and food aid) were instrumental in narrowing the food gap. As we gather from the table, the gaps were narrower when imports increased. Food supply was adequate to meet the minimum energy requirements only in 2015/16.

<sup>11</sup> This quantity is determined after making deductions from total grain local production including export, seed saved, animal feed industrial use and post-harvest loss/wastage.

<sup>12</sup> The basic needs or get the minimum energy requirements, assuming all energy comes from cereals, is set at 2100 kilocalories/person/day. On average, this translates to about 218 kg of cereal equivalents/person/year, assuming about 3,000 kilocalories from 1 kg of cereal.

Thanks to the large food imports availed in the year, the annual per capita amount of food supplied stood at 221 kg, which is slightly higher than the minimum recommended threshold of 218 kg.

## Food Demand Projection for 2017/18

Consumption requirement for the country for 2017/18 is forecasted based on past trends discussed above and some pertinent assumptions. Due to lack of reliable information on effective demand estimates among rural and urban population, we used the 'apparent per capita consumption or the **status-quo** level of consumption' as the proxy to estimate the next year consumption requirement. The status-quo estimate (SQE) method assumes that people should eat as much in the coming year as they have in the last few years. Thus, the stable food requirement for next year is derived from the past trends or the status –quo for staple food per capita multiplied by the estimated total population. As mentioned earlier, food grain crops in general and key cereal crops are the dominant diets for majority of Ethiopians. More than 60 percent of the daily calorie intake in Ethiopia is derived from five cereal crops namely, teff, barley, wheat, maize and sorghum.

The daily minimum energy requirement of 2,100 calorie was used as a threshold to estimate demand for food during 2012/13-2016/17 period. The same assumption holds to estimate consumption requirement for the country's population in 2017/18. We further assumed the following to calculating the forecasted food demand:

- Projected production data for 2017/18 and population growth projection by CSA of 2.3 percent.
- The amount of food to be imported for 2017/18 is 987,314MT.
- The carryover stock from last year will serve as opening stock for the 2017/18
- Export of food grain through both formal and informal trades will be the same as previous year
- Barley and maize used as raw materials for local alcohol drinks is assumed to constitute 3 percent of supply
- Feed will take another 3 percent; seed requirements 15 percent;
- Post-harvest loss is calculated to stand at 15 percent

The Food Balance Sheet for 2017/18 is summarized in the following tables.

## Food Balance Sheet 2017/18

### (1) Domestic supply - 1,000 MT

Item	Local Production	Import	Opening stock	Export	Total supply
<b>Total population= 96,503,000</b>					
<b>Food grain-cereal equivalent-supplied</b>	30,168	987	298	-983	30,470

### (2) Domestic utilization

Item	To be Used for Food –human consumption	Used for Animal Feed	Used for Seed	Post-harvest Losses	Industrial use
Food grain-cereal	19,534 <sup>13</sup>	914	4,571	4,571	914

<sup>13</sup> The per capita calorie estimate is derived from the total food available for human consumption divided by the total population. To calculate the total food available for human consumption, FAO begins with the total food available in the country (production, imports, and aid) and then accounts for food exported, fed to livestock, used

equivalent- excluding beer					
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### (3) Food balance sheet- per capita supply

Item	Kg/yr
Food grain-cereal equivalent available with imports	202.0

As the balance sheet shows, the per capita supply of food for the 2017/18 period is 202kg/year/person, which is below the recommended rate of 218kg/person/year. It is important to note that this level of consumption will be possible if the government and donors made possible the projected amount of 987,314 MT cereal equivalent food grains.

## Variations in Food Availability and Consumption

There is a wide variation across regions and agro ecological zones in the availability of food and consumption. The population in food surplus producing areas has better access to food and consume more than those living in food deficit regions. It has been found that about half of the rural poor and one-third of the total rural population in Ethiopia live in food deficit areas where average food availability is only half of the national average<sup>14</sup>.

Variations also exist among households within the same location due to differences in access to productive resources such farmland. Poorer households in general have lower calorie intake than households in the higher wealth group.

Key informants in woreda offices of agriculture reported that a significant proportion of households in their woreda have remained food insecure for several years. The severity of food shortage is more pronounced in lowland areas such as Fentale woreda in East Shoa Zone of Oromia region where more than 60 percent of the households in the woreda are food insecure. Besides other factors, rapid population growth was mentioned as a critical factor for the current dismal state of food security.

Farmers in focus group discussion have cited shortage of farmland and landlessness as serious problems for poor households. The RRA also showed that increasing number of households are becoming food insecure overtime. Recurring drought, farmland shortage, decreased land fertility, low crop yields and increasing population growth are mentioned by farmers and key informants in woreda office of agriculture as being the main reasons for this trend.

Of the 36 PSNP sample woredas surveyed, 22 of them (61%) reported the size of food insecure households in their respective woredas. Food insecure households constitute more than 35 percent in seven of the reporting woredas. In six woredas, food insecure households account for 25-35 percent of woreda total. As expected, the size of food insecure households is relatively smaller in surplus woredas. Only four woredas out of 20 interviewed in the surplus woredas, reportedly have food insecure households. In three of the woredas, the prevalence of food insecurity stands at between 5-15 percent of the households and in one woreda less than 5% of households are food insecure.

**Table 16:** Consumption changes reported by Focus Groups

Food item	Number of respondents	Increased	No change	Decreased	Don't eat it
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for seed, and lost during storage and transportation and processed for non-food purposes such as making alcoholic drinks.

<sup>14</sup> Diao, X., and A. N. Pratt. 2007. Growth Options and Poverty Reduction in Ethiopia – an economy-wide model analysis. Food Policy 32: 205 -228

		(%)	(%)	(%)	(%)
Maize	101	34.7	12.9	36.6	15.8
Wheat	100	58	9	22	11
Teff	99	53.5	10.1	26.3	10.1
Edible oil	102	80.2	6.9	11.8	1
Meat	102	35.3	3.9	48	12.7

Source: RRA 2017

The consumption pattern among the survey groups is shown in Table 16 above. More than 50% of focus group discussants reported increased consumption of edible oil, teff and wheat since the last two years. A third of them also increased their meat and maize consumption in the same period. However, close to fifty percent of the woredas consumed less of meat in the last two years. The main reason for the increased consumption of the food items cited is the growth in household income. Food for work program in PSNP woredas has enabled increased consumption of wheat and edible oil. The decrease in the consumption of the food items was attributed to price increase and scarcity.

## 5. GRAIN MARKETS AND PRICES

This chapter deals with the study of grain trade in Ethiopia through the reviews of core policy issues applicable to trade, studies conducted on grain market and marketing system. The study analyzed how markets function and investigated the marketing channel for main food grains (cereals, pulses and oilseeds), major sources of grain supply to central, regional and to local markets, particularly in deficit areas and whether the local market have the capacity to ensure the availability of grain supply from domestic production and imports.

While the grain market study was entirely based on qualitative approach, the framework used for market analysis is the Structure, Conduct, Performance (S-C-P) framework employed in similar Bellmon estimation.<sup>15</sup>

Structure-Conduct-Performance (S-C-P) is an analytical approach or framework used to study how the structure of the market and the behavior of sellers of different commodities and services affect the performance of markets, and consequently the welfare of the country. Specifically:

- **Market structure** consists of the relatively stable features of the market that influence the rivalry among the buyers and sellers operating in a market. Some examples of market structure include the number of buyers and sellers of food commodities in the market, the number of sellers of agricultural inputs such as fertilizer and veterinary drugs, barriers to entry into the market and the nature of trading relations (vertical coordination mechanisms) among market participants.
- **Market conduct** refers to the patterns of behavior that traders and other market participants adopt to affect or adjust to the markets in which they sell or buy. These include price setting behavior, and buying and selling practices.
- **Market performance** refers to the extent to which markets result in outcomes that are deemed good or preferred by society. Market performance refers to how well the market fulfills certain social and private objectives. These include price levels and price stability in the long and short term, profit levels, costs, efficiency and quantities and quality of food commodities sold.

This framework was chosen because the combined dynamics of market structure, conduct, and performance will contribute to understanding the grain market systems and the capacity of market actors (private traders, cooperative unions, etc.) to increase the supply of basic food grains to food deficit areas.

### 5.1. POLICY AND GOVERNMENT ROLE IN THE GRAIN MARKET

With the policy reforms introduced in the aftermath of government change in 1991, considerable changes have taken place in Ethiopia's trade policy and market development. Apart from the restoration of the private sector participation in grain trade, the former state owned Agricultural Market Corporation (AMC) was renamed as the Ethiopian Grain Trade Enterprise (EGTE) to compete and operates with the private sector in accordance with the open market policy.

Although the transformation of EGTE was meant to enable it to operate in competition with the private sector, its objectives are, (1) stabilizing grain prices for producers and consumers; (2) exporting grain and earning foreign exchange; and (3) facilitating the purchase and distribution of Emergency Food Security Reserve. As obvious from the objectives, the EGTE has multiple duties which go beyond grain

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<sup>15</sup> Fintrac, 2012. USAID-Bellmon Estimation Studies for Title II (BEST), September 2012.



trade to ensuring consumer welfare through price stabilization and the procurement of food grain, both from domestic market and imports for emergency purposes.

In the years following policy reform, the number of traders at central, regional and primary or local market level has increased considerably. The establishment of the ECX in April 2008 is the other major development in the market system. The ECX objective is to ensure the development of an efficient modern trading system and to protect the rights and benefits of the traders along the value chain<sup>16</sup>. With its members from major market actors that include cooperative unions, private exporters, wholesalers, industrial processors, and domestic trading firms, ECX operates in Addis Ababa, Adama, Shashemene, and other major markets centers. So far only agricultural commodities/products are traded at ECX (coffee, sesame, white haricot bean, mung bean).

In line with its free market policy, the government does not interfere directly in the market function and the operation of market actors. However, the government maintains its trade policy using mechanism that enables it to protect producers' and consumers' welfare. As already mentioned, the EGTE's objective and the roles it plays in stabilizing grain prices through grain supply to domestic market and increased availability of food grain to consumers, particularly the urban consumers. Nevertheless, despite the efforts made to protect consumers' welfare, a recent study found out that the EGTE's price stabilization has limited effect and the effects on grain price is of short duration.<sup>17</sup>

The establishment and development of Cooperatives is the government's policy strategy for the protection of producers through the promotion of cooperative marketing. Accordingly, currently over thousands of primary cooperatives and hundreds of cooperative unions have been established in every region of the country. As a result, numerous cooperative unions have been engaged in the domestic grain trade as wholesales buying and selling grain while the others are active participants in the export of agricultural commodities, particularly coffee, pulses and oilseed exports. Thus, primary cooperatives established in each kebele can collect and assemble grain from farmers, i.e., their members and supply to the cooperative unions formed by groups of primary cooperatives from different kebeles. Since farmers are aware of the relatively higher price margin cooperatives pay relative to the prices paid by traders, they supply their grain to cooperatives. As a consequent of the growing role and the comparative advantage primary cooperatives have in grain procurement at kebele level, it is unlikely that private traders will be able to maintain sufficient share of farmers' grain supply.

## 5.2. GRAIN MARKET

The study of markets, in particular the analysis of grain is to understand how the markets function and to ascertain whether the poor households, specifically the food insecure have access to basic food grain through markets. As the performance of markets at each level, i.e., local, regional and export as well as import markets determine grain availability to households in cereal deficit areas, it is crucial that the study emphasize the analysis and understanding of grain market characteristics i.e., structure, conduct and performance as well as market function, and identify the existing market capacity and limitations to increasing the availability of basic food grains.

Apart from the analysis of market characteristics and functions, the study has assessed the basic food grains available in the local markets and analyzed the capacities of these markets to supply grains to local markets consumers, particularly the food insecure households in food deficit areas. Finally, effects of food aid distribution on domestic market, particularly on the functioning of local grain markets, both in

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<sup>16</sup> FAO 2014., Analysis of Price Incentives for Wheat in Ethiopia for the time period 2005 - 2012. April 2014.

<sup>17</sup> AKLDP, 2016. Food Security in Ethiopia in 2016: Analysing crop production and market function after the main Meher agricultural season. AKLDP, USAID/Ethiopia, Addis Ababa



surplus producing (AGP) as well as food deficit (PSNP) woredas is a core issue the study has assessed as discussed below in the subsequent sections.

### 5.3. MARKET CHARACTERISTICS

The relationship existing between structural characteristics of a market and the competitive behavior of market participants influences the grain market performance (Scarborough and Kydd 1992; Scott 1995). As the relationship and a combined dynamic of actors will influence market performance, it is essential to assess the grain market structure and the conduct of market participants.

#### Structure

The assumptions based in the assessment of market structure is the fact that the deviation of a market structure away from the model of perfect competition will decrease the extent of market competitiveness; and consequently, the decline of market efficiency.<sup>18</sup> Perfect competition assumes, free entry and exit from the market, homogeneous products, many buyers and sellers: It means no single buyer or seller can affect the price, no discriminations, perfect knowledge etc.

A major structural characteristic of markets is the number of market actors or participants and their size distribution. In the Ethiopian case, grain market is the largest of all commodity markets in terms of the volume of products handled and the number of market actors and participants involved. Naturally, market actors increase in composition and number as grain passes through the hierarchy of marketing channel from local to central market. According to the CSA, it is estimated that the number total of national urban wholesale grain traders for 2013/14 is about 6,054. From the reverse side of marketing hierarchy, the number of big traders, wholesale buyers and suppliers is often larger in regional and central markets, but decrease in composition and the size of distribution at the lower level and eventually become smaller at local markets.

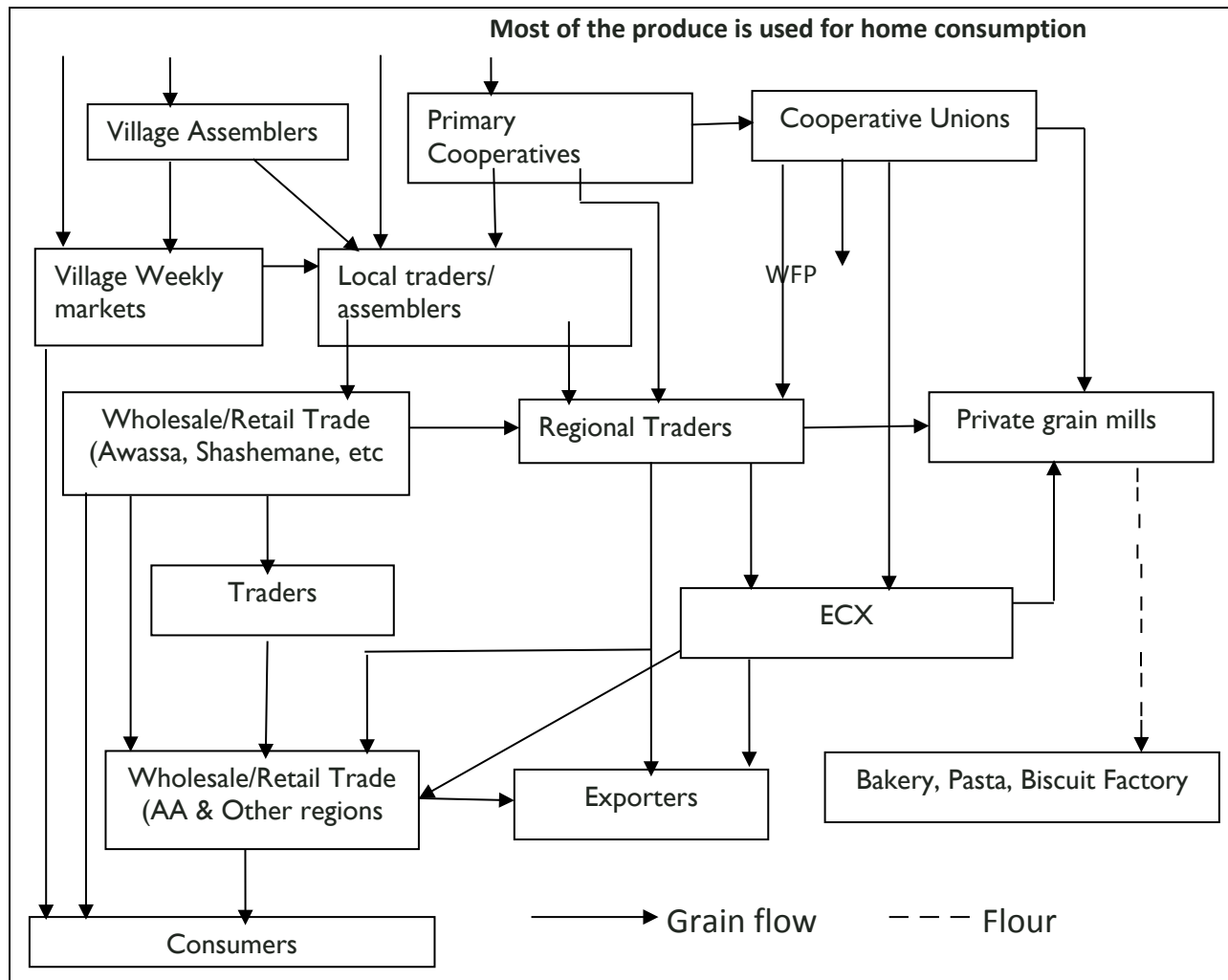
The assessment of marketing channel in the sample woredas selected for this study indicated that the composition and number of actors in marketing channel differ between PSNP and Non-PSNP woredas. In the PSNP woredas, wholesale suppliers, retailers and consumers are the most common actors in the market chain during lean seasons while more actors appear during crop harvest including producers or the framers who sale grain, local market collectors and assemblers. The diversity and number of actors is larger in surplus woreda markets particularly during harvest season. In comparison with the other actors, there are more producers and consumers particularly in grain markets at the woreda level; wholesaler buyers and suppliers are relatively fewer in number than retailer, assemblers and farmer traders. Depending on the woreda status, i.e., deficit (PSNP) and surplus (AGP) farmers market outlets include:

1. direct sales to consumers,
2. sales to retailers and grain millers,
3. direct sales to farmer/village traders, rural assemblers, regional and wholesale traders, and
4. sales to cooperative unions via primary cooperatives.

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<sup>18</sup> Dessalegn, et.al, 1998.

**Figure 22: Grain marketing Channel of the SNNP Region**



Wholesale and regional traders are active buyers from deficit woreda markets particularly at crop harvest time, while consumers source grain from wholesale suppliers via retailers and cooperative unions during the lengthy scarcity periods in the deficit areas. The local market collectors and farmer-traders in both deficit and surplus woredas buy grain from farmers at village markets for resell to consumers and retailers at woreda markets, as well as to regional market traders and wholesalers. In most cases, grain collectors and assemblers are agents of regional traders and wholesalers. These market actors buy grain on commission basis or a fixed fee rate commensurate to the volume of grain they procure. Regional traders consisting of wholesale traders, cooperative unions, EGTE, processors, etc. are the principal actors in the inter-regional movement as well as grain flow to the central market. Thus, grain flow through the marketing channel may not be exactly similar due to differences between regions in terms of supply volume, the extent of market integration and linkage to major market destination, both domestic and export markets. Although considerable differences exist in inter- and intra-regional grain flow, the figure shown above, adopted from the SNNP Region provide an overview of the regional grain marketing channel and major actors in the market structure.

As the above figure depicts, almost all the major actors are involved at the higher level in the hierarchy of grain marketing chain. However, the market outlets for farmers become narrower at lower level as there are fewer actors in grain trade at woreda and local markets. Nevertheless, more actors participate in the grain market structure of surplus producing woredas in which many assemblers, commission agents and brokers work as independent traders and/or for big traders. Cooperative unions are the exception in that they are active market actors in both deficit and surplus woredas. They also differ from the private traders in that they procured grain through their members, i.e., primary cooperatives who assemble grain from farmers in each kebele.

## **Conduct**

The focus of market conduct is the behavior of market actors (private traders, cooperative unions, state enterprise, market agents, etc.) and the strategy of major market actors, for instance, pricing policy for buying grain, selling, etc. Each of these market actors, particularly private traders undertake trading activities with the main aim to maximize profit and the return to investment in trading business. Thus, the motive and objectives of each of the actors is reflected in their behavior or conduct of trade to attain the goal they aspire. The market conduct of major actors is discussed below with emphasis on the most important market participants at the local level.

### **Farmers**

Farmers' grain sales and market outlets differ depending on the accessibility of market and the type of buyers in close proximity. Most farmers sell their marketable grain immediately after harvest when prices are too low. The largest share of farmers' annual grain sales takes place between January and March. Farmers immediate cash needs to meet commitments, for instance loan repayment, annual land and income tax and to meet other social and personal obligations are some of the reasons for the sale of grain soon after harvest. As a result, a sharp fall in grain prices during seasons of crop harvest is the usual and common phenomena owing to the oversupply of grain exceeding the existing market demand. Although farmers are aware of the sharp fall in grain prices during harvest season, the largest share of grain sales still happen during this period.

Farmers sell small quantities of their grain to consumers, farmer/traders and village market collectors at village market or neighbors. Nevertheless, woreda markets are the main selling point for larger quantities of grain which are transported using pack animals or carried by the farmer for direct sales to alternative buyers including wholesalers, regional traders, assemblers, local market traders, retailers and consumers. Farmers also supply grain to primary cooperatives that collect and assemble grain in their kebeles for supply to market through cooperative unions. The existence of large market actors, both in number and size also ensures grain availability to consumers through markets while enhancing market competition.

### **Traders' grain purchases**

Like the main grain selling seasons of farmers, traders buy grain during crop harvest and the subsequent months. According to key informants interviewed, traders buy most of their grain during harvest and the first few months after harvest when grain supply to the market reaches its peak. Despite a considerable development that took place in the Ethiopian grain marketing, there is no major change observed in the seasonal pattern of traders' grain purchases. Nevertheless, the diversity in the type and number of actors in the market could likely have had an impact on the trader share of grain purchased. Notably, the entry of new actors, for instance cooperative unions into the current grain market structure implies redistribution of the grain volume traders' purchase in accordance with the size and distribution of participants in the market structure.

The study findings on the pattern of trader grain purchases collaborates similar studies conducted in the past. The study of Ethiopian grain market structure conducted a decade ago indicated that over 50

percent of wholesale traders' grain purchase take place between January and March while the volume purchased will gradually decline with the lowest purchase volume during the period from July to September. According to a more recent study by The Agriculture Knowledge, Learning, Documentation and Policy Project (AKLDP, 2016), most purchase activity occur between December and April, with the largest grain purchases in January, when the volume is more than twice that of any other month. The big traders usually buy most of their grain supply at their warehouses. They get grain supply directly from farmers, local market collectors and grain assemblers. However, the regional grain traders buy grains directly from farmers at woreda markets. kebeles for supply to market through cooperative unions. The existence of large market actors, both in number and size also ensures grain availability to consumers through markets while enhancing market competition.

### **Cooperative Unions**

As stated earlier, cooperative unions are one of the major buyers of grain particularly in the surplus producing woredas. They are also major suppliers of grain to consumers and households in the grain deficit woredas and urban centers. Cooperative unions' source grain mostly from primary cooperatives in their kebeles who serve as assemblers of grain collected from their members. As market actors, cooperative unions enjoy support from the federal and regional governments; they have access to technical and financial support from the government. As a result, the total annual volume of grains handled by these cooperative unions has been increasing over the last five years. Findings from the KII interviews suggest that cooperative unions handled about 18 percent of the total grain volume traded in 2016/17. These volumes could have been higher if they had the capacity to absorb larger volume of grain supply. Capacity limitations such as capital, storage and transportation limit their trading activities. Private traders are still the largest buyers in the grain markets in terms of volume.

Fertilizers are imported only by the government and is sold and distributed to smallholder farmers through cooperatives, often on credit basis. Fertilizer is subsidized by the GoE with the aim of increasing crop productivity in the country.

### **Market Performance**

An important measure of market performance is market concentration. As explained above, concentration refers to the number and relative size distribution of buyers/sellers in a market. An Ethiopian market structure study estimated that about 90 percent of the traders account for 57 percent of the grain volume wholesale traders purchased<sup>19</sup>. While the largest 10 percent of wholesalers account for about 43 percent of the grain marketed nationally, the bottom 40 percent have an insignificant share of less than 10 percent. The study concluded that a high degree of inequality exists between wholesaler traders in terms of the grain volume annually handled at national level.

However, the study team reports low levels of market concentration; no single trader or group of traders sell or buy such a large share of grain at the woreda or local market. There is no evidence of collusion or non-competitive behavior in the markets surveyed. Market share of grains at the local markets differ from market to market and by the type of grain traded.

Another indicator of the normal function and performance of market is the way grain price is determined, which is through negotiation between the grain seller and buyer. More than two-third, about 84 percent of the KII interviewed in PSNP and surplus woredas indicated that price is determined by market forces, confirming that no single buyer or groups of buyers dominate the grain market. Wholesaler set their prices based on the market dynamics, considering the cost of transportation, storage and market services, such as commission and broker fees plus a small profit margin. Trade office KIIs and farmer FGDs share the consensus that the farmer is a price taker in price negotiations with the

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<sup>19</sup> Gezahegn, et. al

buyers. To help the farmer negotiate better, the trade office is raising awareness around the influence of middle men, shortening the marketing chain and reducing cost, particularly in the regions producing export crops such as sesame and haricot beans.

The timing of trader grain sales differs from trader to trader. Some traders keep their stock until the price increases; many sell their grains within 2 to 3 months of purchase. Most large traders sell their grains either to the terminal market in Addis Ababa, to urban areas with large consumer demand or to deficit areas like Dire Dawa and Mekele. A major share of the grain traders purchase from surplus woredas is transported to terminal markets for supply to either consumers (e.g., teff) or export markets (e.g., pulse and sesame). Wholesale suppliers also sell to other wholesalers who redistribute grain to millers, processors and retailers. Similarly, the grain destined for deficit areas are sold both at the wholesalers' warehouses and through medium size traders in the deficit markets. According to the Ethiopian grain market structure study, the inter-market grain flow is coordinated by the brokers operating in the main terminal markets, particularly Addis Ababa. The brokers are specialized by route and coordinate grain buying, selling, transporting and pricing activities.

In terms of buyers, a substantial number of traders sell directly to consumers in both PSNP and non-PSNP woredas. In fact, the findings from a previous study suggest that direct sales to consumers were twice as important as sales to retailers in both PSNP and non-PSNP areas. The volume of traders' grain sales to retailers and consumers in PSNP woredas was twice the level of sales to the same groups in non-PSNP areas. On the contrary, the non-PSNP traders supplied a greater proportion of their grain to EGTE, traders from deficit regions, and traders in Addis Ababa<sup>20</sup>.

## 5.4. GRAIN AND EDIBLE OIL PRICES AND TRENDS

At the national level, there is an increasing trend in the price of food grain. According to a CSA report, the year-on-year Food inflation increased by 12.3 percent in May 2017 compared to last year. The increase was triggered by an increase in the May 2017 Food Consumer Price Index, which rose to about 170.5 percent compared to 151.9 percent in the previous year and an increase in the prices of cereals (especially Teff, Maize, Wheat, Sorghum and Barley). Prices of vegetables, pulses, potatoes, coffee and other tubers have showed a decline<sup>21</sup>.

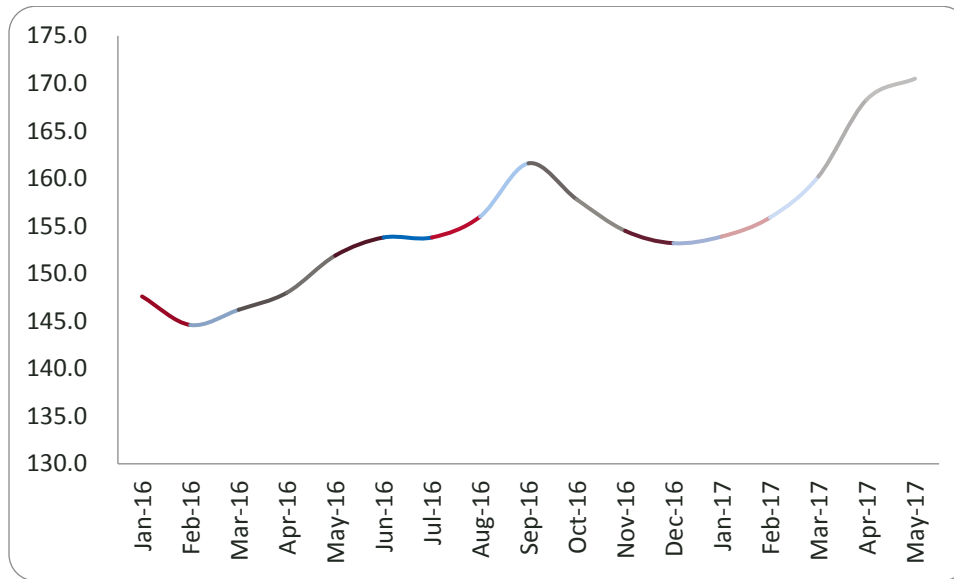
Figure 23 below depicts the CSA estimated Food and non-alcoholic beverage price index in the months of January 2016 to May 2017. From February to September 2016, there was a continuous increase in the consumer price index (CPI) of food and non-beverage until its decline from September to end of the same year. However, a significant increase is observed in the CPI during the first five months of 2017.

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<sup>20</sup> Tufts, 2016

<sup>21</sup> CSA 2017. Country and Regional Level consumer price indices, Information No. 51, May 2016, Addis Ababa

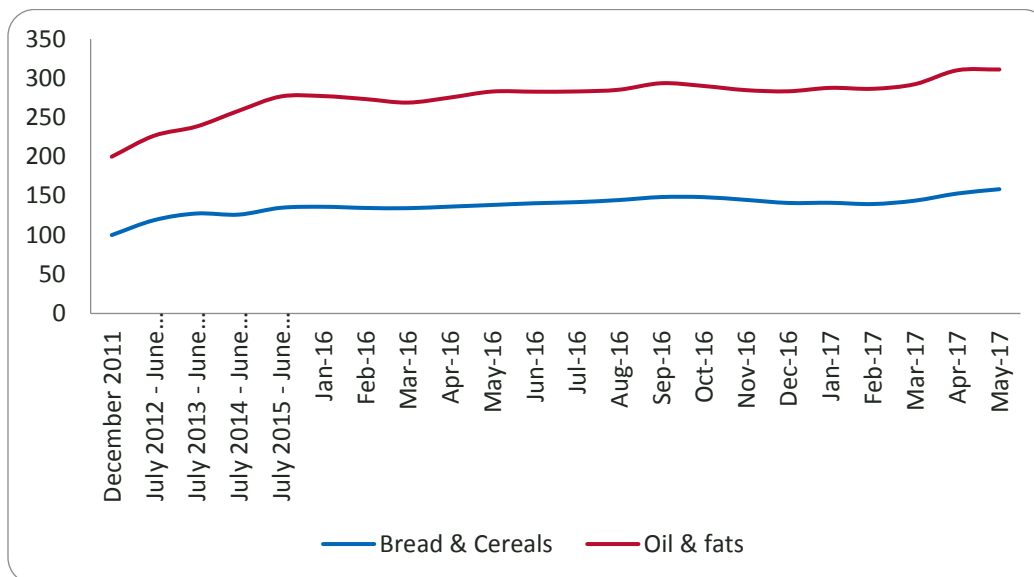
**Figure 23: Food and non-alcoholic beverage price index (January 2016 -May 2017)**



Source: CSA

CSA CPI data for oil and fat, bread and cereals are used as a proxy estimate for the food aid commodities distributed to food insecure households (cereals and oils). Figure 24 shows the price indices for oil & fat, bread & cereals, taking the base price for December 2011.

**Figure 24: Cereals, oil and fat price index December 2011 - May 2017**



Source: CSA

As the above figure indicates, despite the increase particularly in oil and fat CPI prior to June 2016, both CPI has been relatively stable. Although it is difficult to conclude, a slight increase is likely as observed from the upward shift in the April CPI of oil and fat CPI.

## 5.5. GRAIN PRICES IN REGIONAL MARKETS

One of the RRA tools employed by the study is the regional market observation, to assess the types of grains available, estimate approximate volume and find out the average prices of each type of the grain observed. Based on the market observations conducted in the four major regions, i.e. Tigray, Amhara, SNNP and Oromia, the average prices of cereals, pulses and oilseeds are depicted below by Tables 17, 18, and 19, respectively.

**Table 17:** Average price of grain at market centers observed in sample woredas by region and area type

Type of cereal	Woreda status	Tigray	Amhara	Oromia	SNNP
<b>Maize</b>	Surplus	32.64 (n=2)	34.73 (n=6)	36.17 (n=4)	42.65 (n=1)
	deficit	35.91 (n=2)	36.26 (n=7)	36.26 (n=9)	--
<b>Wheat</b>	Surplus	--	39.52 (n=6)	47.92 (n=4)	52.23 (n=1)
	deficit	38.3 (n=1)	37.56 (n=8)	41.78 (n=7)	--
<b>Teff</b>	Surplus	93.58 (n=1)	87.79 (n=6)	92.36 (n=4)	104.46 (n=1)
	Deficit	143.63 (n=2)	86.66 (n=8)	96.80 (n=7)	--
<b>Sorghum</b>	Surplus	32.64 (n=2)	38.65 (n=4)	34.82 (n=3)	43.52 (n=1)
	deficit	--	36.21 (n=7)	40.65 (n=7)	--
<b>Barley</b>	Surplus	34.82 (n=1)	41.70 (n=6)	35.08 (n=4)	56.58 (n=1)
	deficit	37.00 (n=2)	44.09 (n=6)	41.96 (n=5)	

Source: RRA-Market observation 2017

As shown on the table above, the average price of maize is lower in the surplus areas but higher in the deficit areas across all regions. Nevertheless, wheat is cheaper in the deficit areas of Amhara and Oromia than in the surplus areas of the two regions. Teff prices are higher in deficit Tigray and Oromia areas, about \$143.63 and \$96.80, respectively. Average sorghum prices in Oromia are cheapest in the surplus areas than in the deficit areas but the opposite is seen in Amhara, where sorghum prices are higher in the surplus areas and cheaper in the deficit area. A uniform trend is observed with barley prices, which are higher in the deficit areas of each region. The study team collected supplemental

information from key informants on their perceptions for the unusual pattern of cereal prices in the deficit areas when compared with the surplus areas. The following explanations were proposed:

- The effect of food aid distribution in deficit areas lowered demand in those areas, coupled with the low buying capacity of the people in these areas. This may have resulted in lower prices
- Imported wheat—most of which goes to the deficit areas—is generally cheaper when compared with the locally produced wheat, which is available in surplus areas
- The deficit areas studied in Oromia are major producers of sorghum

The table below shows, the average prices of pulses exhibited similar trend across all the regional markets observed. All types of pulses being traded in the regional markets of Amhara and Oromia have prices that higher in the deficit areas then in the surplus areas, as expected.

**Table 18:** Average price of pulses at market centers observed in sample woredas by region and area type (in USD)

Type of pulse	Woreda status	Tigray	Amhara	Oromia	SNNP
<b>Horse bean</b>	Surplus	82.69 (n=2)	68.03 (n=4)	65.29 (n=3)	91.40 (n=1)
	deficit	103.15 (n=2)	84.74 (n=7)	83.57 (n=5)	--
<b>Chickpea</b>	Surplus	97.93 (n=2)	76.17 (n=4)	89.96 (n=3)	-
	deficit	113.16 (n=2)	90.70 (n=5)	113.16 (n=2)	--
<b>Grass Pea</b>	Surplus	--	49.31 (n=3)	37.00 (n=1)	-
	deficit	--	82.69 (n=2)	108.81 (n=1)	--
<b>Lentil</b>	Surplus	--	137.1 (n=2)	132.92 (n=4)	217.62 (n=1)
	deficit	120.78 (n=2)	132.14 (n=5)	170.61 (n=5)	--
<b>Vetch</b>	Surplus		42.09 (n=3)	55.23 (n=2)	--
	deficit		102.28 (n=2)	79.87 (n=2)	-

Source: RRA-Market observation 2017

Market availability of oilseeds is strong in Amhara, followed by in Oromia (see table below). Tigray is a known producer of sesame. Average sesame prices are about \$184.98/qt. and are higher in the deficit areas than in the surplus areas.



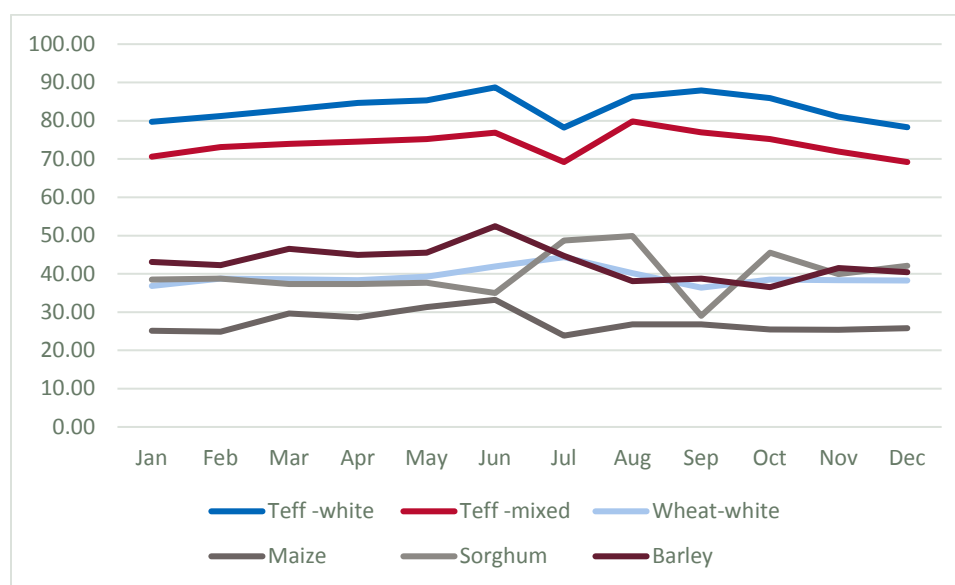
**Table 19:** Average Price of oilseeds at market centers observed in sample woredas by region and area type

Type of oilseed	Woreda status	Tigray	Amhara	Oromia	SNNP
<b>Niger seed (“Nug”)</b>	Surplus	--	121.47 (n=2)	--	152.33 (n=1)
	deficit	--	103.72 (n=3)	--	--
<b>Flax</b>	Surplus	--	94.32 (n=3)	90.31 (n=2)	80.52 (n=1)
	deficit	79.43 (n=2)	121.00 (n=3)	174.09 (n=2)	--
<b>Sesame</b>	Surplus	184.98 (n=2)	143.63 (n=2)	--	63.11 (n=1)
	deficit	--	103.80 (n=4)	--	--

Source: RRA-Market observation

In addition, the analysis of secondary data collection from Amhara and the SNNP Regions shows that prices have been relatively stable particularly in Amhara region with slight increase in the lean season from July to September 2016. Sorghum price shows a more frequent fluctuation while the average prices of wheat and maize have been more stable with slight decline after July 2016. As usual, teff especially white teff is the highest food price commodity with average retail price of nearly \$87.05 per quintal.

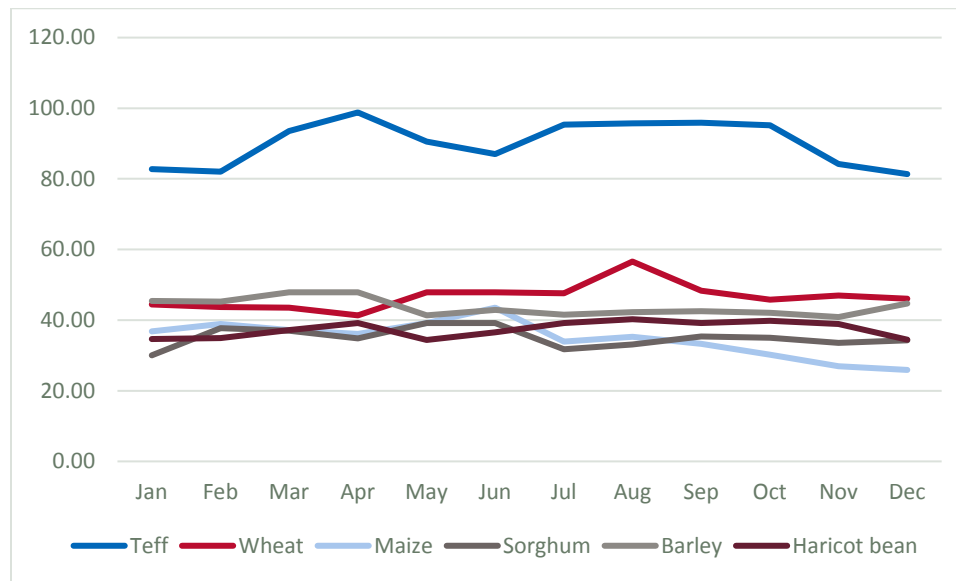
**Figure 25:** Amhara region monthly average grain price in USD in 2016/17



Source: Amhara regional state Trade Bureau

In SNNPR, analyses of 2016/17 regional price data show a more significant monthly price variation. Teff has the highest price with more significant price variations. Except for wheat price increases before August 2017, there is no significant variation in the prices of the other food commodities. Grain prices have been relatively stable throughout the year with slight increases during the months of April, May, August and September.

**Figure 26: The SNNP Monthly Average Grain Price in USD in 2016/17**



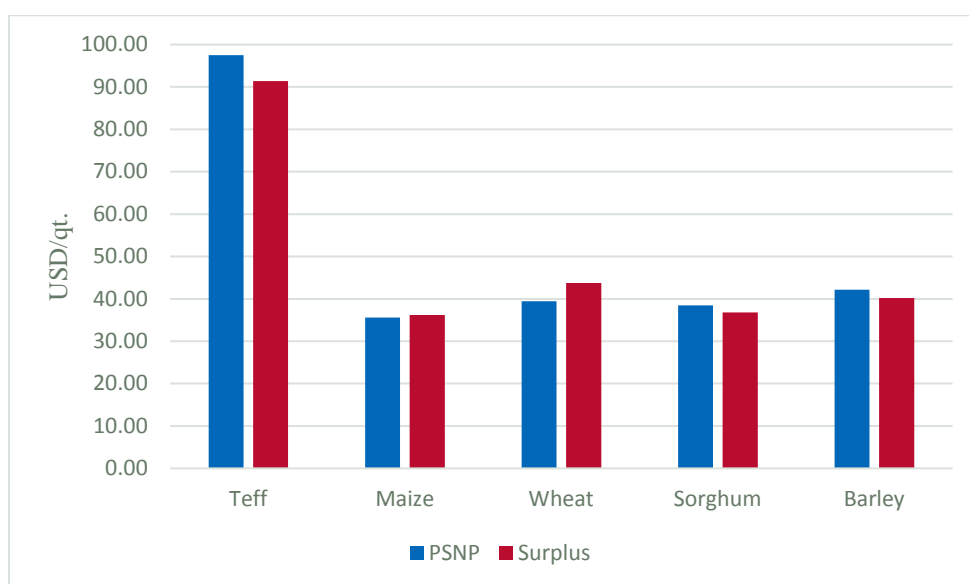
*Source: The SNNP Regional State Trade and Industry Bureau, 2017*

In 2017, wholesale maize prices have increased sharply from \$21.76 in 2016 to over \$39.17 in mid-2017. The increase of maize prices has triggered the increase of sorghum prices, a close substitute to maize. It has been confirmed from various sources that the main reason for this sharp increase in maize prices is Tanzania's maize export ban, which led to increased demand for maize within the region and expansion of cross border trade between Kenya and Ethiopia, exerting pressure on domestic maize prices. There was also an increase in exports to the Southern Africa countries.

### **Comparison of the Surplus and Deficit/PSNP woreda Grain Price**

Retail prices for the sample woredas were collected from the trade bureaus. Analysis of these prices reveal that cereal prices particularly prices of teff, sorghum and barley are slightly higher in deficit areas than in the surplus areas, Conversely, the wheat prices in the surplus areas are higher than prices in the PSNP woredas. Maize prices show very little variation between the surplus and deficit areas.

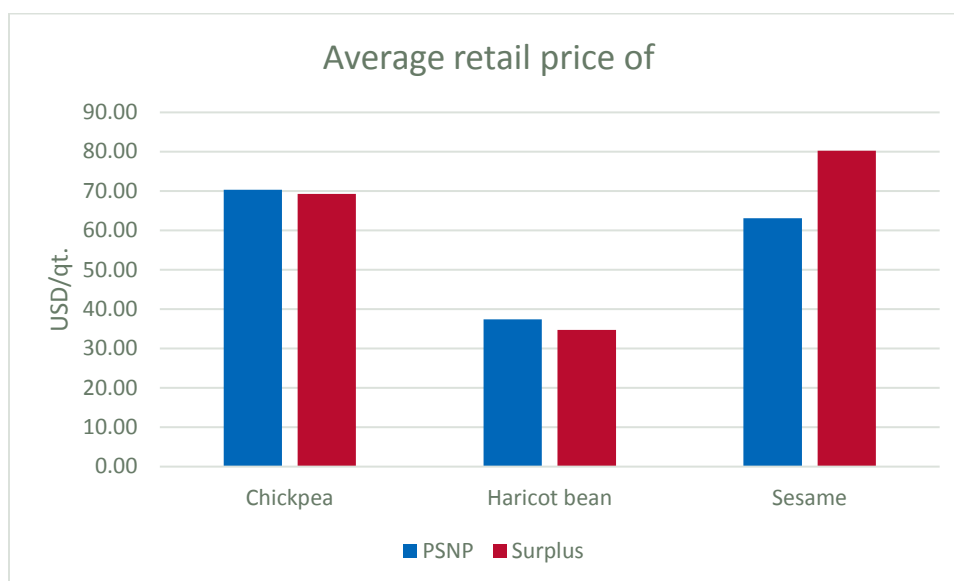
**Figure 27:** Comparison of cereal prices in PSNP and Surplus woredas



Source: Grain availability and market study (Bellmon estimation), Social Impact, August 2017.

Similarly, retail prices of chickpeas and haricot beans were also analyzed in both the PSNP and surplus woredas. As shown in Figure 28 below, there is no significant difference between prices of both chickpeas and haricot beans in PSNP and surplus woredas.

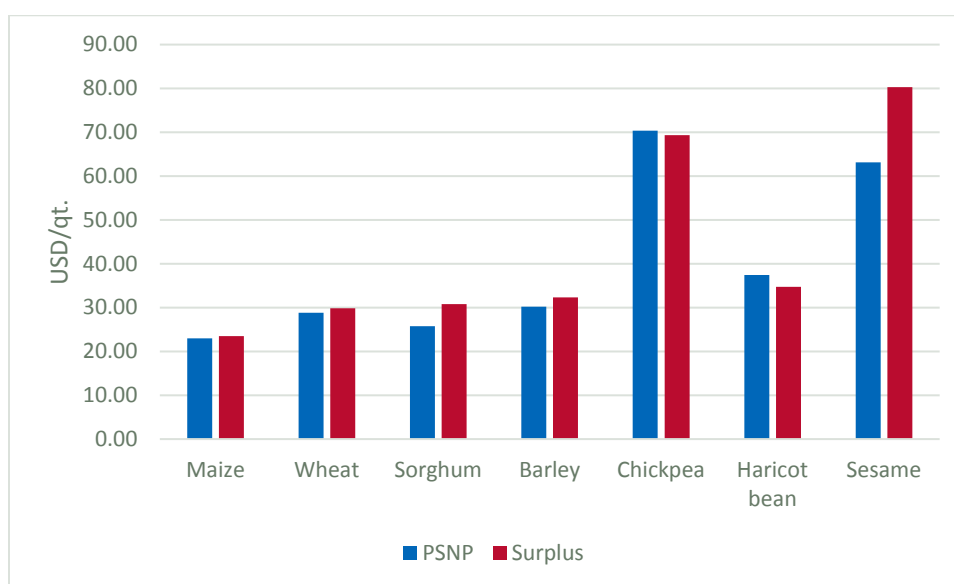
**Figure 28:** Retail price of pulse and oilseed (sesame) in PSNP and Surplus woredas



Source: Grain availability and market study (Bellmon estimation), Social Impact, August 2017.

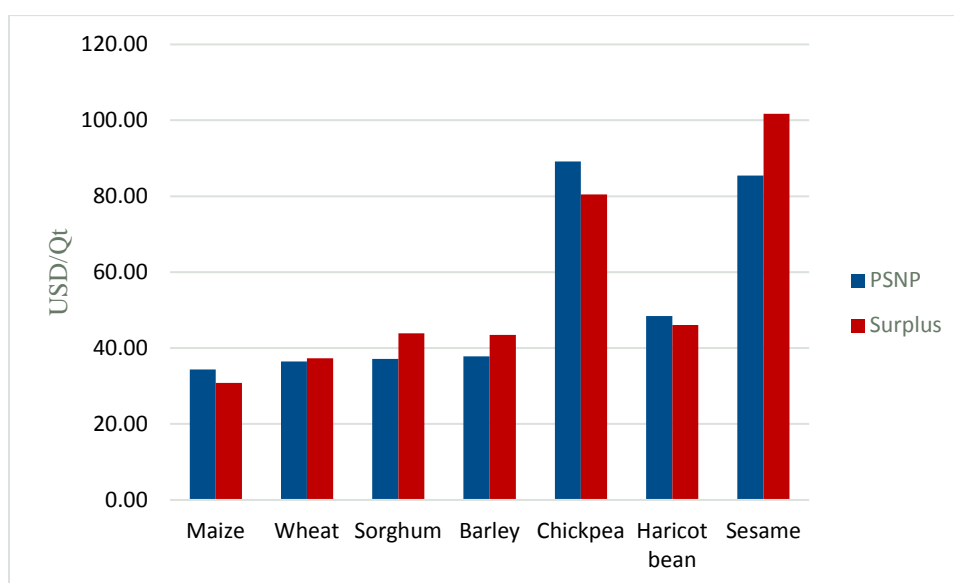
Food crop prices are higher during the lean season and lower immediately after harvest in both the surplus and deficit woredas. The difference between prices in PSNP and surplus woredas is minimal, except for sesame prices which are higher in the surplus woredas. In the lean season, pulse prices are generally higher in the PSNP woredas than the surplus woredas.

**Figure 29:** Average price of grain in PSNP and surplus woredas during harvest (USD/qt.)



Source: Grain availability and market study (Bellmon estimation), Social Impact, August 2017.

**Figure 30:** Average price of grain in PSNP and Surplus woredas in the lean season (USD/qt.)



Source: Grain availability and market study (Bellmon estimation), Social Impact, August 2017.

## 5.6. MARKET INTEGRATION AND FOOD GRAIN FLOW

The inter-regional flow of grain follows the market potential of regional markets and the woredas served by the respective regional markets. For instance, market observations and wholesaler interviewed in Shashemanne indicated that wholesale suppliers to the regional market buy wheat and barley from Bale and Arsi and sell to traders in the surrounding woredas and markets such as Hawassa, Sodo, Dilla, etc. in the SNNP Region. Similarly, wholesale traders in West Gojam zone buy teff and other major cereals from Bure to transport and sell in Mekele regional market. Grain flow to eastern Ethiopia, specifically Dire Dawa regional which is a deficit area; wholesalers buy teff from Addis Ababa

terminal market and the central region (Debre zeit, Adama, etc.), they transport and sell to traders and consumers in Dire Dawa (deficit area), Harar and other urban areas along Addis Ababa – East route.

Naturally, grain flows from surplus areas to the direction of deficit areas and markets with high demand or scarce supply. Owing to the differences between markets in their relative grain price, there will be unsatisfied excess demand in deficit areas causing price rise and hence trade link to supply grain from surplus areas. Findings from KILs and FGDs conducted in PSNP and non-PSNP woredas indicated the impact deficit have had on market linkage and integration. For instance, when the stock of PSNP woredas retail traders is exhausted, they look for supply from local traders who have warehouses to accumulate stocks. However, when the sources in their woreda are unavailable they do not even afford to source grain from nearby markets in the woreda, let alone to reach out to more remote traders or producers in surplus woredas. By contrast, retailers in non-PSNP woredas source mainly from surplus areas to meet their needs and to some extent from local traders with warehouses.

When the local sources of PSNP woreda traders become exhausted, they depend on large traders in nearby markets or surplus areas to replenish. In the PSNP woredas, retailers access grain mainly from traders who in turn purchase from large traders in surplus areas. In non-PSNP woredas, traders move cereals directly from surplus areas as well as large traders both in their woreda and surplus areas outside their woredas. With regards to grain movement, results from AKLDP highlights that Isuzu traders play a dominant role in non-PSNP areas where transport distances are generally shorter. They supply retail outlets and traders directly<sup>22</sup>.

Other factors that influence the level of market integration include market information about the demand - supply gap, relative grain price differences between locations and markets, information flow between surplus and deficit markets, the condition of road connecting surplus and deficit areas, the availability of transportation service and storage in the markets of deficit areas. Traders are attracted to areas where the essential goods and services for trade are readily available. To make Amhara markets more attractive to traders, the Regional trade office started providing market information to market actors and producers, facilitated stakeholder forums to enhance market linkages within the region.

## 5.7. LIMITING FACTORS

The main challenges to market integration are storage capacity limitation, transportation limitation and poor road conditions especially during the rainy season. The lack of storage capacity is one of the main problems facing cooperative unions and private traders in PSNP regions. The GoE recently built 11 storage facilities in South Omo zone and there are plans to build 133 standard stores to reduce losses in the near future.

In addition, most market actors in the PSNP areas do not own trucks, instead they rent trucks to transport and supply grain to the market. Poor road conditions in remote woredas not only make transport costs very high but limit the availability of transport services in the area. A combination of all these factors negatively impacts the day to day business operations of market actors in these areas.

## 5.8. GRAIN MOVEMENT

In general, the qualitative assessment and market observation of major regional markets shows the steady movement of grain between woredas, regional markets and from local to central markets. There are numerous factors which affect grain movement, either positively or negatively. While the

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<sup>22</sup> AKLDP (Agriculture, Knowledge, Learning, Documentation and Policy Project), 2016. Food Security in Ethiopia in 2016: Analyzing crop production and market functions after main Meher agricultural season. AKLDP, USAID/Ethiopia, Addis Ababa.

improvement in market performance facilitate the free movement of grain from high supply to deficit areas, the lack of other market conditions will hinder the smooth flow of grain between regions and areas. In general, large volumes of grain are supplied to markets at different level, from woreda to central and export market.

In addition to private traders, about 35 cooperative unions in the SNNP Region are engaged in grain trade. The type of grain each union trades differ according to the agro-ecological zone and the crops produced in their respective localities. However, maize followed by wheat are the major food grain traded by cooperative unions. A small volume of pulse (haricot bean and field pea) and oilseed (sesame) are the main commodities the unions supply to export market. According to the SNNP Region cooperative agency, 14 Unions have been supplying maize to WFP for over five years until the contract was terminated after 2015/16.

The SNNP and Amhara regions cooperative unions' grain supply provided in the tables below, which has generally followed an increasing trend, show the increase/growth in role of cooperatives in the grain market.

**Table 20:** Annual volume of SNNPR cooperative unions grain supply (2011/12 - 2015/16).

Crop types	Total volume (Ton/year)				
	2011/12	2012/13	2013/14	2014/15	2015/16
<b>Cereals</b>	31,461	45,735	100,332	100,114	12,425
<b>Pulses</b>	435	12,156	20,846	10,936	14,755
<b>Oilseeds</b>	390	1,142	1,269	8,288	2,641
<b>Total</b>	34,290	61,038	124,453	121,345	31,829

Source: SNNPR Trade Bureau

**Table 21:** Annual volume of Amhara cooperative unions grain supply (2012/13 - 2016/17)

Type of grain	Volume of grain supply to market (ton/year)				
	2012/13	2013/14	2014/16	2015/16	2016/17
<b>Wheat</b>	8,856	16,145	19,521	20377	21358
<b>Teff</b>	10,436	13,625	8,064	12,453	13,176
<b>Maize</b>	63,230	158,650	16,614	24,861	18,358
<b>Sorghum</b>	NA	NA	657	1,989	1,511
<b>Barley</b>	1,038	1,452	2,642	6,543	9,373
<b>Pulse</b>	1,953	3,271	3,563	5291.4	4,195
<b>Oilseed</b>	3,870	4,732	5,948	1,880	1,616
<b>Total</b>	89,383	197,875	57,009	73394	69,587

Source: Amhara Cooperative Agency

As a result, the marketing cost of private traders is higher because of the fee to be paid for brokers, grain assemblers and commission agents. Thus, it is likely that private traders' competitive position will be weakened because of higher marketing costs implying a lower profit margin.

## 5.9. MARKET CAPACITY AND TRADERS' ABILITY TO SUPPLY GRAIN

The availability of grain to consumers and households particularly in grain deficit areas depends on the capacity of markets to supply the type of grain consumers' demand at any specific time and the quantity

and quality of the product that will satisfy consumers' tastes and preferences. In return, the capacity of the market to supply the required grain in the amount and quality consumers demand depends on traders' ability to source, transport, store and avail grain to satisfy consumers demand at any specific time and location.

While the capacity of traders to avail the grain demanded remains a crucial factor, there are also other factors which determine the extent to which markets have the capacity to supply grain to consumers. Among the main factors affecting market capacity and traders' ability to supply grain are infrastructure condition including road linking markets to grain supply sources, market infrastructures and facilities. The analysis of main determinants of market capacities and the ability of traders to supply food grain to consumers is discussed below.

### **The Capacity of Market in PSNP and Surplus Woredas**

As stated already, transport services and road infrastructure, the availability of storage and other facilities are crucial for the normal functioning of grain markets. The capacity of market to increase grain availability to food insecure households depends on the level of market infrastructure development, especially the extent to which road conditions are passable to link the grain deficit and the surplus areas. Results from the KIs and FGDs conducted both in PSNP and surplus woredas, show that poor road conditions and the shortage of transportation are the main constraints to grain marketing in both locations. The findings from the assessment regarding the above factors affecting market capacity are discussed in more detail below.

#### **Transport**

The high transport cost is one of the reasons for the high grain marketing cost. Transport problem encompasses the shortage of transportation as well as road availability linking the grain surplus and deficit areas. From the perspective of grain deficit areas, transportation problem limits the inflow of grain from surplus areas to consumers while in the surplus areas; transportation challenges limit the outflow of grain to markets.

Seventy-two percent of wholesalers in the deficit areas and 87 percent in the surplus woredas have good access to transportation services. Thus, the lack of transport means is not by itself a problem affecting wholesaler grain supply but it affects grain supply in combination with the other factors, i.e., the shortage of storage, finance, etc.

KIs and FGD in several woreda confirmed that transport services are sufficient and road conditions are favorable to respond to increased demand for grain (Deder, Dire Dawa, etc.). However, even though transport services and road condition are favorable to respond to increased food demands, grain prices are very high due to long distance from the main sources of grain supply. For example, the main grain supply source for Dire Dawa is over 425 km away. An example of an area facing transportation challenges is Bure, a surplus producing woreda in Amhara. Transportation services in the woreda are affected by poor road conditions, which are impassible, especially during the rainy season.

In both cases, the lack of transport services, poor road conditions and the road distance between the grain deficit and grain surplus areas are the major constraints affecting market capacity to supply grain. The findings from studies conducted in the past provide evidences that support these findings. The grain market study on the response of Ethiopian cereal markets to liberalization indicated that the benefits of liberalization to producers have been relatively lower in the more remote areas with poor roads and market infrastructure<sup>23</sup>.

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<sup>23</sup> Asfaw Negassa and T.S. Jayne. Grain Market Research Project (GMRP), January 1997.

## Storage

Even if transportation facilities are available to deliver grain from surplus to deficit areas, the lack of grain storage and other facilities in the deficit areas will affect the capacity of market to increase grain supply. The situation in which market capacity to supply grain is constrained due to storage problem varies from one woreda to the other. Storage is a peculiar problem to neither the grain deficit nor surplus areas.

**PSNP woredas:** Chiro is a PSNP woreda which has storage with a capacity of about 3,600 quintals. It was also reported that wholesalers have a storage capacity of 10,000 tons, on average. Similarly, the findings from Dire Dawa (PSNP) reported that the woreda has storage with a capacity of 20,750 quintals while the storage capacity of traders is very limited. The RRA findings indicated that the lack of storage is not a common problem in all PSNP woredas.

**Surplus woredas:** The RRA reports from Dejen, East Este and Bure woredas are good examples of how storage affects market capacity to supply grain to the markets in surplus areas. KII and FGD in Dejen indicated that the lack of storage facilities along with poor road infrastructure and transport are serious constraints for the woreda to access foods through markets. For traders in East Este, the lack of storage facilities hampers their capacity to respond to increased demands.

## Traders' Financial Capacity

In both PSNP and surplus woredas, the financial capacity of traders and their access to finance is among the main factors affecting the movement of grain through the market.

## Access to Credit

Roughly 50 percent of the traders could access credit, although a significant proportion in all regions, especially Amhara and Oromia, did not need to do so. Only 20 percent of the traders were unable to access credit.

## 5.10. HOUSEHOLD ACCESS AND ABILITY TO ACCESS DIVERSIFIED FOOD SUPPLY

According to the RRA findings, consumers' purchasing power is one of the main factors traders consider when selling grain into a market or area. About 90 percent of wholesalers interviewed, 92 in PSNP areas and 89.7 percent in surplus woredas expressed the will to increase their grain stock if households had more purchasing power. The wholesalers' responses imply that the purchasing power of consumers is an important factor that traders consider in trading in an area. However, consumer purchasing power will attract traders only if the number of other traders already in a market is small because the presence of many traders in a market would suggest that there is a good supply of food commodities in the market.

The ability of households to access grain through market will also depend on the availability of grain in the market, which in turn will depend on the ability of traders to supply the food grain in the amount and quality consumers demand. This implies that traders should be able to get transport services and the storage facilities necessary to keep grain stock in regular supply to consumers at the target market. Also, grain traders are often unwilling to take risk to supply grain to deficit areas due to the weak purchasing power of consumers in the deficit areas.

Nevertheless, it has been noted from the RRA reports of numerous sample woredas in both PSNP and surplus areas that the affordability of grain price is crucial owing to the increase of grain prices in the current year, as compared to last year. Cereal prices have been high this year, especially maize and sorghum prices. This price increase made it less possible for the food insecure households who are also income poor to buy food from the market.



Distance to the nearest market is also a factor that could inhibit food insecure households to access a diversified diet. The average distance to the nearest market in the deficit area is 10.5 km and 8.36 km in the surplus woredas. However, regional analysis shows that markets were more accessible in Tigray and SNNPR than in Oromia and Amhara.

In areas affected by poor performance of the belg rains and the pastoral areas where production and reproduction performance of livestock have been staggered, it is unrealistic to expect that households have access to diversified food. This is the case for areas like the south and southeastern pastoral areas of the country (most parts of Somali, southern Oromia, and southern SNNPR), the lowlands of central and eastern Oromia, the Rift Valley of SNNPR, the lowlands of Waghimra & Abay river catchment of East Gojam Zone of Amhara, Tekeze River catchments of Tigray, Belg-dependent areas of South Tigray and South and North Wollo zones of Amhara Region.

In the case of the PSNP beneficiaries, and most likely relief beneficiaries, reduction of the food aid ration means reduction in diversity of the diet of the beneficiaries. It is known that due to resource limitation, at least the PSNP wage will no longer include pulses.

In most cases, diversity is limited to different types of grains, and it does not include vegetables, fruits and livestock products. For some of the areas like Halaba that grow pulses in addition to cereals, diversity is limited to what they grow on their farms like cereals and pulses, and this rarely include oilseeds.

Similarly, in Chiro, Gamachis and Guba Koricha, food deficit woredas in West Hararghe, it was estimated that about 90 to 95% of diet of the people is based on sorghum and maize. A similar situation was found in Asagirt (North Shewa). These were also confirmed by market observations as only cereals were sold in the markets. In these woredas, access to diversified foods, especially in Hararghe, is limited by economic reasons.

In the case of the surplus producing and in the highland parts of the country, the people have better access to diversified diet. This is due to the relatively good performance of the rains that enabled them to plant early maturing greeneries and better availability of feed that improved or maintained productive and reproductive performance of the livestock. The other possible reason is the recent increase in grain prices. Farmers in East Este Woreda reported diversification in their diet since the last two years owing to improvement in their income.

**In general**, even though awareness regarding importance of diet diversification is increasing, still there is limited access to and utilization of high value food items like fruits, vegetables, edible oils, and livestock products due to economic, cultural, religious and availability issues.

## 6. INCENTIVES AND DISINCENTIVES OF FOOD AID

This chapter briefly discusses the incentives and disincentives of food aid transfers in Ethiopia.

According to MoANR, food aid does not have negative impact if it is targeted properly and utilized wisely. When these conditions are fulfilled, food aid has demonstrated the potential for enhancing food production and natural resource conservation, in addition to filling food and nutrition gaps. Food aid distribution modality has improved over the years. The slow but sure move to cash only and cash/food mix and timing of distributions are beneficial to the communities. At present and in the near future, Ethiopia will still need food aid; what determines its effectiveness is how it is given out.

Interviews with woreda agricultural offices also reveal the same positive view about food aid. They argue that food aid transfers have enhanced local production by enabling beneficiary farmers to put more time and effort in agricultural production and to also save their produce for the next season.

However, a few key informants and farmers felt that imported food aid commodities can affect local production by discouraging local producers as increased supply in the market brings about lower grain prices.

### Effects on grain market and prices

The food aid transfer is playing a critical role in regulating food grain prices in local markets through the supply of commodities to households. For example, key informants in Amhara region cited that food distribution made in June, July and August last year helped to lower the high food prices observed in the local market during that period.

Some key informants believe local grain purchase should be preferred as it entails positive multiplier effects on production, resource utilization, if food is adequately available in the local market.

The implementing partners have well established system and an early warning department that monitors markets monthly. In the past, prices have increased following a cash transfer but this happens only in the first couple of weeks after the cash is distributed to the households. Very small increases in prices occur during these initial weeks.

### Effects on natural resources

The most visible effect of the food for work program is the rehabilitation and conservation of natural resources. Irrigation scheme have either been developed and rehabilitated using food aid resources. In addition, the presences of food aid conservation programs have helped minimize deforestation through firewood and charcoal sales.

### Effects on food security

The amount of food aid transferred has been too small to make significant changes. However, the food aid has enabled beneficiary households to smoothen their consumption needs during times of rising prices. The RRA showed that food insecure households produce food crops enough to feed the family for a mean of 4.3 months; and food aid keeps them for another 5.5 months. They depend on other sources to cover the deficit. The average food transfer per person is a maximum of 90 kg in a year, which is not enough for poor households to get out of the food poverty trap. The FGD also showed some beneficiary households have stayed under food aid support for about 17 years, which is an unacceptably long period of time to be under a food aid program.

Beneficiary households in many places graduated too early without developing adequate capacity to withstand shocks. As reported by woreda office of agriculture, many of these households are readmitted to PSNP program.

### Effects on food pattern/consumption habit

Wheat is the major commodity through which food aid is transferred to beneficiary households. It has been consumed in food aid receiving communities for decades. Thus, the distribution of Title II commodities will not change the consumption habit or taste of the local population in food aid target areas.

In general, 80 percent of Title II commodities are from food for work (FFW) programs and 20 percent from free distribution of food. Food aid transfers will likely not cause any disincentive effects in local producers and local markets and will not exert substantial impact in the near future because:

1. Local demand for Title II commodities is much higher than local production;
2. The supply of food aid commodities is too small to create any significant impact; and
3. Daily wage rate in FFW employment is much less than the average daily wage rates in the target regions and hence there is no any indication that farmers are employed in FFW program at the expense of neglecting household food production. The average daily wage for unskilled labor collected in the regions is much higher than the FFW payment rate, which is less than \$2.18 (see Table 22).

**Table 22: Average Daily Wage in study regions**

Number of FGDs	Frequency	Average daily wage rate for unskilled labor in USD	Minimum daily wage rate for unskilled labor in USD	Maximum daily wage rate in USD
Deficit areas	68	3.25	1.09	5.44
Surplus areas	40	3.48	1.31	8.70

Source: RRA 2017

## 6.1. CASH-ONLY TRANSFERS AND CEREALS-ONLY FOOD BASKET

Impact of PSNP cash and food transfers has been assessed and analyzed. Short-term and transitory inflationary pressures are evident in the market immediately after a cash transfer. Such impacts generally last for about 2 weeks. Traders reported that overall, food aid was beneficial to business and that food transfers helped to stabilize the market and were willing to preposition stocks to increase sales in the event of a cash transfer.

There is a mixed reaction to the distribution of food or cash transfers. Of the households surveyed, 10 percent preferred cash only, 20% preferred food only and 70 percent preferred a mix of cash and food. They prefer to get food in the lean season and cash when food supply is available in the market. Those who preferred food reported that the cash was not enough to meet their food needs and in some cases food was not available in the market for purchase. Twenty-five percent of these households reported that sometimes food was not available in the market for purchase. Those who preferred cash like the benefit of being able to buy basic needs other than food. The team recommends that food distributions be made during the lean season and cash transferred during seasons when food is available in the market.

The main concern of a cereal-only basket for distribution is the loss of wages since the amount of cash transferred is determined by the ration of the food distributed. Cereals are usually available in the

markets and beneficiaries would prefer a more diversified ration. According to WVI, most of the beneficiaries would prefer that edible oil be returned into the food basket.

During the field visit, the study team heard that beneficiaries valued wheat rations because of taste, durability against spoilage, and as a larger asset transfer than the same quantity of sorghum (a cheaper, less preferred cereal). Interviewees noted that beneficiaries infrequently self-monetized wheat rations to meet cash needs and/or to purchase larger quantities of sorghum. Beneficiaries also seemed to value edible oil in their ration.

## 7. ADEQUACY OF PORTS, STORAGE, AND INLAND TRANSPORTATION

This chapter reviews the adequacy of ports, storage, and inland transport for the purposes of a FY18 Bellmon determination for Ethiopia. Findings are based on interviews in and around Addis Ababa, a review of secondary data and reports, and interviews with key informant.

### 7.1. PORTS

The landlocked Ethiopia currently uses four ports at different extents: Port of Djibouti, Port of Barbara, Port Sudan and Mombasa Port. Capacity of these ports and extent of use by Ethiopia are briefly discussed under the following paragraphs.

#### Port of Djibouti

Ethiopia relies on the Port of Djibouti to handle about 95 percent of its foreign trade turnover; and 70 percent of the cargo at the port is shipped to or from Ethiopia. This port is managed by Djibouti Ports SA (a public enterprise) in partnership with China Market Holding International. It annually handles an estimated seven million MT freight. Of this, about 20 percent is bulk food. The bulk terminal of the port can accommodate three vessels of 50,000 MT at three of its berths at a time. One of the three berths are used exclusively for grain; and it includes quayside storage of 30,000MT. The second berth can be used for grain, but it is also used to offload fertilizer and has quayside storage of 45,000MT. The third berth can be used for either grain or fertilizer.

In addition to the three bulk berths, other three berths can also be used to offload either bagged or bulk cargo. They are served by individual quays that are parallel to and offset from the main wharf. Other three berths are multipurpose berths of shallower depth that can also be used for both bulk and bagged cargo. Of the remaining berths, two are used for container freight; one is used for roll-on-roll-off cargo; one is used for naval vessels; and two are used for dhows and small commercial vessels.

The port, therefore, could potentially at a time accommodate six 50,000MT vessels and another three 30,000MT vessels carrying food. Practically, however, due to other competing demands, vessels offload food commodities at most at four berths at any one time. However, the port does not always function at its full capacity and discharge shipments due to different technical and logistic problems that are directly related to the port itself (discharging difficulties) and those related to logistics capacities in Ethiopia.

Notwithstanding all these, Port of Djibouti had been the only import-export route of Ethiopia including times when the country simultaneously imported huge amount of food aid commodities and chemical fertilizers (in addition to other commodities). Since then, however, some other alternatives are being used.

#### Doraleh Multi-Purpose Port

The Port of Doraleh, inaugurated in 2017 with a total annual capacity of 8,779,000 MT per year, is an extension of the Port of Djibouti. The multipurpose port has terminals for handling oil, bulk cargo, and containers. It is owned and operated by DP World and China Merchants Holdings.

The Port has a total of 15 berths over a 4km-long quay. All the terminals have direct access to the Addis Ababa–Djibouti Railway that was inaugurated in 2017; and which provides landlocked Ethiopia with railroad access to the sea. The capacity of the port includes 20-hectare area for Bulk Terminal and 57 hectares for General Cargo Yard. The mass terminal of the Doraleh port can handle 2 million in cargo

MT per year. It also offers space to store 100,000 MT of fertilizer, grains and warehouses for other goods, as well as handle 6 million MT of cargo per year.

### **Berbera Port**

Ethiopia in February 2015 started using Berbera Port on an agreement reached between the two countries in January the same year. This port serves Somaliland and the eastern portions of Ethiopia. The port has an annual cargo capacity of 1.2 million MT; and it possesses nominal capacity to accommodate up to four bulk grain ships of 25,000 MT at a time. However, realizing this potential is limited by its limited discharge capacity, which is a bagging capacity of only 1,200MT per day. Absence of other quayside bulk offloading equipment is the other problem. Consequently, the port practically handles one 25,000MT bulk grain ship at a time and for about a month. Nevertheless, this port is often used by WFP and government of Ethiopia. The latter has plans to increase its use of the port.

### **Port Sudan**

Port Sudan has a capacity of handling 9 million MT of bulk cargo per year. This port is a well-equipped facility. It is divided into three areas: The North Port with 15 berths handles bulk cargoes including grain, cement, oil, and molasses. The South Port with four berths handles bulk grain, containers, and oil products, and a roll-on-roll-off berth. The third one (Green Harbor) has got four berths and handle dry bulk (fertilizer and grains), seeds, and containers. These areas also have alongside storage and discharging facilities.

Ethiopia started using Port Sudan for the importation of 50,000MT of fertilizer in early 2015. Since then, it has been increasingly used for importing bulk of chemical fertilizers and some other commodities including petroleum.

### **Mombasa Port**

Mombasa is located on the east coast of Africa approximately midway between the South African Port of Durban and major ports in the Red Sea and the Middle East. It is Kenya's and indeed East Africa's biggest and busiest seaport. The port is the main gateway to East and Central Africa serving a vast hinterland of more than 120 million people in Kenya, Uganda, Rwanda, Burundi, Eastern DRC, South Sudan, Ethiopia, Somalia and Northern Tanzania. The main port has 19 berths comprising of one bulk grain terminal, two oil terminals/jetties, four container berths and 12 general cargo berths.

Even though the extent is not clearly known, Ethiopia has also started using Mombasa Port.

### **Implications of the assessment**

Since the Ethio-Eritrean war, Ethiopia relied on Port of Djibouti for its imports and exports. The use, however, is constrained by many factors that include those related to the port itself (like discharging capacity) and those that are related to the country (Ethiopia) like the port to destination transport and unloading capacities. However, the port problems do not seem to be as important as they were in the past during 2017/18 due to the following developments.

- The following two developments could significantly ease the discharging capacity limitation faced when only Port of Djibouti was used:
  - Development of Doraleh Multipurpose Port which, among many others, is linked to the Ethio-Djibouti railway; and
  - Change of strategy by the government and use of additional three ports (Barbara, Port Sudan and Mombasa).
- The near completion of the newly developed Addis Ababa-Djibouti railway that has been on test run since November 2016. Connected to Doraleh Port, the railway was used in December/January (2015/16) for transporting food aid from the port to hinterland. It is planned

to start commercial operation in the coming year. This development is believed to enhance cargo movement due to it's up to 3,000MT capacity which is equal to capacity of 75 trucks of 40MT capacity each. The other is its speed as it is believed to cut the 24 hours train and about six-day truck journey to 10 hours.

- The new strategy set by the government to purchase fertilizer early and directly from the producers would ease the port and transport congestion traditionally faced when fertilizer and food aid grain are imported at the same time.
- The decline in grain import to Ethiopia due to reasons that include: decline in use of food for food aid interventions and increased local purchase. The better production expected in 2017/18 and the lower grain import planned for the year could also be counted in this regard.
- In addition to better availability of commercial freighters and those of others like WFP, possibility to mobilize trucks available at other companies (like those of Midrock and Dangote) in the case of emergency.

Therefore, port capacity will not be challenge for import of food aid commodities in 2017/18.

## 7.2. INLAND STORAGE

Storage warehouses exist both within Ethiopia and at Djibouti port. According to the 2016 Bellmon, Djibouti has 16 warehouses with a total storage capacity of 250,000 MT of bagged grain, while the bulk terminal has quayside bulk storage capacity of 30,000 MT of grain. In total, Djibouti port has 280,000 MT of storage capacity. Storage in these facilities incur demurrage, it is therefore of great importance that FFP IP should have adequate storage capacity to handle the anticipated volume of food aid.

It is estimated that there is nearly 1.8 million MT storage capacity owned by different entities nationally. Major Stores are owned by Government, Public Enterprises, Private Commercial Companies and Individual Traders. Six main groups have primary storage within Ethiopia:

1. NGOs – CRS, REST, WVI, Food for the hungry Ethiopia, CARE, Save the Children, ORDA etc.
2. SFRA
3. EGTE
4. MoANR
5. WFP
6. Traders

The table below shows the storage capacity of each of these organizations.

**Table 23: Storage Capacity in Ethiopia**

Organization	Storage Capacity (MT)
<b>SFRA</b>	316,100
<b>EGTE</b>	800,000
<b>NGOs</b>	291,829
<b>WFP</b>	220,000
<b>MoANR</b>	154,000
<b>Total</b>	<b>1,781,929</b>

Source: RRA 2017

In many cases, storage is rented, although REST owns most of it storage facilities, especially in the FDPs.

Some of these storage capacities will be used to store food aid other than Title II development food aid. Emergency food aid (JEOP) will also be stored at the same facilities, essentially doubling the amount of



food volumes. But since stocks are rotated within a month period, the total volume can still be accommodated within the available capacity without difficulty.

The main challenge facing IPs is the geographic distribution of these facilities. Most of these storage facilities are located in the bigger towns of Addis Ababa, Nazareth and Kombolcha and limited storage capacity at the woreda and FDP levels. Regions such as Tigray need a substantial amount of food supply, meaning that there is need for grain redistribution between storage facilities. At the same time, some of these facilities do not meet the minimum requirement standards for food storage and need renovations.

### 7.3. INLAND TRANSPORTATION

According to data from WFP, there are a total of 10,954 trucks registered at Federal level. Of these registered trucks, only 5,653 or 52% have 30 to 40MT loading capacity and less than 10 years' age. 1,367 trucks, or 12%, have the same capacity but their age ranges between 10 and 20 years. See the table below for age and loading capacity of trucks registered at Federal level.

**Table 24: Dry Cargo Haulage Capacity**

< 10 Years		> 10 < 20 years		> 20 years		Total
30-40 MT	20-30 MT	30-40 MT	20-30 MT	30-40 MT	20-30 MT	
5,653	705	1,367	906	714	1,609	10,954

Source: WFP

There are only about 1,500 40-45t trucks that move grain between Djibouti and the main discharge points in Ethiopia (especially Nazareth, Desie and Kombolcha) (United States Agency for International Development, 2016). The report concludes that the main factor that affects inland transportation of grain is the minimum time needed for a round trip for a truck to load and discharge grain. The minimum round trip depends greatly on the time it takes to offload at the destination warehouse and this frequently exceeds the single day allowed for in the standard minimum figure. To ensure that the rate of truck availability does not impair the port's discharge rate, it will be important to ensure trucks are adequately distributed amongst warehouses and to maximize offloading capacity of each warehouse (United States Agency for International Development, 2016).

Ethiopia's dry cargo sector continues to experience regular capacity deficits, which can be mitigated by increasing the number of trucks available.

#### Railway

Rail transport in Ethiopia currently consists of one electrified standard gauge rail line, connecting the Djibouti Port with Addis Ababa, stretching 671 km inside Ethiopia and 82 km in Djibouti. According to Ethiopia Railway Corporation, it's expected to cover around 40 – 50 % of the total import cargo transport when it comes to full capacity service. Though it's not currently fully operational it has an available capacity of 39 (32 for freight service) electric locomotives and about 1,100 wagons. A train can carry up to 3000 MT of cargo.

Though some grain was moved by rail in December 2015 and January 2016 to aid with food aid transportation, shipments are sporadic due to the need to offload before reaching Addis Ababa. Some sections of the rail have yet to be completed. The railway line was built without having access roads, truck lines, storage facilities and dry ports in mind (BERHANE, 2017). No truck lines exist to the three different terminals at Port of Doraleh (Bekele, 2016). The construction of the Dire Dawa Dry port with a truck line commenced in March 2017 (BERHANE, 2017). The construction of a truck line to Modjo



Dry port is well underway (May 2017) but visibly far from being commissioned (Lines, 2017). The missing facilities and truck lines within the Port of Doraleh are soon to be built through a combined effort of the two governments of Djibouti and Ethiopia. The very new Djibouti Multipurpose Terminal is now connected to the railway through a truck line.

## 8. FINDINGS AND CONCLUSIONS

### FOOD BALANCE

On average, domestic production covers nearly 90 percent of the food requirements of the Ethiopian population. Food deficit ranges from 6.2 percent in 2015/16 to 21.4 percent in 2013/14. The level of food self-sufficiency through local production has been fluctuating during 2012/13 to present. The food gap was wider in 2012/13 at 16.3 percent and 21.4 percent in 2013/14. We also note that food imports (both concessional and food aid) were instrumental in narrowing this food gap. In 2017/18, food supply is estimated at 31.45 million MT and only 19.5 million MT is available for human consumption. This level of consumption will be possible if the government and donors import 987,314 MT - of cereal equivalent food grains. The annual per capita amount of food supplied is estimated at 202.6kg which is lower than the minimum requirement threshold of 218kg.

The single most concerning aspect of imports is their current level of insufficiency. If the anticipated level of import is not attained, then food supply will be inadequate and will most seriously affect those who depend on food aid transfers.

### MARKET PERFORMANCE

While there have been a number of positive developments in the agricultural sector, the private market's capacity to meet localized food deficits is uneven and limited by poor market information and poor access to credit. That said, even if domestic supplies increase, the flow of goods to deficit areas would remain hampered by weak price signals due to lack of consumer purchasing power especially among the rural poor.

While the longer-term solutions to enhancing market performance will rely on overall investment in agriculture, infrastructure, and development of income-generating opportunities, in the near-term, continued in-kind support through the PSNP will be necessary.

Price and food aid shipment data to Ethiopia suggest that food aid transfers should be tightly aligned to local production shortfalls to avoid price-dampening effects on wheat and maize markets throughout Ethiopia.

### PSNP CASH AND CASH/FOOD DISTRIBUTIONS

A cash transfer to PSNP households in deficit areas can provide incentives for traders to move grain from surplus to deficit regions. If the value of the cash transfer is either set too low or eroded by inflation over time, as is currently the case with the PSNP cash transfer, the cash transfers will not increase effective demand as much as the PSNP intends. Faced with a weakened signal, traders will only react to opportunities for spatial arbitrage in some proportion to the increase in effective demand (after accounting for relative transportation and other transaction costs potential traders face).

Most PSNP beneficiaries strongly prefer a mixed cash and food ration because the value of cash ration continues to be eroded by inflation. Until inflation is much lower, and/or the amount of cash transfer is adjusted upwards more frequently to account for loss of purchasing power, this beneficiary preference for a mix of food and cash or food only should continue.

### COMMODITY BASKET

To avoid creating a substantial disincentive to production or disrupting local markets, the selection of commodities for distribution should be based on local market conditions, consumer preferences

(particularly the strength of those preference and beneficiary willingness to substitute food for another). Given the size of the country, the heterogeneity of livelihoods and food preferences, and the uneven performance of food markets across the country, it will be incumbent upon potential IP to develop a thorough understanding of local conditions in the areas in which they expect to distribute food aid.

During the field visit, the study team heard that beneficiaries valued wheat rations because of taste, durability against spoilage, and as a larger asset transfer than the same quantity of sorghum (a cheaper, less preferred cereal). Interviewees noted that beneficiaries infrequently self-monetized wheat rations to meet cash needs and/or to purchase larger quantities of sorghum. Beneficiaries also seemed to value edible oil in their ration.

The main concern for a cereal-only basket for distribution was the loss of wages since the amount of cash transferred is determined by the ration of the food distributed. Beneficiaries also voiced that cereals are usually available in the markets and they would prefer a more diversified ration. A change in the food-basket is not recommended at this time.

## PORTS, TRANSPORTATION, AND STORAGE

For the purposes of the FY18 Bellmon determination, the study team finds that Djibouti Port is a good primary port for USG food aid imports. USG food aid destined for Ethiopia is given priority, and the port is currently the port of choice for a majority of food aid shipments to Ethiopia.

Djibouti will continue to be the port of choice in spite of its congestion, which is largely caused by Ethiopia's growing demands on Djibouti Port as well as Ethiopia's customs procedure implementation and transport policies. A small and ageing truck fleet, often controlled by government priorities, and delays with customs processing procedures, were the most quoted reasons for clearance delays and long delivery lead times by those interviewed in logistics and related industries.

Port Sudan is a viable option for deliveries to north western Ethiopia, while Berbera is an excellent option for eastern Ethiopian food aid deliveries, particularly to Somali Region. Port Sudan is arguably the most efficient port of the three and its national heavy truck fleet is very responsive and modern. Sudan has a thriving private sector and aggressive service providers. However, the weight restrictions on Ethiopian roads (as discussed above) raise transport costs and delivery time. If cargo is headed south of Gonder, costs will further increase, as there is only one road in good shape, which follows a long and indirect path to Addis. Again, Ethiopian customs and cross border entry procedures and the ageing Ethiopian truck fleet slow down the process. A rail link from Gedaref to Gonder should be a bilateral consideration.

Berbera Port is the smallest of the three and in need of upgraded infrastructure and machinery. However, the port functions with ingenuity to maintain efficiency.

Somaliland has an adequate truck fleet that assures timely delivery from Berbera to eastern Ethiopia. As with Djibouti, operations would benefit from a liberalized transport sector.

# ANNEXES

# ANNEX I: STATEMENT OF WORK

## USAID STATEMENT OF WORK

### POST MEHER AND BELG PRODUCTION ESTIMATE AND MARKET ANALYSIS FOR MAJOR FOOD CROPS IN ETHIOPIA

#### FY 2017 Ethiopia

#### I. Background

As mandated by Congress, prior to the approval of a proposed US food aid program in a recipient country, the USG must make a positive 'Bellmon Determination' that:

- A. for the proposed country food aid program:
  - (1) Adequate storage facilities will be available in the recipient country at the time of the arrival of the commodity to prevent the spoilage or waste of the commodity; and
  - (2) The distribution of the commodity in the recipient country will not result in a substantial disincentive to or interference with domestic production or marketing in that country; and
- B. Impact on local farmers and economy – The Secretary or the Administrator, as appropriate, shall ensure that the importation of United States agricultural commodities and the use of local currencies for development purposes will not have a disruptive impact on the farmers or the local economy of the recipient country.

Food for Peace/Washington (FFP/W) currently complies with this legislation by commissioning market analyses to enable USAID to make Bellmon determinations.

Over the years, USAID/Ethiopia has routinely commissioned in-depth Bellmon analyses to inform program design, and to help ensure that FFP programs in Ethiopia are well targeted and are thus not having a substantial negative impact on markets or local production incentives, as required by the Bellmon legislation.

In addition to in-kind food transfers, USAID/Ethiopia introduced cash transfers to beneficiaries under the Productive Safety Net Program IV (PSNP IV) beginning in FY 2017 in one Woreda, with a possibility to expand to other Woredas in the coming year. As such, USAID is interested in analyzing the market's ability to respond to increased disposable income and the feasibility of cash distributions to beneficiaries in operational areas.

Although the Bellmon requirement pertains only to Title II resources, and not to non-Title II food assistance, USAID's support to Ethiopia hinges on the fact that the resources delivered are need-based and that the distribution of the commodities in the recipient country will not result in a substantial disincentive to or interference with domestic production or marketing in that country. Therefore, the SOW for this Bellmon Analysis Update is intended to produce information that will enable USAID/Ethiopia and Food for Peace/Washington to determine the appropriate food-cash mix of transfers for the next cycle of Development Food Security Activities (DFSAs).

#### II. Title II Development Food Security and Emergency Relief Assistance in Ethiopia

The PSNP is a large-scale, GoE-implemented, multi-donor funded food security programs designed to address the root causes of chronic food insecurity in Ethiopia. The current phase, PSNP IV, started in 2016, ending in 2020, with a budget of over \$3 billion USD financed by ten donors. The PSNP 4 has a

program goal of ***Resilience to shocks and livelihoods enhanced and food security and nutrition improved for rural households vulnerable to food insecurity***. PSNP 4 aims to support the transition from a series of time-bound programs to the development of an efficient and effective system for delivering elements of social protection, disaster risk management, and integration of access to livelihood and nutrition services. PSNP IV provides cash and/or food payments to close to 8 million chronically food insecure households in 329 districts of Ethiopia. Since its launch in 2005, the programs have significantly improved the food security status of chronically food insecure households in rural Ethiopia. In the highlands, participants in the PSNP have seen their average months of food insecurity reduced from 3.6 months per year in 2006 to 2 months in 2012. However, due to the absorption of significant number of repeat transitory caseloads into the PSNP phase, the 2016 PSNP baseline shows a 2.5 months food gap on average in the highland regions.

USAID has supported the PSNP since its inception in 2005 and is the biggest bilateral donor to the PSNP, contributing approximately 16 percent of the total budget for 2017-2021 implementations (USD \$567 million), pending availability of funds. This support mainly consists of food transfers using Title II Development Food Security Activities (DFSA) provided through four NGO partners, namely, Catholic Relief Services, Food for the Hungry Ethiopia, Relief Society of Tigray (REST) and World Vision International (WVI) through July 2021. In the 2017 PSNP cycle, USAID partners are approved to provide food transfers to 1.3 million PSNP IV base beneficiaries and in Amhara, Oromia, and Tigray Regions and Dire Dawa Administrative region of Ethiopia. In 2016/2017, 116,000 metric tons (MT) of Title II development food commodities that consists 91,600 MT of wheat and 24,400 MT of pulses are approved to be distributed in 39 CFI districts.

PSNP IV is built on a “cash first” principle that states, whenever possible, cash should be the primary form of transfer. The PSNP transfer/payment amount is determined by a yearly wage rate study, and a wage rate that is equivalent to 15 kgs of cereal and 4 kgs of pulses per months per beneficiary transferred to clients. It is believed that the use of cash stimulates markets, since people spend their cash in local markets, and supports a move away from dependence on food and/or cash assistance. Food transfers are provided at times and places when food is not available in the market, or where market prices for food are very high to protect beneficiaries from food shortages and asset depletion.

Following the Meher assessment of late 2016, the Humanitarian Response Document (HRD) issued in January 2017 required humanitarian food assistance to 5.6 million beneficiaries. Further, the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), in its May 02 Weekly Humanitarian Bulletin, stated that the performance of the spring/belg-gu rains in the already drought affected lowland areas as well as other highland areas are poor which could result in an increase in humanitarian needs. As of 02 May 2017, the number of people receiving relief food assistance has already increased to 7.78 million from the initial 5.6 million.

Title II emergency assistance in Ethiopia is delivered through the CRS-led Joint Emergency Operation Program (JEOP) and the World Food Program’s “Hubs & Spokes” operation in Somali region. JEOP provides relief food assistance to transitory or acutely food-insecure people in up to 76 Woredas. JEOP is led by Catholic Relief Services and implemented by a consortium of NGO partners, including CARE, Food for the Hungry Ethiopia, Hararghe Catholic Secretariat, Meki Catholic Secretariat, Relief Society of Tigray, Save the Children, and World Vision International. The Humanitarian Requirements Document determines the JEOP beneficiary caseload. Unlike the PSNP, JEOP beneficiaries may vary by round, depending on assessed/ad-hoc needs. JEOP is currently funded for nine rounds in 2017 with 124,700 MT of commodities with three types of commodities in a basket- 15 kgs of wheat, 1.5 kgs of pulses and ½ a liter (0.45 kg) of vegetable oil.

### **III. Wheat Supply Outlook- GAIN’s Report**

Wheat is considered a strategic grain that is vital to ensure Ethiopia's food security. Consequently, the Government of Ethiopia's (GoE) seeks to increase national production, with the intent of reducing its dependence on wheat imports. However, the demand for wheat is growing faster than the country's production capacity, which for the foreseeable future will make wheat imports a necessity. The government currently controls wheat imports, except for donor-provided wheat, and subsidizes a certain portion of the wheat being used to make bread in the major city centers. In the future, the GoE is expected to gradually withdraw from this subsidy scheme given its growing cost, and gradually open the import market to private players. However, the local millers' and other private importers ability to secure adequate foreign exchange in a timely fashion will, to a large extent, determine the success of such liberalization.

The US Foreign Agricultural Service, in its 2017 GAIN Report, provides an estimate of 3.9 million metric tons of wheat production in Ethiopia for 2016/17 which is 400,000 metric tons higher than the FAS production estimate figure for 2015/16. The 2016/17 year increase was largely attributed to more favorable growing conditions in the main wheat-growing areas of the country. GAIN reported that the Government of Ethiopia's (GoE) production estimate for the same period is 4.2 million metric tons, which is nearly the same as the figure reported in 2014/15 when growing conditions were much better, which was production without the El-Niño drought.

The GoE imports a significant quantity of wheat; in 2016/17 it is estimated that GoE's imports would reach up to 1.5 million metric tons. Currently, close to 1 million metric tons of GoE wheat procurements have been contracted and/or delivered with more expected in the coming months. This amount includes the government's recent purchase of 400,000 metric tons of imported wheat. The price paid for this imported wheat was about \$225/MT, which is about half the price of locally-grown wheat. Government-purchased wheat is used for price stabilization (i.e. bread subsidy for urban poor), food assistance, and the replenishment of the country's strategic grain reserve.

GAIN reports that wheat demand continues to outpace domestic production capacity as evidenced by the need to import. However, consumption is partially held in check in large part because of the government's current import controls and its bread subsidy scheme. Nonetheless, wheat consumption is expected to continue growing. This growth is fueled by rising consumer income, urbanization, and changing diets.

#### **IV. Study Objective**

The overall objective of the study is to provide sufficient information about current and anticipated local market dynamics in Ethiopia to enable USAID to make a Bellmon determination regarding potential Title II distributed food and possible cash transfers for FY 2018 programs. To achieve that objective, USAID requires the best available evidence of the market demand and supply situation for 2016/2017, as well as an estimate for 2017/2018. The study must provide detailed updates on production and availability of major crops, affordability of staple foods, and the markets' ability to respond to an increase in effective demand without undue upwards pressure on retail prices.

Moreover, the study will assist to design improved food security programming in Ethiopia by informing USAID's decisions about the appropriateness of transitioning to cash transfers as the preferred mode of food assistance in most of the highland areas.

#### **V. Research Tasks and Timeline**

Ethiopia's highland areas have been hit by a severe El-Niño drought in 2015/2016, and in 2016/2017 the lowlands of Ethiopia are suffering from the La-Niña dry effect which is also expanding to some highland areas. USAID/Ethiopia Mission and USAID/FFP/Washington is to understand the impacts of these consecutive droughts on production and the supply and demand of food in various markets. The analysis

will focus on answering key questions listed below, but not limited to, to estimate food availability and access situation the country and inform USAID's strategic approach in Title II-funded development programs in Ethiopia:

1. Ethiopia's current production performance of major food crops and aggregate food availability situation;
  - a. quantity available from local production, GoE and private sector imports, and food aid and other sources (e.g., government-to-government donations)
2. How are markets performing, especially in food deficit areas? Who are the major market players in the key cereal, pulses and oil markets? What are the typical marketing channels? For the main participants in the chain, what is their potential market power to set prices? Markets locations (distance – mainly for food deficit areas), market infrastructure conditions?
3. What is the government role in markets, and what formal and informal policies affect market capacity to supply food?
4. What factors could inhibit the ability of food insecure households to access food through markets and ability of food insecure households (HH) to access a healthy diet at affordable prices?
5. What is the level of risk of households' food security, now and in the near term, due to the withdrawal of food-based assistance from Title II-supported PNSP Woredas, or the shift from cereal and pulses food basket to cereal only food basket?
6. What capacity do traders have to respond to an increase in demand without putting upwards pressure on prices? Is there any risk of significant inflation in local markets should Title II programs shift to more cash in current Title II-supported highland regions/Woredas? If so, which regions/Woredas are at low vs high risk of experiencing inflation due to a shift in cash transfers?
7. Are inland transports and storage facilities adequate to support the effective importation and distribution of Title II food-based assistance in targeted Woredas in Ethiopia?

The study will involve pre-visit preparations and field assessments before report completion.

Consultant team members will gather information on the agricultural economy, commodity markets, and food aid programs. The team will make arrangements to:

- Review guidance and methodology;
- Acquire substantial knowledge of past and current conditions relevant for food assistance programming including the agricultural sector, food security status and outlook, USAID/FFP's and other donors' food assistance program scope, and current awardees' general geographical and programmatic coverage;
- Research the in-country transport infrastructure and storage facilities through document review;
- Review any previous Bellmon analyses or relevant market assessments (including but not limited to USAID/Bellmon Estimation Studies for Title II Programs (BEST)) of target country conducted in the past five years;
- Compile available data on all Title II, USDA, and other major food aid donor shipments in the last five years, inclusive of quantities, shipment dates, and sales prices (if applicable). In addition to all Title II shipments, every effort will be made to acquire aforementioned information regarding all other government and NGO in-kind distribution and sales in the target country;
- Make preliminary contact with representatives from the USAID Missions, awardees, WFP, FAO, local consulting counterpart(s), and others deemed relevant and necessary;
- Background research on private sector, market actors, and collection of international trade data.

There are three critical sets of conclusions required of this research:



- 1) The first is to determine whether there is sufficient supply of key commodities (cereals and pulses via a combination of local production and imports) both nationally and in relevant markets serving FFP-targeted Woredas during anticipated PNSP cash and or food distributions to ensure:
  - a) PNSP beneficiaries will be able to access grain, pulses and other important food commodities, such as cooking oil, at all times, and
  - b) There is little risk of significant inflation in local markets, should Title II program shift to more cash in future Title II supported Woredas.
- 2) Development and emergency Title II food assistance that are brought into Ethiopia will not impede local production or private sector marketing; and
- 3) There are sufficient warehousing and transport capacity in country to store and distribute Title II imported food assistance timely.

To reach the necessary conclusions, two lines of investigation will be undertaken: assessment of market capacity to respond to cash disbursements and food to PNSP disbursements. Details on each of these lines of investigation follow:

- a. Assessment and determination of overall food availability at national and local levels,
- b. Level of market integration, market competitiveness and traders' response capacity to increased demand, especially, that arise from cash disbursements through the PNSP.
- c. Assessment of warehousing and transport capacity at national level.

These assessment and determination require:

Independent estimate of the net production of both cereal and pulse for 2016/17 Meher season and estimate 2017 belg production as well as 2017/18 Meher production forecast, including anticipated food deficits where such exist in the light of factors external to production including government imports, trade flows, and food aid, as determined by interviewing key stakeholders in both public and private sectors and reviewing existing data;

- Area to be planted (estimate for the 2017/2018 season)
- Availability and use of inputs (estimate for the 2017/2018 season)
- Incidence and impact of pests and diseases and net production (for current 2016/2017)
- Forecast Incidence and impact of extreme weather conditions

Price trends analysis provides estimates of the anticipated food supply gap and or inflation in post-Meher 2017 (for both cereals and pulses), in terms of food availability in the local markets. The price trend analysis and projection will also be required for the whole of FY 2017 and estimate for FY 2018.

## **VI. Methodology**

The contractor is expected to use a combination of methods, including quantitative and qualitative, and sample the Woredas and markets visited for primary data collection. As the major focus of this study is on domestic food crop production and supply, it is expected that the contractor will select Woredas from all food crop producing regions in the country. The methodology of this assessment shall be comprised of a mix of tools appropriate for the assessment questions. It is assumed that key interviews, focus groups, and mini-surveys will be key components of the assessment, but the contractor should recommend an appropriate approach and tools. Data shall be disaggregated by region and Woreda, and any relevant differences should be highlighted.

**The rapid rural appraisal methodology** will be applied in all cereal and other crops production regions and food deficit areas. The team is expected to visit local markets in Oromia, Amhara, Tigray, SNNP, Somali and Dire Dawa; with a special focus given to food insecure Woredas, to thoroughly assess how markets operate, markets location (distance), market infrastructure conditions, marketing channels, main participants in the chain and their potential market power on price setting and the

availability of supplies/traders' response capacity and trade volume (cereals and pulses) in the identified market.

The review team is expected to select sufficient sample size from both the PSNP and non-PSNP Woredas (60% should be in PSNP Woredas) in conjunction with USAID/Assets and Livelihoods Transition (ALT) staff. These will include pastoral areas. The main market in each Woreda will be visited and traders interviewed. Focus group and Key Informant (KI) discussions in each Woreda will be held with farmers, local agricultural officer; Cooperative Unions Zonal and/or regional experts from MoA, EGTE, and Food Security Bureau and others as deemed important.

Detailed interviews canvassing a broad cross section of traders, millers, cooperatives and farmers to determine current and planned purchases and the extent to which food crops might be expected to come onto the market over the course of the year. These will be undertaken together with an assessment of government market policy, previous impacts of financial disbursements under the PSNP and a review of fiscal data. The market assessment for crops will interview traders (traders need to be identified and categorized based on their traded volume) in each Woreda to assess the condition of the market and the availability of supply for each of the main crops. The market data will be triangulated with data collected for the farmers' focus groups.

These activities will build upon the assessment of production and availability to determine the accessibility of food in both PSNP and non-PSNP Woredas. The assessment should also look at the competitiveness of the market, especially in PSNP Woredas; the number of suppliers in relation to the number of buyers will give a good indication of this. The assessment needs to see the volume of trade per year for formal traders in PSNP areas (or the aggregate volume for the informal traders). An assessment of wholesale and retail prices based upon both primary and secondary data to determine the cost of the standard ration in different markets in the five major regions (Amhara, Oromia, SNNP, Somali and Tigray) and Dire Dawa, together with an assessment of wage levels paid for unskilled labor in both rural and peri-urban areas.

Meetings with the key Ethiopian Government ministries, such as Ministry of Agriculture, Ministry of Trade, Strategic Food Reserve Agency, the Ethiopian Grain Trade Enterprise (EGTE), the Ethiopian Commodity Exchange (ECX), Road Transport Authority, Ethiopian Maritime Institute and others as deemed necessary. Meet with private sector actors, including transporters, producer/farmer groups and associations, traders, cooperatives, other middle-men, processors, importers and exporters, and shippers. Formal and informal intelligence gathered through these meetings will likely be the key to understanding the latest market dynamics. Specific attention will be placed on the price responsiveness of market players along the agricultural value chain (producers, traders, processors, wholesalers, retailers, consumers, and users of processing by-products) for those commodities most likely to be impacted by distributed food aid. Additionally, visits with food aid recipients will be planned.

Other important contacts include humanitarian aid and development project offices (e.g., DFID and EU/ECHO, CIDA, WFP etc.), assessment committees and networks, such as FEWS NET, United Nations offices (WFP/Vulnerability Asset Mapping (VAM) and FAO), universities, and others. The team will seek insights, data, studies and reports from these contacts.

**Estimation of Food Availability.** The data derived will be used to give final net production of 2014/15, the production outlook for the 2015 Belg season, as well as the forecast for the 2015/16 Meher season. This must be combined with data on anticipated government, commercial and donor imports, exports and flows in and out of domestic stocks to determine the actual availability of each key commodity through the calendar year 2015. This data will be derived from interviews with the main stakeholders. Some of this data will be collected during Activity (1) – the RRA – especially the flows in and out of domestic stocks held by farmers, traders and millers. The remainder, especially that related to government, donors and the larger trading and processing institutions, will be collected through

specific interviews with stakeholders including the main food aid donors, WFP, EGTE, ESFRA, milli, and any other significant trader in key commodities. Customs data will be collected and analyzed if it is deemed to be accurate and in a useful format.

The contractor must be able to explain any discrepancies between the contractor's production estimates and official production estimates.

**Estimation of Food Accessibility.** This activity will combine market data collected during the course of Activity (I) with fiscal and monetary data derived from primary and secondary sources to determine the expected price movements and affordability of the key staple crops. Data will be collected from interviews with financial agencies, including banks and MFIs and the Ethiopian Economists' Association to determine the current fiscal and monetary situations. Ethiopian Economics Association (EEA) reports and national bank reports, together with CSA financial and CPI data, will be used to review the impact of general, food and non-food inflation and to assess the extent to which changes in food prices can be expected to impact food security.

To determine the local accessibility of food, retail price data will be collected from both primary and secondary sources and analyzed in conjunction with wholesale prices to determine retail margins and prices to consumers. The analysis will also assess transport conditions by interviewing transporters and traders to determine the cost, availability and the levels of demand for transport on a monthly basis throughout the year. In addition, the study will assess the time required to acquire transport/truck and move food from distance location to food deficit areas. The analysis will also monitor current and anticipated grain movements from surplus to deficit areas, and the anticipated impacts of both formal and informal exports; this will be assessed through interviews with traders and merchants.

## **VII. Proposed Study Team and Expertise**

The contractor should have a strong background in agricultural production estimation, marketing, commodity trading and sales, agricultural statistics methodology development, and market data analysis. The team leader should have a minimum of M.Sc. degree in Economics/Agricultural Economics or related discipline. Previous experiences in conducting similar studies in Ethiopia and/or other developing countries are highly desirable. The study team is expected to be 3-4 core team members with pertinent qualifications as listed above. The Team Leader will be responsible for team coordination and ensuring the timeliness and quality of deliverables. The other team members will be responsible to carry out interviews/data collections, train and monitor lower level data collectors and compile, analysis and write the report. USAID expects the contractor may need to hire a local survey firm to assist with the required primary data collection.

## **VIII. Deliverables**

The contractor will deliver one comprehensive report that includes market analysis for major food crops identified in the Scope of Work. The contractor will submit the following to USAID for discussion and approval:

- Work plan and methodology (including data collection and analysis plans) for approval prior to beginning of the work;
- Presentations of the preliminary findings of the Bellmon Analysis Update to USAID/Ethiopia before submitting the final report. An illustrative report outline is presented in Annex A. Final report structure will be negotiated between USAID and contractor prior to commencement of field work
- Draft reports presented to USAID/Ethiopia to allow comments by the technical team; and

- Revised and final reports to USAID/Ethiopia on the deliverable due date of the contract, in hard copies, soft copy with pertinent annexes of the final report will be sent via email.

The report should include at a minimum the following sections:

1. Executive Summary
2. Introduction, Study Objectives and Team Composition
3. Background
4. Methodology Employed
5. Agricultural sector overview and food security situation, including government policies affecting the food sector
6. National and regional supply and demand analysis for identified major food crops; Analysis of market and price trends and market dynamics
7. Consumption Patterns
8. Findings of the study
9. Conclusions of the study
10. Recommendations

## **IX. Relationships**

The contractor will work under the guidance of Assets and Livelihoods Transition (ALT) Office in coordination with ALT senior staff in USAID/Ethiopia. Throughout the contract, the contractor is encouraged to work closely with the partner local firm/s, as well as USAID/ALT office and other pertinent offices in USAID/Ethiopia in order to ensure inclusion of key issues detailed in the scope of work and others as necessary and appropriate.

USAID/Ethiopia, in particular, the ALT Office and the Executive Office, will provide general office support (including support letters for scheduling meetings) and technical guidance. The contractor will be responsible for arranging all local travel, logistics, meetings, and office space.

## **X. Level of Effort and Timing**

The contractor is expected to start work on/about June 20, 2017 and to conclude the analysis and present the final production and market analysis report no later than August 20, 2017. The first draft report should be submitted three weeks ahead of the submission of the final report. USAID/Ethiopia will provide feedback within one week of receiving the draft report.

Approved by:

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Name and Date

## ANNEX II: EVALUATION METHODS AND LIMITATIONS

Research Question	Sub-questions	Methods	Data source
RQ 1. Food availability (at National, Regional and Woreda) Major staples to be considered -maize, sorghum, wheat, teff, barley, pulse, edible oil	1.1 What is the quantity of annual local production? Disaggregated by Meher and belg season? -2016/17 and estimate for 2017/18	Document Review, KII, FDG	MoA (at various levels); CSA (annual crop surveys, USAID/PSD; FAOSTAT; EDRI; Young Lives, CDS, AAU, EEA), Farmers
Imports	1.2 What is the quantity of Imports in the year? <ul style="list-style-type: none"> <li>Government import</li> <li>Private imports (flour wheat)</li> <li>food aid</li> </ul>	Document Review, KII	Strategic Food Reserve Agency, the Ethiopian Grain Trade Enterprise (EGTE), the Ethiopian Commodity Exchange (ECX), Road Transport Authority, Ethiopian Shipping and Logistics; Ethiopia railway cooperation; MoT- (MWIT- Merchandize imports and wholesale Customs office, NBE, FFP Title II Implementing partners, WFP, EU, Other development partners, NDRMC, Traders, Documents
Food demand	<ul style="list-style-type: none"> <li>Consumption (Households and Industry)</li> <li>Seed</li> <li>Wastage</li> <li>Export</li> </ul>	Document Review, KII	Population size, MoA, Customs Office/MoT, Documents
RQ 3. What is the government role in markets and what formal and informal policies affect	2.1 What is the role of government in markets? 2.2 What are the formal policies that affect market capacity to support food?	KII, FGD, Documents Review, Observations.	Traders, government offices, cooperatives/unions, transporters, farmers, transporters, consumer.

market capacity to support food?	2.3 What are the informal policies that affect market capacity to support food?		
RQ 4. What factors could inhibit the ability of food insecure households to access food through markets and ability of food insecure households (HH) to access a healthy diet at affordable prices?	4.1 What is the average distance to the nearest market? 4.2 Are crops available in the market at affordable prices? 4.3 How much is casual labor per day? 4.4 Is casual labor available? 4.5 What has been the trend in staple food prices?	KII, FGD, Documents Review, Observations.	Traders, government offices, cooperatives/unions, transporters, farmers, transporters, consumer.
RQ 5. What is the level of risk of households' food security, now and in the near term, due to the withdrawal of food-based assistance from Title II-supported PNSP Woredas, or the shift from cereal and pulses food basket to cereal only food basket?	5.1 What is the level of risk to households due to the withdrawal of food-based assistance from Title II-supported PNSP Woredas? 5.2 What is the level of risk to households as a result of a shift from cereal and pulse food basket to a cereal only food basket?	KII, FGD, Document Review, Observations.	Traders, government offices, cooperatives/unions, transporters, farmers, transporters, consumer.
RQ 6. What capacity do traders have to respond to an increase in demand without putting upwards pressure on prices? Is there any risk of significant inflation in local markets should Title II programs shift to more cash in current Title II-supported highland regions/Woredas? If so, which regions/Woredas are at low vs. high risk of	6.1 What capacity do traders have to respond to an increase in demand without putting upward pressure on prices? 6.2 Is there any risk of significant inflation in local markets should Title II programs shift to more cash in current Title II-supported highlands regions/Woredas? 6.3 If so, which regions/Woredas are at low vs. high risk of experiencing inflation due to a shift in cash transfers?	KII, FGD, Document Review, Observations.	Traders, government offices, cooperatives/unions, transporters, farmers, transporters, consumer.

experiencing inflation due to a shift in cash transfers?			
RQ 7. Are inland transport and storage facilities adequate to support the effective importation and distribution of Title II food-based assistance in targeted Woredas in Ethiopia?	4.1 Are there adequate transport facilities to transport Title II commodities from port to destinations? 4.2 Is there port capacity to handle the commodities? 4.3 What storage capacity available at various levels?	Document Review, KII	Documents, Various government offices, USAID, Private trackers
RQ 8. What are the effects of food aid distributions?	5.1 Impacts on local production? 5.2 Impacts on local grain market/price? 5.3 Impacts on local labor utilization/employment? 5.4 Impacts on local food habit	KII, FGD	Farmers, Local government offices, Traders, Consumers

# ANNEX III: SOURCES OF DATA

As stated earlier in the methodology session, both primary and secondary data will be used to inform the study.

Primary data: Primary data will be collected from:

- Surveys through a Rural Rapid Appraisal technique with farmers and traders. This will be done on all cereal and other crop production areas and food deficit areas too. Special focus will be on food insecure Woredas to assess how the markets operate and inform on any market failures seen.
- Key informant interviews with:
  - (i) Ministry of Agriculture representatives, representative at EGTE, NDRMC and at the Strategic Food Reserve Agency at the federal, regional, zonal and Woreda levels;
  - (ii) Representatives of FFP implementing partners, traders (especially major importers and wholesalers), Cooperatives Unions; and
  - (iii) Other stakeholders such as World Food Program/ Vulnerability Assessment Mapping (WFP/VAM), FEWS NET, Food and Agricultural Organization (FAO), other donors like UK Department for International Development (DFID) and Canadian International Development Agency (CIDA)
- Focus groups conducted with a sample of smallholder farmers and traders. The focus will be the assessment of production and availability of food to determine the accessibility of food in both PSNP and non-PSNP Woredas.

Secondary data: Secondary data will be collected from a review of documents and analysis of databases already in place:

- Document review:
  - Past Bellmon Estimation Studies reports
  - Past Needs Assessments by WFP and other Humanitarian Agencies
  - Food Security Outlook and Alert Reports from FEWS NET
  - Livelihood Baseline and Profile Reports from FEWS NET
  - FEWS NET's Commodity Production and Trade Flow Reports
  - Past Market Assessment Reports from WFP and other Humanitarian Agencies
  - Vulnerability Assessment Reports from WFP
  - FAO's Country Situation Report
  - Any direct FFP guidance regarding distributed food aid
  - FANTA's Food Security Program Framework Report
  - Reports on Awardee's previous and ongoing food aid programs
  - Food and Crop Assessment Mission of FAO
  - Wage Rate Study by EDRI
  - Policy Documents
- Existing Data:
  - Management Information Systems of the EGTE
  - Staple Food prices from FEWS Net
  - National Customs Statistics on imports and exports
  - WFP bulk shipping data
  - FFP Implementing partner data
  - Fiscal and Economic data from the Central Statistics Agency



# ANNEX IV: AREAS SURVEYED

## List of regions and woredas

Group	Region	Zone	Woreda	Remark
1	Dire Dawa	Dire Dawa	Dire Dawa	PSNP/Food insecure
	Oromia	East Hararigie	Jarso	PSNP/Food insecure
		East Hararigie	Deder	PSNP/Food insecure
		West Harargie	Chiro Zuria	PSNP/Food insecure
		West Harerghie	Gemechis	PSNP/Food insecure
		Wet Harerghie	Guba Korch	PSNP/Food insecure
2	Oromia	Bale	Sinana	Surplus
		West Arsi	Adaba	Surplus
		West Arsi	Kofele	Surplus
		West Arsi	Heban Arsi	PSNP/Food insecure
		Arsi	Merti	PSNP/Food insecure
		Arsi	Limu Bilbilo	Surplus
		Misraq Shewa	Boset	PSNP/Food insecure
3	Oromia	West Arsi	Shala	PSNP/Food insecure
	SNNPR	Wolaita	Humbo	JEOP/Food insecure
		Sidama	Awasa Zuria	PSNP/Food insecure
		Silte	Silte	Surplus
		Halaba	Halaba	Surplus
		Sidama	Aleta Wondo	PSNP/Food insecure
		Sidama	Borecha	JEOP/Food insecure
4	Amhara	South Gondar	Lay Gaint	PSNP/Food insecure
		South Gondar	Ebenat	PSNP/Food insecure
		South Gondar	East este	Surplus
		North Wolo	Lasta (Ayna)	PSNP/Food insecure
		North Wolo	Gidan	PSNP/Food insecure
5	Amhara	North Wolo	Kobo	PSNP/Food insecure
		Wag Himra	Sekota	PSNP/Food insecure
		Wag Himra	Ziquala	PSNP/Food insecure
		Wag Himra	Dehana	PSNP/Food insecure
		Semien Wollo	Guba Lafto	PSNP/Food insecure
		Debub Wollo	Kalu	PSNP/Food insecure
	Tigray	Southern Tigray	Alaje	PSNP/Food insecure
		Southern Tigray	Enderta	PSNP/Food insecure
6	Amhara	North Shewa	Asagirt	PSNP/Food insecure
		North Shewa	Kewet	Surplus
		North Shewa	Basona	Surplus
		East Gojam	Enbse Sar Midir	PSNP/Food insecure
		West Gojam	Dejen	Surplus
7	Oromia	East Shewa	Fentale	PSNP/Food insecure
		Arsi	Sire	PSNP/Food insecure
		East Shewa	Liben	Surplus

		West Arsi	Munesa	Surplus
<b>8</b>	Oromia	North Shewa	Dera	Surplus
			Hidhabu Abote	Surplus
		East Shewa	Gimbichu	Surplus
			Bora	Surplus
<b>9</b>	Amhara	West Gojjam	Bure	Surplus
		South Gonder	Dera	Surplus
	Tigray	West Tigray	Wolkait	Surplus
		West Tigray	Qafta Humera	Surplus
<b>10</b>	Tigray	Central Tigray	Nadir Adet	PSNP/Food insecure
		Central Tigray	WerieLeke	PSNP/Food insecure
		East Tigray	Hawzen	PSNP/Food insecure
		East Tigray	Gulo Mekeda	PSNP/Food insecure
		East Tigray	Kilte Awulalo	PSNP/Food insecure
		East Tigray	Erob	PSNP/Food insecure

**List of kebeles visited**

<b>Region</b>	<b>Woreda</b>	<b>Kebele</b>
Amhara	Asagirit	Tidesh
Amhara	Asagirit	Koso Amba
Amhara	Basona	Bakelo
Amhara	Basona	Sariya
Amhara	Bure	Zalema
Amhara	Bure	Wadra
Amhara	Dehana	24
Amhara	Dehana	I
Amhara	Dejen	Hagere Mariam
Amhara	Dejen	Saba shengo
Amhara	DeraGonder	Wechet
Amhara	DeraGonder	Korata
Amhara	East Este	zigura
Amhara	East Este	dengolt
Amhara	Ebnat	wonberochwoftema
Amhara	Ebnat	ayihaakuha
Amhara	Enbsesarmidir	020 Debremedehenit
Amhara	Enbsesarmidir	032Waria meskel
Amhara	Gidan	densa
Amhara	Gidan	worku auto
Amhara	Guba Lafto	Sanka
Amhara	Guba Lafto	Gedober
Amhara	Kalu	021 araba
Amhara	Kalu	022 wedajo
Amhara	Kewet	Terie
Amhara	Kewet	Yelen
Amhara	Kobo	21
Amhara	Kobo	41
Amhara	Lasta	debroloza
Amhara	Lasta	shumshiha
Amhara	Lay Gaint	titira
Amhara	Lay Gaint	checheho
Amhara	Sekota	I
Amhara	Sekota	2
Amhara	Ziquala	2
Amhara	Ziquala	6
Oromia	Adaba	ejersa
Oromia	Adaba	chumlugo

<b>Oromia</b>	Bora	tukalangano
<b>Oromia</b>	Bora	soridolesa
<b>Oromia</b>	Boset	durkurefurda
<b>Oromia</b>	Boset	dengoraforda
<b>Oromia</b>	Chiro Zuria	Yabdoshebeko
<b>Oromia</b>	Chiro Zuria	Medhich no 3
<b>Oromia</b>	Deder	Medajallella
<b>Oromia</b>	Deder	Lelekufa
<b>Oromia</b>	Dera	adamelke
<b>Oromia</b>	Dera	adisalemyaya
<b>Oromia</b>	Fentale	debiti
<b>Oromia</b>	Fentale	kanifa
<b>Oromia</b>	Gemechis	Sororo
<b>Oromia</b>	Gemechis	Welargi
<b>Oromia</b>	Gimbichu	habrusefu
<b>Oromia</b>	Gimbichu	adadigle
<b>Oromia</b>	Guba Korch	kiiltu kore
<b>Oromia</b>	Guba Korch	kiiltuAneni
<b>Oromia</b>	HebanArsi	Godessede
<b>Oromia</b>	HebanArsi	senberorogecha
<b>Oromia</b>	HidhabuAbote	sire moresa
<b>Oromia</b>	HidhabuAbote	ngasgebabu
<b>Oromia</b>	Jarso	Afugug
<b>Oromia</b>	Jarso	Ifajallela
<b>Oromia</b>	Kofele	hulbera
<b>Oromia</b>	Kofele	Hulobera
<b>Oromia</b>	Liben	gachidaimo
<b>Oromia</b>	Liben	dolalojila
<b>Oromia</b>	LimuBilbilo	Meraro
<b>Oromia</b>	LimuBilbilo	Chiba mikael
<b>Oromia</b>	Merti	dembekaefitu and wakrodino
<b>Oromia</b>	Merti	dembecha
<b>Oromia</b>	Munesa	garambotalole
<b>Oromia</b>	Munesa	shumbulo
<b>Oromia</b>	Shala	fendigersami
<b>Oromia</b>	Shala	ajjedida
<b>Oromia</b>	Sinana	El Sembato
<b>Oromia</b>	Sinana	elusanbetu
<b>Oromia</b>	Sire	ibsatahuduga

<b>Oromia</b>	Sire	koloba bale
<b>SNNPR</b>	Aleta Wondo	DangorElmente
<b>SNNPR</b>	Aleta Wondo	DangorElmente
<b>SNNPR</b>	Borecha	anchachafa
<b>SNNPR</b>	Borecha	koransose
<b>SNNPR</b>	Halaba Special	gedaba
<b>SNNPR</b>	Halaba Special	gedaba
<b>SNNPR</b>	HawassaZuria	jarrahansa
<b>SNNPR</b>	HawassaZuria	jaragelcha
<b>SNNPR</b>	Humbo	abelasipa
<b>SNNPR</b>	Humbo	kosha godamo
<b>SNNPR</b>	Silte	ashano
<b>SNNPR</b>	Silte	sosasenice center
<b>Tigray</b>	Alaje	Atsena
<b>Tigray</b>	Alaje	Ayeba
<b>Tigray</b>	Enderta	Kuya
<b>Tigray</b>	Enderta	Mesebo
<b>Tigray</b>	Erob	Agrelekuma
<b>Tigray</b>	Erob	Alitena
<b>Tigray</b>	GuloMekeda	Anbesetefekada
<b>Tigray</b>	GuloMekeda	Shewitlemlem
<b>Tigray</b>	Hawzen	Selam Village
<b>Tigray</b>	Hawzen	Siluh
<b>Tigray</b>	KilteAwulalo	Mhibereweyni
<b>Tigray</b>	KilteAwulalo	Mesanu
<b>Tigray</b>	Nadir Adet	Rubay
<b>Tigray</b>	Nadir Adet	Debre Genet
<b>Tigray</b>	QaftaHumera	Maykadra
<b>Tigray</b>	QaftaHumera	Rawian
<b>Tigray</b>	Werieleke	Zongi
<b>Tigray</b>	Werieleke	Endachewa
<b>Tigray</b>	Wolkait	Adi Jammus
<b>Tigray</b>	Wolkait	Tsebiri
<b>Dire Dawa</b>	Dire Dawa	Jellobelina
<b>Dire Dawa</b>	Dire Dawa	Hallobusa

**List of cooperative unions visited**

<b>S. No</b>	<b>Region</b>	<b>Woreda</b>	<b>Cooperative Union</b>	<b>Woreda category</b>
1	Amhara	Asagirit	Weedera union	PSNP/Food insecure
2	Amhara	Dehana	Abebaw bahru cooperative	PSNP/Food insecure
3	Amhara	Ebnat	EbinetworedaCooprative	PSNP/Food insecure
4	Amhara	Enbsesarmidir	Mota Union	PSNP/Food insecure
5	Amhara	Gidan	GidanworedaCooprative	PSNP/Food insecure
6	Amhara	Kobo	Aradum multipurpose cooperative	PSNP/Food insecure
7	Amhara	Lasta	LastaworedaCooprative	PSNP/Food insecure
8	Amhara	Lay Gaint	Ras Gaint UNION	PSNP/Food insecure
9	Amhara	Sekota	Wabi multipurpose cooperative	PSNP/Food insecure
10	Amhara	Ziquala	Netsanet and andinetmulitipurpose cooperatives	PSNP/Food insecure
11	Amhara	Basona	<u>Basona woreda Cooprative</u>	Surplus
12	Amhara	Bure	Damot union	Surplus
13	Amhara	Dejen	Emegu union	Surplus
14	Amhara	DeraGonder	Debebawi	Surplus
15	Amhara	East Este	Este woreda Cooprative	Surplus
16	Amhara	Kewet	<u>Kewet woreda Cooprative?</u>	Surplus
17	Oromia	Chiro Zuria	Chiro	PSNP/Food insecure
18	Oromia	Deder	Deder	PSNP/Food insecure
19	Oromia	Gemechis	Gemechis	PSNP/Food insecure
20	Oromia	Guba Korcha	Guba koricha	PSNP/Food insecure
21	Oromia	Jarso	Jarsocooprative	PSNP/Food insecure
22	Oromia	Shala	MegertuDansabunge	PSNP/Food insecure
23	Oromia	Sire	gaselashashe coop	PSNP/Food insecure
24	Oromia	Adaba	<b>Dodola Cooperative Union</b>	Surplus
25	Oromia	Bora	bora	Surplus

26	Oromia	Dera	GundoMeskel	Surplus
27	Oromia	Gimbichu	ererfarmers cooperative unions	Surplus
28	Oromia	HidhabuAbo te	w/b/w/h/gamataannahidebuabote	Surplus
29	Oromia	Kofele	Raya Kejewa	Surplus
30	Oromia	Liben	Adulala to surroundingCoopretive	Surplus
31	Oromia	LimuBilbilo	galamafarmers cooperative union	Surplus
32	Oromia	Munesa	Munessa General Farmer Cooperative	Surplus
33	Oromia	Sinana	sekomendofarmers cooperative union	Surplus
34	SNNPR	Borecha	KonsereArke	PSNP/Food insecure
35	SNNPR	HawassaZuri a	Hulu GebeCoorporetive	PSNP/Food insecure
36	SNNPR	Humbo	GashawGedema	PSNP/Food insecure
37	SNNPR	Halaba Special	Menchero	Surplus
38	SNNPR	Silte	Elose Multi	Surplus
39	Tigray	Alaje	AlajieMultipurpos cooperative union	PSNP/Food insecure
40	Tigray	Enderta	EndertaMultipurpos cooperative union	PSNP/Food insecure
41	Tigray	GuloMekeda	Temesgen union	PSNP/Food insecure
42	Tigray	Hawzen	Hawzen	PSNP/Food insecure
43	Tigray	KilteAwulalo	Meady union	PSNP/Food insecure
44	Tigray	Werieleke	Weierelek union	PSNP/Food insecure
45	Tigray	QaftaHumer a	Setitihumera	Surplus
46	Tigray	Wolkait	Lemlem	Surplus
47	Dire Dawa	Dire Dawa	Dire Multi purpose farmers	PSNP/Food insecure

# ANNEX V: DATA COLLECTION TOOLS

## Guideline for Focus Group Discussions (FGD) with small Producers/Farmers

### General Introduction

Welcome everyone! My name is \_\_\_\_\_ from Social Impact, an evaluation company from the USA. Social Impact implements an evaluation activity of USAID called **Ethiopia Performance Monitoring and Evaluation Services**. We are conducting a study to assess the Impact of United States Agency for International Development (USAID)'s Title II food aid on agricultural production and marketing of food crops. This group discussion is part of the study on the relationship between distributed food aid, agricultural production and marketing in Ethiopia. This study will aid USAID learn more about the program and its impact on the beneficiaries, so that they can strategically plan for next round of distributions.

We are very grateful for your time; this discussion should take about one hour. The information you provide to us here is confidential and will not be shared with anyone outside. Please know that we will not share your name with anyone outside the research team, or quote you in our report without your permission, so we also hope that you will provide honest and accurate answers.

**To The moderator:** Divide the FGD participants into three smaller groups, distribute cards to each group, let each group discuss and come up with their answers, present each group's answers and then discuss together and come up with a consensus.

### **Farmers' assessment of crop production and yields**

1. What are the major cereal crops grown by households in your community? List in order of the volume of production?
2. What pulses are grown in your community? List in order of the volume of production?
3. What oil seeds are grown by households in your community? List in order of volume of production?
4. Do farm households in your community use fertilizer? Why do they use or not use?
5. What kinds of improved seeds are available in your community?
6. Where do farmers obtain them from?
  1. Are improved seeds available to the community?
  2. Are they accessible to the households in the community?
  3. What are the major constraints in accessing the improved seeds?
7. Do households in your community have access to credit services?
8. To which credit source(s) do households in your community have easy access to borrowing?
9. To which credit source(s) do households in your community have difficulties to access loan?
10. What was your average Meher yields in 2016/17 harvest season?
11. How does this compare with 2015/16 harvest season?
12. How would you compare your harvest with other farmers in your community?
  - a. They produce more
  - b. They produce less
  - c. We produce almost the same
13. From your knowledge, was there any incidence and impact of pests and/or diseases in the 2016/2017 production?
14. In what ways did the rainfall affect the community's crop production last year?
  1. How much of the community's crops lost?
  2. How does this loss compare with the losses in a good harvest year?



3. On average, how many farmers in the community planted the following crops:
  - a. Maize
  - b. Wheat
  - c. Sorghum
  - d. Teff
  - e. Pulses
  - f. Oilseeds?
15. On average, what proportion of the harvest was sold by the majority of households in your community this year?
16. How do you rate grain sales by the community in 2017 Meher compared to 2016 Meher?

#### **Assessment of farmers' grain sales and stockholding intention and price expectation**

17. How do farmers in your community store their harvests?
  - g. What crops are stored?
  - h. Do they have food in storage at the moment?
  - i. How long do they usually store food?
  - j. What is your opinion about the quality of stored food?

#### **Assessment of Livestock production**

18. Do you own livestock?
 

1=Oxen	8= Goats
2= Cow	9= Donkey
3= Calf	10= Mule
4= Heifer	11= Horses
5= Bull	12= Chicken
6= Camel	
7= Sheep	
19. Was there livestock loss last year? Reasons for the losses?
20. How much income did your family earned from the sale of livestock in 2016/17?
21. How much income did your family earned from sale of animal products including honey sales in 2016/17?
22. What are the community's major livestock production problems?
 

1= Livestock diseases	2= Feed shortage	3= Lack of grazing area
4= Shortage of vet. drugs	5= High cost of vet drugs	6= Other (specify)
23. Did any severe livestock diseases occur last year?
24. How do you know that households in this community use their livestock as a means to food security?

#### **Assessment of Labor costs**

25. What is the cost of causal labor in your area (per day) now? birr/day
26. Has the cost of labor increased or decreased since last year?
  1. Increased
  2. Decreased
  3. Same
27. What are the reasons for increase/decrease of the wage rate?
28. Is unskilled labor easier or harder to find than it was at this time last year?
  1. Easier
  2. Harder
  3. Same

### **Income and Expenditure**

29. What are the major sources of income for the households in the community?
30. Based on your experience, how much can be an average annual earning of a household from each of the following sources?
31. What would be the average annual estimate of the quantity (kg) of cereals purchased wheat/maize/sorghum/teff/barley by poor households (with an average family size of five) in your community for consumption?
32. What proportion of the households in your community?
  - a. Purchase food from the market:
    - i. Were the food crops available in local markets? Were their prices affordable by majority of households last year?
  - b. Consume their own production
  - c. Both

### **Characteristics of Local Markets and Prices**

33. How many market centers are available to the households in your community? What is the average distance (km) that households travel the market?
  34. What means of transportation do they use? Where do households buy or sell maize, wheat, sorghum, teff, barley, pulses and oilseeds?
  35. How frequently do households go to the market in a month?
  36. To whom do you usually sell your produce (consumers, retailers, wholesalers, companies including cooperative, union, NGO, private companies, ECX? Why?
  37. When do households usually buy their food crops in a year? When do households usually sell their crops in a year?
  38. What is your opinion about the quality of food bought by households in the markets?
  39. How do households set the price to sell their crops?
  40. Have the prices of food crops changed since last year?
  41. Are current prices of food crops affordable to the average community members now?
- What are the major constraints that households face in trying to access the market?

### **Food Security**

42. Why do households in your community continue to be food insecure?
43. What are the characteristics of food insecure households in your community?
44. Which season/months of the year do households typically face food shortages?
45. How many months do the following sources of food take to cover the household's food needs?
46. When you are facing food shortages in the past, what did you do to get food for your family?
47. Will the average household be more or less food secure in 2017/18 compared to the year before? What are your reasons?
48. Has the households' consumption of the following foods over the last two years changed as compared with their consumption five year ago?
49. What are the main reasons for these changes?

### **Food Aid**

50. For how long has food aid been distributed in this Kebele?
51. Why have households in your community been receiving food aid? In addition to the food distributed did households in the community also benefit from food-for-work (FFW) programs or employment generating activities – based food assistance in the past two years? If yes, what kind of activities did they engage in?
52. What are the preferred foods consumed by households in your community? Why?
53. If these foods are not available, what do households eat?

- a. How do you obtain these substitutes?
- 54. What do households in your community do with the distributed food aid?
  - a. Exchange for other foods
  - b. Sell
  - c. Share with neighbors
  - d. Consume

Why?

- 55. Do you foresee a continued need for food aid in your community through 2017/18? Why?
- 56. How do you see the future or the coming years in terms of food availability for your family? Which would the poorest households in your community prefer to receive if available as assistance (under PSNP)? Why?
  - a. Food only
  - b. Cash only
  - c. Part food and part cash
  - d. Food in lean season and cash at other times
- 57. What will happen to households in your community if food-based support is withdrawn?
- 58. Amongst recipients of cash only, have food items been available for them to buy?
- 59. How has the cash disbursements affected the supply and prices of food in the community? If the preference is for food in the lean season and cash in another, what is the preferred mix?
  - a. First round: Food - the next five rounds: Cash
  - b. First two rounds: Food – next four rounds: Cash
  - c. First three rounds: Food – next three rounds: Cash
  - d. First four rounds: Food – next two rounds: Cash
  - e. First five rounds: Food – last round: Cash
- 60. Which would the poorest households in your community prefer to receive if available as assistance (under PSNP)? Why?
  - a. Cereal and pulses food basket Cereal only food basket

**PSNP effects (for PSNP woredas only)**

- 61. What effects do you think of the food aid assistance provided in your community?
  - a. Effect on local grain production?
  - b. Effect on local grain market/price, grain flow?
  - c. Effect on local labor utilization/employment?
  - d. Effect on local food habit?
  - e. Effect on social/community and household asset building?

**Thank you very much for your time and participation**

## **CROP AVAILABILITY AND MARKET ANALYSIS IN ETHIOPIA**

### **Guideline for KII with Woreda Agriculture Development Offices – Surplus Producing Woredas**

Good morning/afternoon! My name is \_\_\_\_\_ from Social Impact, an evaluation company from America. We are conducting a study to assess the Impact of United States Agency for International Development (USAID)'s Title II food aid on agricultural production and marketing of food crops. This key informant interview is part of the study on the relationship between distributed food aid, agricultural production and marketing in Ethiopia. This study will aid USAID learn more about the program and its impact on the beneficiaries, so that they can strategically plan for next round of distributions.

We are very grateful for your time; this discussion should take about an hour. The information you provide to us here is confidential and will not be shared with anyone outside. Please know that we will not share your name with anyone outside the research team, or quote you in our report without your permission, so we also hope that you will provide honest and accurate answers.

#### **Background**

1. In terms of agro-ecology, what percent of the areas of the woreda fall under each of the following categories?
  - a. Dega/high altitude: %
  - b. Woyinadega/mid-altitude: %
  - c. Kola/low altitude: %
2. What are the main sources of livelihood in the woreda?
3. Which of these livelihood sources are the three most important ones?

#### **RQ 1: Current Production Performance of Major Food Crops**

4. What are planted areas and productions of the main grains produced in the woreda for the (2016/17 and 2017/18 (plan) production years?
5. Please provide data on production of cereals, pulses and oil seeds in the woreda for the last five years?
6. Which of the grains produced in the woreda are most important for household food consumption and for marketing? (Rank by inserting, 1<sup>st</sup>, 2<sup>nd</sup> or 3<sup>rd</sup> in the corresponding box)
7. How was overall performance of the rains during 2016/17 (2008/9 E.C) and 2017/18 (2009/10E.C) (Please answer by inserting: 1 = Poor; 2 = Fair; 3 = Good; 4 = Very good; or 5 = Excessive in the appropriate box)
8. How was the occurrence and severity of weather related natural calamities and disease and pest outbreaks in 2016/17 and in 2017/18? Indicate extent of severity by inserting: 0 = Did not occur; 1 = Very low; 2 = Low; 3 = High; 4 = Very high for those which had occurred.
9. How much farm input was needed and how much was supplied in 2016/17 (2008/9 E.C) and 2017/18 (2009/10 E.C)? (In quintal)
10. How was the timeliness of supply of these inputs for the Meher and belg seasons in the following two years? Please indicate by entering: 1 = Timely; 2 = Late; 3 = Very late
11. To what extent did farmers access local seeds in 2016/17 (2008/9 E.C) and 2017/18 (2009/10E.C)?
12. How do you rate the extent of crop land preparation for the 2016/17 (2008/9 E.C) and 2017/18 (2009/10E.C) planting seasons in terms of timeliness and adequacy/tillage? (Please answer by inserting: 1 = Poor; 2 = Fair; 3 = Good; or 4 = Very good in the appropriate box)
13. If differences were observed, what were the main reasons for the differences? And what was its consequence?
14. Given rainfall patterns, the calamities, availability of farm inputs and land preparation discussed above, how do you compare the yield obtained in 2016/17 (2008/9 E.C) and that is expected in 2017/18 (2009/10E.C)? Why?

15. In general, what percent (%) of the seed requirement of the woreda was covered by improved seeds in 2016/17 (2008/9 E.C)?
16. How much was this percentage in 2017/18 (2009/10 E.C)? If yes, how much damage did it cause? Very high, high, low, very low
17. Are grains like maize often used as livestock feed in the woreda? If yes, what percent of the annual total production is used for this purpose?
18. Is there any factor that hinders grain production in the woreda? If yes, what are they?
19. What factors hindered grain production in 2016/17 (2008/9 E.C) and 2017/18 (2009/10 E.C)?
20. Please provide detailed population data of the woreda and percent of the food insecure population in the last five years; and estimation for year 2017/18 (2009/10 E.C)

### **Marketing**

21. Which are the most important grain market centers used by people in the woreda?  
In the woreda and Out of the woreda:
22. How are grains traded in the woreda?
23. In normal years, what is the contribution of own production and inflows in terms of covering grain requirement of the woreda (food, seed, others)? (%)
24. Are there challenges that affect grain markets in the woreda? If they exist, what are they and how do they limit grain market?
25. Are there factors that hinder grains from flowing out of the woreda? If yes, what are they and how do they limit grain flow?
26. Do you think modality used (cash transfer or food distribution) by food aid intervention in food deficit areas have an impact on the local grain market and prices? If yes, how?
27. Any other comment in relation to this subject

## **CROP AVAILABILITY AND MARKET ANALYSIS IN ETHIOPIA**

### **Guideline for KII with Woreda Agriculture Development Offices – in Food Deficit**

#### **Woredas**

Good morning/afternoon! My name is \_\_\_\_\_ from Social Impact, an evaluation company from America. We are conducting a study to assess the Impact of United States Agency for International Development (USAID)'s Title II food aid on agricultural production and marketing of food crops. This key informant interview is part of the study on the relationship between distributed food aid, agricultural production and marketing in Ethiopia. This study will aid USAID learn more about the program and its impact on the beneficiaries, so that they can strategically plan for next round of distributions.

We are very grateful for your time; this interview should take about an hour. The information you provide to us here is confidential and will not be shared with anyone outside. Please know that we will not share your name with anyone outside the research team, or quote you in our report without your permission, so we also hope that you will provide honest and accurate answers.

#### **Background**

1. In terms of agro-ecology, what percent of the areas of the woreda fall under each of the following categories?
  - a. Dega/high altitude: %
  - b. Woyinadega/mid-altitude: %
  - c. Kola/low altitude:
2. What are the main sources of livelihood in the woreda?
3. Which of these livelihood sources are the three most important ones?

#### **RQ 1: Current Production Performance of Major Food Crops**

4. What are planted areas and productions of the main grains produced in the woreda for the 2016/17 and 2017/18 (plan) production years?
5. Please provide data on production of cereals, pulses and oil seeds in the woreda for the last five years?
6. Which of the grains produced in the woreda are most important for household food consumption and for marketing? (Rank by inserting, 1<sup>st</sup>, 2<sup>nd</sup> or 3<sup>rd</sup> in the corresponding box)
7. How was overall performance of the rains during 2016/17 and 2017/18 (Please answer by inserting: 1 = Poor; 2 = Fair; 3 = Good; 4 = Very good; or 5 = Excessive in the appropriate box)
8. How was the occurrence and severity of weather related natural calamities, and disease and pest outbreaks in 2016/17 and 2017/18? Indicate extent of severity by inserting: 0 = Did not occur; 1 = Very low; 2 = Low; 3 = High; 4 = Very high for those which had occurred.
9. How much farm input was needed and how much was supplied in 2016/17(2008/09E.C) and 2017/18(2009/10E.C)? (In quintal)
10. How was the timeliness of supply of these inputs for the Meher and belg seasons in the two years? Please indicate by entering: 1 = Timely; 2 = Late; 3 = Very late
11. To what extent did farmers have access to local seeds in 2016/17 (2008/09E.C) and 2017/18(2009/10E.C)?
12. How do you rate the extent of crop land preparation for the 2016/17 and 2017/18 planting seasons in terms of timeliness and adequacy/tillage? (Please answer by inserting: 1 = Poor; 2 = Fair; 3 = Good; or 4 = Very good in the appropriate box)
13. If differences were observed, what were the main reasons for the differences? And what was its consequence?

14. Given the rainfall patterns, the calamities, extent of farm input availability and land preparation discussed above, how do you compare the yield obtained in 2016/17(2008/09E.C) and that is expected in 2017/18(2009/10E.C)? \_Why?
15. In general, what percent (%) of the seed requirement of the woreda was improved seeds in 2016/17(2008/09E.C)? \_
16. How much was it in 2017/18(2009/10E.C)?
17. Has livestock disease outbreak occurred in the woreda in 2017((2009E.C)? If yes, what was level of its damage? Very high, high, low, very low
18. Are grains like maize often used as livestock feed in the woreda? If yes, what percent of the annual total production is used for this purpose?
19. Is there any factor that hinders grain production in the woreda? If yes, what are they?
20. Were there any factors that hindered grain production in 2016/17(2008/09E.C)?

### **Food Security**

21. Detailed data on population of the woreda and the percent of the food insecure population for the last five years; and estimation for year 2017/18(2009/10E.C)
22. Have the number food insecure people in your woreda increased or decreased? If there is a change, what are the main reasons for this change?
23. Amount of aid food received by the woreda over the last five years; by type of the food (cereal, pulses, oil); by source (Title II or others); and 2017/18(2009/10E.C) plan (qt).
24. How diversified is the food consumed in the woreda?
25. What factors limit access of households to diversified food sources; how?
26. How is the overall access of the people to a balanced diet?

### **Marketing**

27. Which are the most important market centers in the woreda?
28. How are these grains traded? (Mainly locally produced and sold, Mainly taken out of the woreda or Brought into the woreda):
  - a. Maize
  - b. Teff
  - c. Wheat
  - d. Sorghum
  - e. Barley
  - f. Pulses
  - g. Oil seeds
29. In normal years, what is the contribution of own production of cereals, pulses and oil seeds and inflows in terms of covering grain requirement of the woreda (food, seed, others)? (%)
30. What factors could inhibit the ability of food insecure households to access food through market?
31. How is food aid commodities compared with the local products in terms of the following?
  - a. Price
  - b. Quality
  - c. Consumption Preference
32. From the cash-based and the food-based distribution alternatives, which modality was used last year 2017 in this woreda? Cash-based / Food-based / Both. Why?
33. If mix of the modalities was used, what was proportion of each?
34. What modality is recommended/preferred for next year? Cash – based / Food-based/ Mixed. Why?
35. If mix of modalities is recommended, what is proportion of each? Why?
36. If the cash-based or the mixed modalities are preferred, could the market supply the required amount of grain and satisfy the increased demand? How?
37. Do you think it would create inflation? How?

38. How many Birr was paid for a day work in PSNP in 2017 under the cash-based alternative?
39. Is the cash transfer received by beneficiaries enough to buy the same amount of grain being distributed by the food-based distribution? Why?
40. What are the risks the beneficiary households face if only the cash-based approach is used in the woreda? How/Why?
41. What are the potential risks to the beneficiary households if a cereal only basket is provided in place of a cereal and pulses basket?
42. Do you think the local wage market is affected by the food aid intervention? How?
43. Are imported flours marketed in the area? If yes, from where is it imported from?
44. What is its share in the market?

### **Changes due to/Effects of Food Aid Interventions**

45. How does food aid enhance or limit local agricultural production?
46. Are the food aid commodities distributed in the area in line with the food consumption habit/pattern of the woreda? How?
47. Do you think the food aid intervention has affected the food habit/ pattern of the area? How?

### **Transport and Storage**

48. How are conditions of the roads for transporting food aid commodities in the woreda?
49. Is it possible to get grain transporters to transporting food aid in the woreda? Why?
50. Are the Final Distribution Points convenient for the beneficiaries to collect the food aid commodities?

Why?

51. Are store and warehouses available in the woreda that could be used for food aid activities?
52. Please explain the grain storage capacity available in the woreda in terms of:
  - a. Location
  - b. Owner
  - c. Capacity
  - d. Condition of the store



## Wholesale traders KII guideline for Non- PSNP and PSNP Woredas

Good morning/afternoon! My name is \_\_\_\_\_ from Social Impact, an evaluation company from America. We are conducting a study to assess the Impact of United States Agency for International Development (USAID)'s Title II food aid on agricultural production and marketing of food crops. This key informant interview is part of the study on the relationship between distributed food aid, agricultural production and marketing in Ethiopia. This study will aid USAID learn more about the program and its impact on the beneficiaries, so that they can strategically plan for next round of distributions.

We are very grateful for your time; this discussion should take about an hour. The information you provide to us here is confidential and will not be shared with anyone outside. Please know that we will not share your name with anyone outside the research team, or quote you in our report without your permission, so we also hope that you will provide honest and accurate answers.

1. What are the main cereals, pulses and oilseeds traded on this market in terms of volume or quantity.
2. During what times of the year are grains plenty or in short supply on this market?
3. Compared with the past 2 years, how difficult is it for you to find supplies of grains?
  - a. Wheat
  - b. Maize
  - c. Sorghum
  - d. Teff
  - e. Barley
  - f. Pulses
  - g. Oilseeds
4. How do you compare the current year grain supply with that of last year in terms of volume and diversity of grain types?
5. Compared with this time last year (2016), would you say that the availability of grain stock of wholesale traders is higher, lower or about the same? Please explain why you think...
6. Do you think that the grains are sufficiently available to you to meet the demand from your customers? Please explain the reason for your answer.
7. What is the wholesale price of grain in this market during the time of crop harvest and lean season [consider 2017 ((2009E.C))]?
8. From what sources do you buy the food grain you trade in the woreda? Within the woreda or imported from outside the woreda?
9. Which of the grains that you buy from farmers in this woreda are well supplied on this market? When is the supply highest?
10. Which of the food grains you trade on this market are supplied from sources outside this woreda?
11. When are the food grains bought from outside sources in short supply on this market?

### Structure

12. Who are the major market actors (wholesale buyers, wholesale suppliers, cooperatives, retailers) who participate in grain trade on this market and which grain do they trade?
13. How far away are the distances from where you buy food grains to trade on the woreda market? Nearest and furthest supply sources, names and distance to woreda market in km.
14. What are the different ways in which you transport grains - both the grain you buy and sell?
15. Is the means of transport you use easily available? When are these transport services available and when are they scarce and why?
16. Where do big traders (wholesalers) currently store the food grain before it is sold? Is the storage capacity sufficient every year?

17. If there was surplus demand and grain was available, would the traders have sufficient space to store large quantities of grain to meet the demand?
18. How often do retail traders buy stocks, and in what quantities?
19. From your opinion, has the current year stock quantity of retail traders increased or decreased compared to last year?
20. Which of the woreda offices have the authority over this market and what are their roles?
21. How and from which sources do you get market information you require in order to determine where to sell the grain you buy from this market?

#### **Conduct**

22. How do traders determine the prices of grain they sell on this market?
23. What are the factors that cause or necessitate price increases of each grain?
24. If the sources from where you buy food grain (wheat, maize, sorghum, teff and barely) increases cost, how do you determine the prices at which you sell these commodities on this market?
25. Do the woreda government authorities interfere in price determination? If Yes, which office and what role do they play?

#### **Performance**

26. How satisfied are you with the rate of profit of from trading the following commodities? Not satisfied at all, Low, medium and high.
  - a. Wheat
  - b. Maize
  - c. Sorghum
  - d. Teff
  - e. Barley
  - f. Pulses
  - g. Oilseeds
27. What are the main problems and constraints you face in expanding your capacity to respond to an increase in demand?

#### **Food aid trade**

28. Have you seen any food aid item on this market? If yes, what are the food aid commodities traded in this market?
29. If households have more purchasing power could you increase your stocks?
30. How long would it take you to increase your stock?
31. What effects of food aid have you observed in your community? Among traders and households?
32. What are the positive or negative impacts of food aid commodity distribution on the food grain you trade on this market?
33. Which of the two types of aid transfers (cash transfer or food-based distribution) disrupt your trade more? What are your reasons?
34. What types food aid commodities do you trade?
35. From where do you often buy the food aid items you trade?

## **Retail traders KII guideline for Non- and PSNP Woredas**

### **Questions**

1. What are the main cereals, pulses and oilseeds traded on this market in terms of volume or quantity?
2. During what time of the year grains are in large supply or in short supply on this market? (Use the table below)
3. Compared with the past 2 years, how difficult is it for you to find supplies of grains?
  - a. Wheat
  - b. Maize
  - c. Sorghum
  - d. Teff
  - e. Barley
  - f. Pulses
  - g. Oilseeds
4. How do you compare the current year grain supply with that of last year in terms of volume and diversity of grain types?
5. Compared with this time last year (2016), would you say that the availability of grain stock for retail traders is higher, lower or about the same? Please explain why you think...
6. Do you think that the grains for retail are sufficiently available to you to meet the demand from your customers? Please explain the reason for your answer.
7. What is the retail price of food grain in this market during the time of crop harvest and in lean season [consider 2017(2009E.C)]
  - a. Wheat
  - b. Maize
  - c. Sorghum
  - d. Barley
  - e. Chickpea
  - f. Haricot beans
  - g. Sesame
  - h. Others
8. From what sources do you buy the food grain you retail in the woreda? Within the woreda or imported from outside the woreda?
9. Which of the grains you buy from farmers in this woreda are well supplied in this market? When are they highest in volume?
10. Which of the food grains you retail on this market are supplied from sources outside this woreda?
11. When is the food grains you buy from outside sources in short supply on this market?

### **Structure**

12. Who are the major market actors (wholesale buyers, wholesale suppliers, cooperatives, retailers) who participate in grain trade on this market and what grain do they trade?
  - a. Wholesale buyers
  - b. Wholesale supplier
  - c. Cooperatives
  - d. Retailers
  - e. Brokers
  - f. Farmer traders
13. How far away are the distances from where you buy food grains to retail on this market
14. Nearest and furthest supply source name and distance from this market in km.
15. What are the different ways in which you transport the grains you buy and sell to this market?

16. Is the means of transport you use easily available?
17. When are these transport services available and when are they scarce and why?
18. Where do retail traders currently store the food grain they sell on this market? Is the storage capacity sufficient every year?
19. If there was surplus demand and grain was available, would the retail traders have sufficient space to store large quantities of grain to meet the demand?
20. How often do retail traders buy stocks, and in what quantities?
21. In your opinion, has the current year stock quantity of retail traders increased or decreased compared to last year?
22. Which of the woreda offices have the authority over this market and what are their roles?
23. How and from which sources do you get market information you require in order to determine where to sell the grain you buy from this market?

### **Conduct**

24. How do retail traders determine the prices of grain they sell on this market?
25. What are the factors that cause or necessitate retail price increases of each grain?
26. If the sources from where you buy food grain increases cost, how do you determine the retail price at which you sell the food grains you retail on this market?
27. Do the woreda government authorities interfere in determining retail price? If Yes, which office and what role do they play?

### **Performance**

28. How satisfied are you with the rate of profit of from trading the following commodities? Not satisfied at all, Low, medium and high.
  - a. Wheat
  - b. Maize
  - c. Sorghum
  - d. Teff
  - e. Barley
  - f. Pulses
  - g. Oilseeds
29. What are the main problems and constraints you face in increasing your capacity to respond to increases in demand?

### **Food aid trade**

30. Have you seen any food aid item on this market? If yes, what are the food aid commodities traded in this market?
31. If households have more purchasing power could you increase your stocks?
32. How long would it take you to increase your stock?
33. What effects of food aid have you observed in your community?
  - a. Among traders
  - b. Among households
34. What are the positive or negative impacts of food aid commodity distribution on the food grain you trade on this market?
35. Which of the two types of aid transfers (cash transfers or food-based distribution) disrupt your trade more? What are your reasons?
36. What types of food aid commodities do you trade?
37. From where do you often buy the food aid items you retail on this market?

## Woreda Trade office KII Guideline

### Background

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We are very grateful for your time; this discussion should take about an hour. The information you provide to us here is confidential and will not be shared with anyone outside. Please know that we will not share your name with anyone outside the research team, or quote you in our report without your permission, so we also hope that you will provide honest and accurate answers.

### Questions:

1. What are the cereals, pulses and oilseeds produced in this woreda?
2. Which of the cereals, pulses and oilseeds produced in this woreda are supplied to markets outside the woreda?
3. Who are the major market actors in this market and how many of them are regular traders of food grain in the woreda market? Please describe the types of traders by capacity (capital), and scale/volume of grains they trade
4. Please explain the marketing channels of the grains (cereals, pulses and oilseeds) which are produced in this woreda and supplied to outside markets/areas?
5. Which of the cereals, pulses and oilseeds traded in the woreda markets come from outside?
6. Please explain the marketing channels of the grain (cereals, pulses and oilseeds) flow from outside sources into the markets of this woreda
7. What proportion of the food grains traded in the markets is produced in this woreda?
8. What is the proportion of grain supplied from outside sources into this woreda markets?
9. What is the role of your office in the woreda grain markets?
10. How many grain checkpoints are there along the main trade routes of this woreda?
11. How was the trend of grain prices in your woreda over the last five years?
12. What is the total volume of cereals, pulses and oilseeds supply from the woreda during the last five years?
13. What is the annual volume of grain flow from outside sources to this woreda?
14. Has there been a change in the volume of grain supply to the woreda market in the last two years? Why?
15. Do consumers and traders have access to market information including prices, quantities, grades and standards of crops that are sold on the market?
16. How are the conditions of market infrastructure (roads, storage, etc.) and to what extent do they facilitate grain trade in the woreda and integration with other markets?
17. What is the storage capacity of big traders/wholesalers? Is the storage adequate to store available food grain?
18. How do you assess the transport facilities available in the woreda and is it adequate to transport the food grains traded?
19. How far is the woreda market from the main sources of grain supply and what impacts has distance and the woreda market location had on the trade?
20. In your opinion, have food aid distribution (cash or food-based) to food insecure households had effect on the major agricultural commodities traded in this woreda market? If so, how?

**For food insecure woredas;**

21. How adequate are the storage facilities available in the woreda market to keep adequate stock of food grains?
22. What are the likely effects of the traders capacity, market location and distance to the markets on the ability of food insecure households to access food through these markets?

## **PSNP woreda Cooperative Union KII Guideline**

### **Background**

Good morning/afternoon! My name is \_\_\_\_\_ from Social Impact, an evaluation company from America. We are conducting a study to assess the Impact of United States Agency for International Development (USAID)'s Title II food aid on agricultural production and marketing of food crops. This key informant interview is part of the study on the relationship between distributed food aid, agricultural production and marketing in Ethiopia. This study will aid USAID learn more about the program and its impact on the beneficiaries, so that they can strategically plan for next round of distributions.

We are very grateful for your time; this discussion should take about an hour. The information you provide to us here is confidential and will not be shared with anyone outside. Please know that we will not share your name with anyone outside the research team, or quote you in our report without your permission, so we also hope that you will provide honest and accurate answers.

### **Questions**

1. As a market actor in the woreda, what is the scale of your cooperative union trade in the woreda grain trade? (Is the cooperative a wholesale buyer, wholesale supplier, etc.)
2. What volume of the different grains did the cooperative union supply to the woreda market during the current year?
3. How is the trend in the total annual supply of the cooperative union to this market in the last five years? Please provide the data for the grain supplied to this market each year during the last five years)
4. How does your cooperative union determine the price of grain it supplies to this market?
5. What are the factors that cause or necessitate increase in the prices of each grain your cooperative union trades?
6. Do the woreda government authorities interfere in the determination of price for each grain your cooperative union trades? If Yes, which office and what role do they play?
7. How many members of your cooperative unions trade grain on the markets of this woreda?
8. Who are the main buyers of the grain your cooperative union supplies to this woreda?
9. Does your cooperative union buy grain from the markets in this woreda? If Yes, what are the grain type your cooperative buys from this woreda?
10. What are the main sources of the grain your cooperative buys from the markets in this woreda
11. What are the different ways in which your cooperative union transports grains - both the grain you buy and sell?
12. Is the means of transport your cooperative uses easily available?
13. What are the major problems and challenges your cooperative union faces in its grain trade on the markets in this woreda?
14. What is your experience regarding the effect of food aid distribution programs on grain trade in general and the program impacts on the trading business of your Cooperative union in this woreda?

### **Food aid trade**

15. Have you seen any food aid item on this market? If yes, what are the food aid commodities traded in this market?
16. What effects of food aid have you observed in your community?
  - a. Among traders
  - b. Among households
38. What are the positive or negative impacts of food aid commodity distribution on the food grain your cooperative union trades on this market?
39. Which of the two types of aid transfers (cash or food-based distribution) disrupt your cooperative union's trade more? What are your reasons?

## **Non-PSNP Woreda Cooperative Union KII Guideline**

### **Background**

Good morning/afternoon! My name is \_\_\_\_\_ from Social Impact, an evaluation company from America. We are conducting a study to assess the Impact of United States Agency for International Development (USAID)'s Title II food aid on agricultural production and marketing of food crops. This key informant interview is part of the study on the relationship between distributed food aid, agricultural production and marketing in Ethiopia. This study will aid USAID learn more about the program and its impact on the beneficiaries, so that they can strategically plan for next round of distributions.

We are very grateful for your time; this discussion should take about an hour. The information you provide to us here is confidential and will not be shared with anyone outside. Please know that we will not share your name with anyone outside the research team, or quote you in our report without your permission, so we also hope that you will provide honest and accurate answers.

### **Questions:**

1. What is the scale of your cooperative union's trade in the woreda grain trade? (Is the cooperative a wholesale buyer, wholesale supplier, etc.)
2. What volume of the different grains do your cooperative union purchased from the woreda market during the current year?
3. What is the trend in the total annual volume of grain your cooperative union procured/purchased from this market in the last five years?
  - a. Wheat
  - b. Maize
  - c. Sorghum
  - d. Teff
  - e. Barley
  - f. Pulses
  - g. Oilseeds
4. How does your cooperative union determine the price of grain it buys from this market?
5. What are the factors that cause or necessitate increases in the prices of each grain?
6. Do the woreda government authorities interfere in price determination of the cooperative union? If yes, which office and what role do they play?
7. How many members of your cooperative unions trade grain on the markets of this wereda?
8. What are the major sources of grain in this woreda market?
9. Does your cooperative union supply grain to the market in this woreda? If yes, what are the types of grain your cooperative supplies to the markets in this woreda?
10. What are the sources of the grain your cooperative supplies to the markets in this woreda?
11. What are the different ways in which your cooperative union transports grains - both the grain you buy and sell?
12. Is the means of transport your cooperative uses easily available?
13. *Is the means of transport your cooperative uses easily available?*



# **CROP AVAILABILITY AND MARKET STUDY FOR 2017 BELLMON ANALYSIS IN ETHIOPIA**

## **CHECKLIST FOR MARKET OBSERVATION**

Region \_\_\_\_\_

Woreda \_\_\_\_\_

Name of Market \_\_\_\_\_

### **I. Overall observation of grains and livestock traded in the market**

Grains traded					Livestock			
Type	Traded in the market? 1= Yes, 2= No	Quality of majority 1= high 2= medium 3=low	Retail price per quintal (for majority quality)	(quantity) available in the market at the time of observation (1=high, 2= medium, 3= low)	Type	Traded in the market  1= Yes, 2= No	Price range heard while observing the market	(quantity) available in the market at the time of observation (1=high, 2= medium, 3= low)
Maize					Oxen			
Wheat					Cow			
Teff					calf			
Sorghum					heifer			
Barley					Bull			
Millet					Camel			
Horse beans					Sheep			
Field pea					Goat			
Chick pea					Donkey			
Grass pea					Mule			
Haricot bean white					Horse			
Haricot bean red					Chicken			
Lentils					Other- l (Sp)			
Vetch								
Nueg								
Flax								
Sesame								
Rape seed								
Other (Specify _____)								

2. Flow of the supply and the buyers
  - From where is the grain supplied to the market (woreda, zone, region)
  - From where are the buyers coming? - (kebele, woreda, zone, region)
3. Type of suppliers and buyers
  - Suppliers (traders, farmer.)
  - Buyers (traders, consumers)
4. If food aid commodities are traded in the market:
  - Type of the food aid commodities marketed
  - Estimation of volume of the traded commodity (high volume, medium, low)
  - Source of the commodity /who are the suppliers
  - Who are the buyers – to where is the commodity transported
5. Market infrastructure—within the market (storage, road, transport)  
Type of transport used (trucks, equine)

# ANNEX VI: SMALLHOLDER AND COMMERCIAL FARMS

## GRAIN PRODUCTION

Smallholder and Commercial Farms Grain Production 2012/13-2016/17; and 2017/18 Estimation by season (Ha and MT.)

Year	Smallholder farms				Commercial Farms (Belg and Meher)		Total		Growth		Yield
	Belg		Meher								
	Area	Production	Area	Production	Area	Production	Area	<a href="#">Production</a> <sup>24</sup>	Area	Production	
2009/10	1,017,562.00	680,558.4	11,503,249.48	18,075,889.6	300,956.00	511,818.6	12,821,767.48	19,268,266.6			15.03
2010/11	1,244,408.60	1,316,535.9	11,822,786.19	20,348,528.8	415,502.30	852,216.3	13,482,697.09	22,517,281.0	5.15	16.86	16.7
2011/12	1,173,048.00	900,823.1	12,086,603.89	21,857,043.0	452,244.00	932,741.2	13,711,895.89	23,690,607.3	1.7	5.21	17.28
2012/13	1,230,769.94	980,477.0	12,282,929.98	23,128,847.2	569,825.62	995,677.4	14,083,525.54	25,105,001.6	2.71	5.97	17.83
2013/14	1,327,860.50	1,097,057.2	12,407,473.46	25,153,662.4	602,313.70	1,191,995.3	14,337,647.66	27,442,714.8	1.8	9.31	19.14
2014/15	1,174,149.00	893,446.6	12,558,444.56	27,039,604.8	612,081.21	1,215,103.9	14,344,674.77	29,148,155.3	0.05	6.21	20.32

<sup>24</sup> Production estimates and forecasts for the 2016/17 and 2017/18 respectively are results of three years moving average.

2015/16	1,770,993.40	1,908,522.7	12,486,270.86	26,682,880.7	628,433.64	1,258,127.8	14,885,697.90	29,849,531.1	3.77	2.41	20.05
2016/17								28,813,467.1			
2017/18								30,167,600.7			

**Amount of Fertilizer imported and distributed between 2002 and 2017 (MT)**

<b>Year</b>	<b>Federal</b>	<b>Amhara</b>	<b>South</b>	<b>Tigray</b>
<b>2002</b>	457,542			
<b>2003</b>	271,322			
<b>2004</b>	380,607			
<b>2005</b>	482,186			
<b>2006</b>	521,019			
<b>2007</b>	433,315			
<b>2008</b>	487,574			
<b>2009</b>	728,202			
<b>2010</b>	806,096			
<b>2011</b>	818,054			
<b>2012</b>	1,172,705	229,195		45,064
<b>2013</b>	969,306	245,351	153,244	50,886
<b>2014</b>	1,128,089	296,757	166,214	61,374
<b>2015</b>	1,187,190	308,321	152,155	47,670
<b>2016</b>	817,463	336,875	180,842	43,439
<b>2017</b>	1,290,000	386,725		

*Sources: MoANR and the respective Regional Agriculture and Natural Resource Bureaus*

# **ANNEX VIII: STUDY TEAM DISCLOSURES OF CONFLICT OF INTEREST**

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Mikoreb Magut
Title	
Organization	
Evaluation Position?	<input checked="" type="checkbox"/> Team Leader <input type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	Ethiopia performance Monitoring and Evaluation Service. Crop Availability and Market Study
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>If yes answered above, I disclose the following facts:</b></p> <p><i>Real or potential conflicts of interest may include, but are not limited to:</i></p> <ol style="list-style-type: none"> <li>1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated.</li> <li>2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation.</li> <li>3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project.</li> <li>4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated.</li> <li>5. Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated.</li> <li>6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation.</li> </ol>	


I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

Signature	Mikoreb Magut
Date	6/30/17

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Getachew Olena
Title	
Organization	
Evaluation Position	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	
USAID Project(s) Evaluated (include project name(s), implementor name(s) and award number(s), if applicable)	EPMES/ Crop availability & Market study
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>If yes answered above, I disclose the following facts:  <i>Real or potential conflicts of interest may include, but are not limited to:</i></p> <ol style="list-style-type: none"> <li>1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated.</li> <li>2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation.</li> <li>3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project.</li> <li>4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated.</li> <li>5. Current or previous work experience with an organization that may be seen as an industry counterpart with the implementing organization(s) whose project(s) are being evaluated.</li> <li>6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation.</li> </ol>	

I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

Signature	
Date	July 03/2017



Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Nurikedir
Title	
Organization	
Evaluation Position	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	
USAID Project(s) Evaluated (include project name(s), implementer name(s) and award number(s), if applicable)	EPMES/ Crop Availability & Market study
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>If yes answered above, I disclose the following facts:</p> <p>Real or potential conflicts of interest may include, but are not limited to:</p> <ol style="list-style-type: none"> <li>1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated.</li> <li>2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation.</li> <li>3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project.</li> <li>4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated.</li> <li>5. Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated.</li> <li>6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation.</li> </ol>	


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Signature	
Date	06/07/17

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Raya Abayodu
Title	Team Leader
Organization	Indepent
Evaluation Position	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	
USAID Project(s) Evaluated (include project name(s), implementer name(s) and award number(s), if applicable)	Ethiopia Performance Monitoring & Evaluation Service Crop availability and Market Study
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>If yes answered above, I disclose the following facts:</p> <p>Real or potential conflicts of interest may include, but are not limited to:</p> <ol style="list-style-type: none"> <li>1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated.</li> <li>2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation.</li> <li>3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project.</li> <li>4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated.</li> <li>5. Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated.</li> <li>6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation.</li> </ol>	

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Signature	
Date	06/07/17

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