



**USAID**  
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**BEST Project**  
Bellmon Estimation Studies  
for Title II (USAID-BEST)

USAID OFFICE OF FOOD FOR PEACE

USAID-BEST ANALYSIS

ETHIOPIA

JUNE 2013

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# Preface

During the months of February-March 2013, the Bellmon Estimation Studies for Title II (USAID-BEST) team undertook a study of the current state of agricultural markets in Ethiopia to inform USAID food assistance programming decisions.

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## Acronyms and Notes

AISE	Agricultural Input Supply Enterprise
ALT	Assets and Livelihood Transition
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
ATA	Agricultural Transformation Agency
AU/NEPAD	African Union's New Partnership for Africa's Development
BOARD	Board of Agriculture and Rural Development
BEST	Bellmon Estimation Studies for Title II
CAADP	Comprehensive Africa Agriculture Development Programme
CFSAM	Crop and Food Security Assessment Mission
CIDA	Canadian International Development Agency
CIF	Cost, Insurance, and Freight
COMESA	Common Market for Eastern and Southern Africa
CPI	Consumer Price Index
CRS	Catholic Relief Services
CSA	Central Statistical Agency of Ethiopia
CSB	Corn Soy Blend
DA	District Authority
DAP	Di Ammonium Phosphate
DFID	UK Department for International Development
DMFSS	Disaster Management Food Security Sector
EC	European Commission
ECEPAPA	Eastern and Central Africa Program for Agricultural Policy Analysis
ECX	Ethiopian Commodity Exchange
EFSRA	Emergency Food Security Reserve Administration
EGTE	Ethiopian Grain Trading Enterprise
EPA	Economic Partnership Agreement
ER	Emergency Relief
ERC	Ethiopian Railway Cooperation
ERCA	Ethiopian Revenue and Customs Authority
ESA	Eastern and Southern Africa
ESE	Ethiopian Seed Enterprise
ESFRA	Ethiopian Strategic Food Reserve Agency
ETB	Ethiopian Birr
EU	European Union
FAO	Food and Agriculture Organization
FEWS NET	Famine Early Warning Systems Network
FFE	Food For Education
FFP	Food For Peace
FOB	Free On Board
FY	Fiscal Year
GDP	Gross Domestic Product
GMO	Genetically Modified Organism
GNI	Gross National Income
GoE	Government of Ethiopia
HABP	Household Asset Building Program
ha	hectares
HEA	Household Economy Approach
HRW	Hard Red Winter

IFPRI	International Food Policy Research Institute
IGAD	Inter-Governmental Authority for Development
IMF	International Monetary Fund
IPP	Import Parity Price
ITSH	Internal Transportation, Storage, and Handling
JEOP	Joint Emergency Operational Plan
LEAP	Livelihoods Early Assessment and Protection
LIU	Livelihood Integration's Unit
LRP	Local and Regional Procurement
LZ	Livelihood Zone
MEWIT	Merchandise Wholesale and Import Trade Enterprise
MIS	Market Information System
MMU	Monetization Management Unit
MOARD	Ministry of Agriculture and Rural Development
MOFED	Ministry of Finance and Economic Development
MT	metric tons
MYAP	Multi-Year Assistance Program
NBE	National Bank of Ethiopia
NGO	non-governmental organization
NMA	National Meteorological Agency
PA	Peasants Association
PAP	Pastoralist Area Pilot
PET	Pictorial Estimation Technique
PPP	Purchasing Power Parity
PSNP	Productive Safety Net Programme
PVO	Private voluntary organization
Qt	Quintal
RRA	Rapid Rural Appraisal
SNNPR	Southern Nations, Nationalities, and People's Region
TEU	Twenty-foot Equivalent Units
UK	United Kingdom
US\$	United States Dollar
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
USG	United States Government
VAT	value added tax
WFP	World Food Programme

Exchange Rate: US\$1 = 18.45 ETB (March 2013)

## Acknowledgments

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We extend our deep appreciation to the Disaster Risk Management Food Security Sector for their support. We express our sincere thanks to our data collection and analysis teams for the hard work and dedication that they put into this assignment, and to the USAID ALT Office for their support in facilitating this study, and for assistance in obtaining information whenever asked.

Finally and most importantly, we thank the numerous representatives of the public and private commercial sector who granted us interviews and provided us with insight into the grain and oil trade in Ethiopia.



# Chapter 1. Executive Summary

## 1.1. Motivation and Background

This report, based on desk research and field work from March-May 2013, details the results of a study designed to support a Bellmon determination and to assess the feasibility of whether increased cash assistance can replace food aid within the context of the Productive Safety Net Programme (PSNP) in Ethiopia.

The study begins with a synopsis of Ethiopia's current macroeconomic situation, followed by an assessment of production based upon meteorological and agronomic data. In light of this information, the analysis then examines the potential impact of Title II food distributions undertaken within the context of the PSNP. Lastly, the study concludes by considering the possible outcomes of the Government of Ethiopia (GoE<sup>1</sup>) proposed transition from food to cash transfers under the PSNP program, and offers recommendations if such a switch does occur.

This study examines in detail the period between June 2012-April 2013 to analyze how events in this period have affected the availability and affordability of food for Ethiopian households. Such events include the previous *meher* season, world markets, and the activities of agencies including the GoE, USAID, WFP and other private voluntary organizations (PVOs) who have distributed substantial volumes of imported food

## 1.2. Methodology

Much of the information in this report comes from interviews of key stakeholders at a national level and a Rapid Rural Appraisal (RRA) of both farmers and traders in “productive *woredas*”<sup>2</sup> and PSNP *woredas* who are receiving food, cash, or a combination of the two.<sup>3</sup> The study also draws from review of existing grain markets, transport, and the various market interventions that have been implemented during the last three years. The table below shows the wide range of data collected from various categories of respondents.

**Table 1. Interview Respondents**

Category of Respondent	Data collected	Collection Method
Farmers	Production, storage, and trade	Focus Group
Traders	Storage, trade, expectations, and constraints	Guided Interviews
Cooperatives	Production, inputs, storage, trade, expectations, and constraints	Guided Interviews
Merchants: Private sector	Import volumes and trends, prices and constraints	Guided Interviews
Importers: Donors	Import volumes	Interviews
Importers: MEWIT	Import volumes and trends, prices and constraints	Interview
Transporters: Private Sector and WFP	Volumes, prices and nature of trade	Interviews
Urban Wholesalers	Volumes and prices, trends and constraints	Interviews
FAO	Production estimates and prices, crop assessment procedures	Interview

<sup>1</sup> Also sometimes referred to as the Government of the Federal Democratic Republic of Ethiopia (GFDRE), but this report will use the acronym GoE to remain consistent with USAID-BEST style.

<sup>2</sup> Productive *woreda* is a common term in Ethiopia used to refer to *woredas* in which production is generally sufficient to feed inhabitants, with some commercial surplus possible. Most but not all productive *woredas* are non-PSNP *woredas*.

<sup>3</sup> The results of the RRA were subject to data cleaning and analysis before review.

Category of Respondent	Data collected	Collection Method
WFP	Imports, local/regional purchases, assessment methodologies	Interviews
CSA	Crop Forecast Data, CPI	Interview and data collection
FEWS NET	Production, meteorological data	Interview and data collection
AISE and ESE	Input supply and use in 2011/12	Interview
EGTE	Purchase levels, prices and market trends	Interview and data collection
Oil processors and Millers	Input and product prices and market trends	Guided Interviews
EFSR	Stocks	Interview and data collection

Source: USAID-BEST.

The table below indicates the numbers and distribution of the RRA respondents:

**Table 2. Zones, Woredas and Kebeles Covered and Traders and Farmers Interviewed**

Status	No. of Kebeles	No. of Farmer FGD participants	Traders	Markets	Woredas
PSNP	96	760	152	50	50
Non-PSNP	64	490	87	30	30
Total	160	1,250	239	80	80

Source: USAID-BEST.

### 1.3. Macroeconomic Overview

GDP growth in Ethiopia has slowed against a backdrop of declining inflation and a deteriorating balance of payments. Between 2005-10, the overall GDP growth reportedly dropped from 11 percent to 8.5 percent, and that number is estimated to fall to 6.5 percent in 2013. Initial growth was driven by a substantial program of government spending, but domestic revenues have failed to increase and continue to be less than 12 percent of GDP, making such programs difficult to sustain.<sup>4</sup> Future growth is particularly dependent upon private and especially foreign investment, but this income has not yet increased to the levels necessary to support continued GDP growth at or above current levels. A substantial proportion of Ethiopia's reported economic development has been based upon the contribution of the agricultural sector, where growth has fallen from an average of 8.4 percent between 2005-10 to 4.9 percent in 2012.<sup>5</sup> The evidence of the RRA and other data suggests that these figures and consequently the overall GDP estimates have been overestimated. Inflation has declined substantially from a moving annual average of 33.2 percent to 22.4 percent, due mainly to a reduction in food prices. Non-food inflation has not declined as rapidly and is now the dominant component of Consumer Price Index (CPI) increases. To control inflation, the GoE has imposed restrictions on the availability of credit and reduced the rate of increase in broad money.<sup>6</sup> A lack of credit was reported as a consistent constraint among many traders who had been obliged to restrict their business activities as a result.

<sup>4</sup> As revenues have remained inadequate, the government has been obliged to raise funds through moral suasion (e.g., all government employees were expected to contribute one month's salary to the Grand Renaissance Dam).

<sup>5</sup> Growth and Transformation Program Annual Report for 2011/12

<sup>6</sup> In this context, the term broad money is defined as per the Ethiopian Economics Association and to represent both narrow money (i.e., currency outside banks and net demand deposits) and quasi money (savings and time deposits).

A negative balance of trade of US\$2.8 billion and a controlled foreign exchange rate has created a shortage of foreign exchange and the development of a real exchange rate some 10-15 percent higher than the official rate. Although relaxation of the controlled rate of currency depreciation could resolve this situation, doing so would inevitably increase long term inflationary pressures. Monetary policy makers now face the dilemma of either stimulating exports and easing the availability of foreign exchange or maintaining control of inflation.

#### 1.4. Assessment of Food Availability

USAID-BEST assessed crop production in the 2012 *meher* season based on rainfall, crop input utilization, and the incidence of hazards. Analysis of rainfall data suggested the production of short-cycle crops (teff, wheat, and barley) to have been relatively good as compared with the previous year. Long-cycle crops (maize and sorghum) were negatively affected by the late onset and early termination of rains in the south and eastern parts of the country, but the impact was minimal in the central and western regions where they are most produced. Intermittent rains experienced in the north, south, and eastern parts of the country would have negatively affected production of all crop types in those areas. Overall, meteorological data suggested an average to good season that might be at least comparable to the previous year. An assessment of the incidence of crop hazards<sup>7</sup> produced similar results to the above.

#### 1.5. Distributed Food Aid

Ethiopia remains a net importer of food. The country imports edible oil and bread wheat in substantial quantities and subsidizes the food security of 6.9 million PSNP beneficiaries by providing regular food and cash transfers over a six month period each year.

Stakeholder responses to the RRA indicated the limited impact of Title II PSNP food transfers on the market. Price variations as a result of food transfers that do occur were commonly of limited extent (up to 10 percent in the majority of cases) and duration (commonly less than four weeks). Moreover, almost all traders and producers alike said that they had not altered their business or cropping practices significantly as a result of previous PSNP food aid distributions. Many traders indicated that food aid transfers helped to stabilize the market and reduce risk.

The Port of Djibouti can adequately handle the anticipated volumes of Title II food aid and the storage capacity available substantially exceeds the amount expected.

Both the analysis of the macroeconomic grain market and the micro-level impacts recorded by household focus discussion groups and by traders suggest that the anticipated volume of 127,090 MT of distributed food aid to be called forward by awardees in Fiscal Year (FY)13 would create no significant disincentives to production or marketing. Traders in particular noted almost no disincentive effects and some benefits from food aid distribution under the PSNP. Further assessment of current storage and handling facilities suggested that such a volume would be efficiently handled and stored.

#### 1.6. Shifting from In-Kind Food Aid to Cash

More than 74 percent of the PSNP beneficiaries surveyed in the RRA preferred exclusive food transfers over all other options, including cash/food combinations. They worried more about their capacity to afford food rather than its availability in the market.

Regarding the switch from food to cash transfers, traders stated a number of concerns such as the limited availability of credit, the supply of grain, the costs of transport to remote areas, their

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<sup>7</sup> Hazards include hail, frost, bird and insect damage, flooding, disease (mainly wheat rust), heavy rain and landslides.

capacity to meet the expanded business opportunities, and the difficulties of determining an effective cash transfer amount in a volatile grain market where prices increase unpredictably.

The results of the RRA suggest that traders have the capacity to source and transport grain from remote areas into the PSNP *woredas*, although the cost of transport can add an additional 2-40 percent to Regional grain prices. However, traders face constraints in accessing additional credit to increase sales in response to an expanded market in PSNP areas. The RRA also found that traders were risk averse and had no inclination to increase stockholdings in anticipation of increased future demand, but would instead react directly to existing prices. Overall, traders' responses to the RRA suggest that in the majority of *woredas* canvassed traders have both a presence and the capacity to expand that presence given assistance in the sourcing of finance.

Beneficiary responses to the RRA showed that the absolute value of either the cash or food transfer is not of fundamental significance and that in some *woredas*, both cash and work itself are shared to achieve a more equitable distribution within the community. The majority of beneficiaries suggested that the PSNP transfers amount to no more than 25 percent of the food they consume or the cash they spend on food during the months when food or cash respectively are distributed. Instead, it was reported that the relative value of the cash transfer and the fear that it will not be able to keep up with rising prices results in the preference for food over cash.

Wage rates in 2012 have risen by 25-39 percent, i.e., faster than food price increases, this phenomenon suggests that the cost of living has increased at a similar rate so that a cash transfer based upon the cost of food alone would be inadequate for household needs.

Although it is impossible to predict future food prices, the current circumstances of ongoing inflation and limited food production suggest that food prices will almost certainly continue to rise, which erodes the relative value of a cash transfer. From this perspective, for almost all PSNP beneficiaries, food is considered the best bet.

### **1.6.1. Recommendations for Title II Programming**

PVOs should identify the few *woredas* not served by traders and actively engage traders to operate in these areas through credit facilitation and, if necessary, the incentive of a guaranteed minimum return during the initial two years of investment.

Furthermore, instead of a switch from food to cash, PVOs should consider the introduction of a mobile phone-based voucher system through which beneficiaries would be able to obtain food at participating stores. Traders would then redeem those vouchers for cash equivalent to the current wholesale prices of the commodities. Vouchers should be specific to each *woreda* so as to allow the cost of transport from the nearest surplus market to be included as a premium on each transaction.

If vouchers are not utilized, PVOs should customize cash transfers to each *woreda* so as to take the costs of transport into account. Cash transfers should initially be calculated on the basis of the local costs of the standard ration and increased by a factor of 25 percent to allow for seasonal and unpredicted price variations. Thereafter, transfers should be indexed against the local cost of labor that is determined by CSA assessments.

Finally, PVOs should implement programs in each PSNP *woreda* to facilitate the provision of credit – either through receiving vouchers or through direct cash sales – to those traders that might participate in the market expansion process. PVOs could guarantee credit through microfinance institutions or finance these traders directly and receive repayment through the redemption of vouchers or cash revenues.

## Chapter 2. Macroeconomic Overview

### 2.1. Introduction

This chapter highlights the underlying elements of the economy, such as gross domestic product (GDP) growth, balance of payments, exchange rate, and money supply, before considering some of the key aspects that are particularly relevant to agricultural development and food security.

### 2.2. GDP Components and Growth

The service sector has just barely outpaced agriculture in the last four years as the major contributor to GDP, although national growth still very much relies on agriculture. The industrial sector has not developed at the same rate and has diminished in relative significance.

**Table 3. Components of Real GDP (%), 2004/05-11/12**

Sector	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Agriculture	47.4	47.1	46.1	44.6	43.1	42	45.6	44
Industry	13.6	13.4	13.2	13	13	13	10.6	11.1
Service	39.7	40.4	41.7	43.5	45	46.1	44.5	45.6

Source: MoFED – Growth and Transformation Program Annual Progress Report 2011/12.

Until 2012, Ethiopia reported double digit GDP growth. As the table below shows, the GDP for agriculture declined to 4.9 percent in 2012, which dragged down overall real GDP growth to 8.5 percent. The latest estimate of overall GDP growth for 2012-13 from the International Monetary Fund is 6.5 percent.<sup>8</sup>

**Table 4. Real GDP Growth Rates by Sector**

Sector	Average 2005/06 – 2009/10	2010/11	2011/12
Total GDP	11.0	11.4	8.5
Agriculture	8.4	9.0	4.9
Industry	10.0	15	13.6
Services	14.6	12.5	11.1

Source: MoFED – Growth and Transformation Program Annual Progress Report 2011/12.

However, the accuracy of reported rates of growth has been questionable. On the one hand, the recorded increases in agricultural production appear to have occurred irrespective of weather conditions and without any commensurate investment in either technology or human capital. Additionally, the increase in the amount of revenue collected by the GoE should parallel reported GDP growth, but it does not. In fact, despite GoE efforts to enhance revenue collection procedures and capacity, revenue has declined as a percentage of GDP to 11.6 percent, as compared with 17 percent for most of sub-Saharan Africa.<sup>9</sup>

The expansionary monetary policy from 2005 onwards spurred the initial GDP growth along with increased public spending that has significantly upgraded urban and rural infrastructure. However, such an environment has predicated the economy towards inflation. Given the limited domestic revenue stream, the sustainability of this initiative will depend on the extent to which it can attract further investment, either domestic or foreign. Foreign Direct Investment (FDI) for 2011-12 stood at 20 billion Ethiopian Birr (ETB), or 2.7 percent of GDP. Data from other

<sup>8</sup> "IMF sees Ethiopia's economic growth slowing as private sector struggles". <http://www.cnbc.com/id/100760984>.

<sup>9</sup> Growth and Transformation Program Annual Progress Report 2012. (page 21)

countries suggest that this amount is not adequate to sustain the kind of growth rates reported in the past.

### 2.3. Exports and Balance of Trade

Although exports continued to increase between 2010-12, merchandise imports grew even more rapidly, so Ethiopia continues to face a negative balance of trade. As the negative balance is financed by remittances, donor funds, FDI, and loans, all of which have declined, the current account deficit has grown from US\$0.2 billion to US\$2.8 billion from 2010-11 to 2011-12.

**Table 5. Balance of Payments (USD Billions), 2010/11-2011/12**

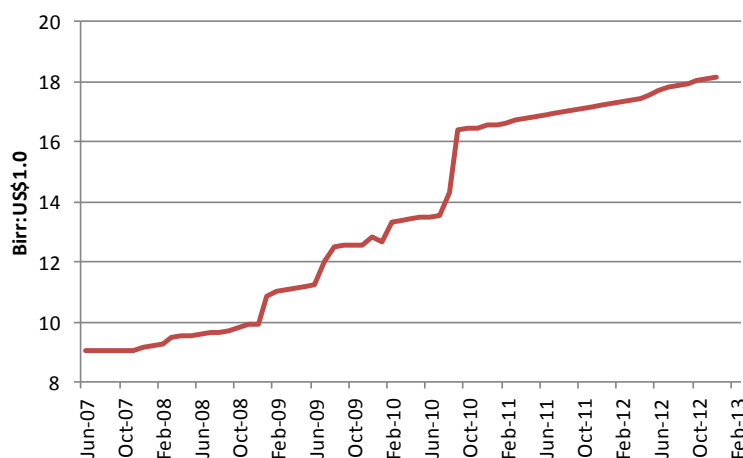
Indicator	2010/11	2011/12
Merchandise exports	2.75	3.15
Merchandise imports	8.25	11.06
Trade balance	-5.51	-7.81
Net Services	0.69	.08
Private transfers	2.75	3.25
Public transfers	1.86	1.79
Current Account balance	-0.21	-2.80

Source: National Bank of Ethiopia.

The increasing current account deficit has occurred against a backdrop of increased government imports of food (palm oil and wheat) and construction materials (notably steel) that have restricted the availability of foreign exchange to the private sector. Commercial stakeholders report that the availability of foreign exchange from banks is now on a discretionary basis (based upon criteria that are not well understood) and that for ordinary commercial purposes, delays of two-three months to access foreign exchange are now common. As a result, a black market has resurfaced with a premium of at least 10 percent over the official rate.

Further devaluation of the Ethiopian Birr could ameliorate both the balance of payments and the availability of foreign exchange, but accelerated devaluation would contribute to inflation, which has been an ongoing concern since 2008. Ever since a major shift in the exchange rate in August 2010, the GoE has controlled the devaluation of the currency (see figure below), but the current rate of movement is insufficient to meet the demand for foreign exchange.

**Figure 1. Exchange Rate Movement, June 2007 - February 2013**



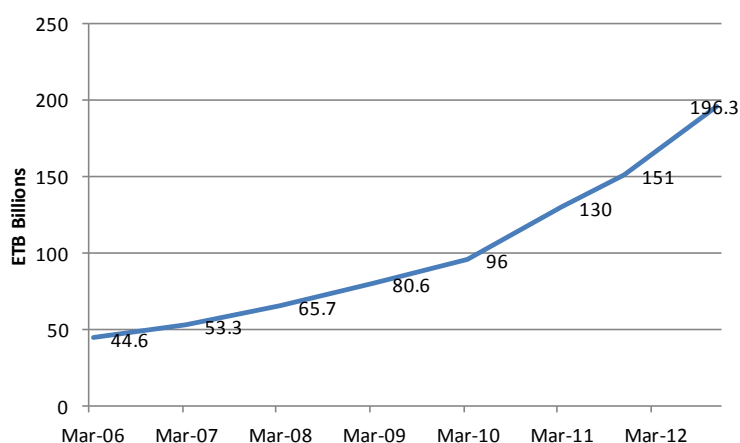
Source: National Bank of Ethiopia.

Policy makers now face the dilemma of either stimulating exports and easing the availability of foreign exchange or maintaining control of inflation.

## 2.4. Money Supply

In the last seven years the National Bank of Ethiopia has increased the money supply substantially and, by 2011, the inflationary impact of this action became apparent. Over the last 18 months, some measures have been introduced to curtail further expansion of the money supply, but even so, the money supply increased by 38 percent in Ethiopian Fiscal Year (EFY)11<sup>10</sup> and by at least a further 30.3 percent in EFY12<sup>11</sup>. (See figure below.) The actual increase in EFY12 may be substantially greater than reported due to the mobilization of savings that would otherwise be considered “dead money.” Many households have accumulated savings that have been kept at home and effectively sequestered from the economy. During the last 18 months, an explosion in the rural banking facilities of the National Commercial Bank from 185 branches (total over the six decades up to 2011) to over 600<sup>12</sup> in 2012 has resulted in the deposit and mobilization of these savings, effectively adding to the money supply. This substantial outreach resulted in the increased mobilization of deposits by commercial banks of 49.3 percent.

**Figure 2. Increase in Money Supply (ETB billions), March 2005 to March 2012**



Source: National Bank of Ethiopia/GTP APR 2011 and 2012.

### 2.4.1. Inflation

The controlled increase in money supply has been programmed to balance the anticipated GDP growth and is expected to result in the control of inflation. Inflation did indeed decrease from 33.2 percent at the end of 2011 to 22.7 percent at the end of 2012. During that period, much of the reduction occurred as a result of stabilized food prices; food inflation fell from 39.2 percent to 24.8 percent. As the figure below highlights, the non-food component of inflation has decreased somewhat from 24.9-19.4 percent,<sup>13</sup> although in Oromiya, the Southern Nations,

<sup>10</sup> Growth and Transformation Program Annual Progress Report 2011.

<sup>11</sup> Growth and Transformation Program Annual Progress Report 2012.

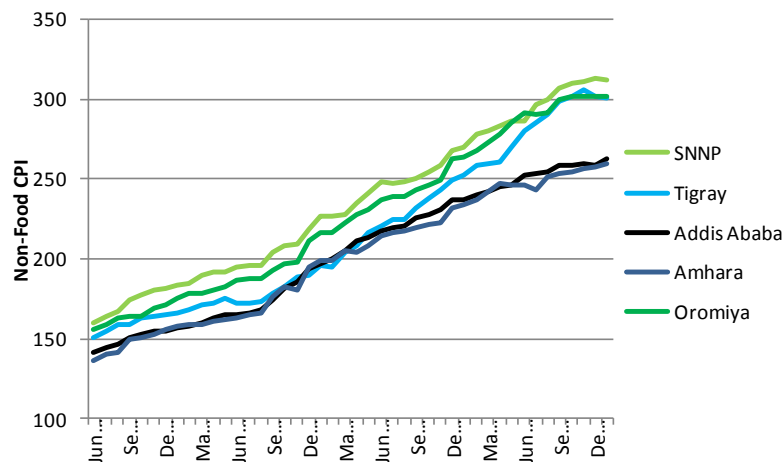
<sup>12</sup> NCBE Board Member – Personal Communication.

<sup>13</sup> Country level 12-month moving average inflation rates quoted from the Central Statistical Office Consumer Price Indices - Bulletin 63.



Nationalities, and Peoples Region, and Tigray, non-food inflation has yet to show a consistent decrease.

**Figure 3. Inflation as Indicated by Regional Non-food CPI Data**

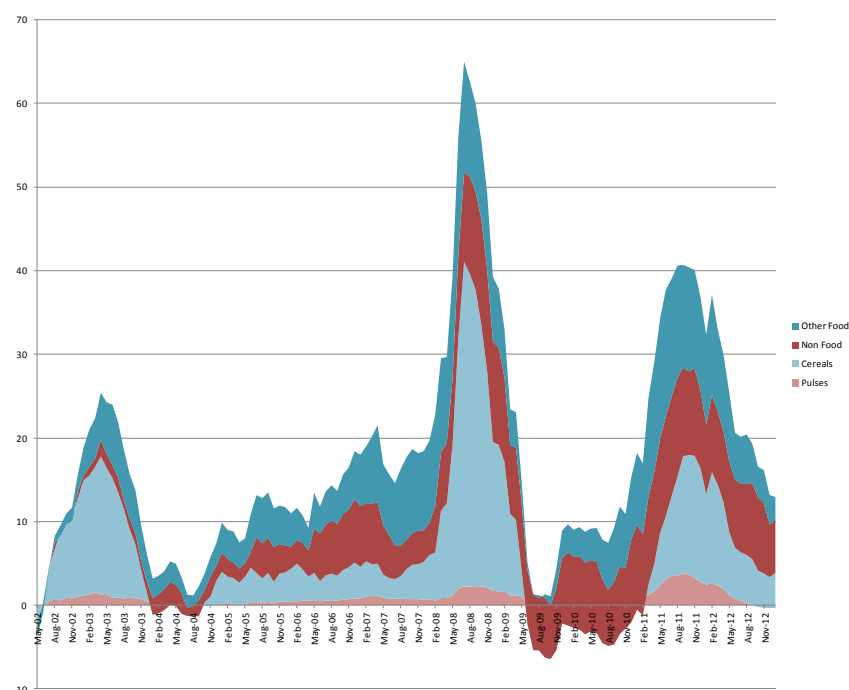


Source: CSA Monthly CPI Reports

An analysis of the components of inflation (Figure 4) shows how rising food prices drove inflation in 2002-03, 2008, and 2011. The inflationary impact of a substantial shortfall in production (of around 30 percent) was comparatively small in 2002-03; while in 2008, high rates of inflation were caused by a much smaller drop in food production (due to the failure of the *belg* rains, production from which constitutes no more than 10 percent of annual yields), the effects of which were exacerbated by the substantial oversupply of broad money. That oversupply has been corrected to some extent and a similar shortfall in crop production in 2011 resulted in a significantly lower price increase. Given consistent prudent management of broad money growth, it is unlikely that a drop in production of a similar order of magnitude would result in such a large spike in prices now or in the near future.



**Figure 4. Components of Inflation**



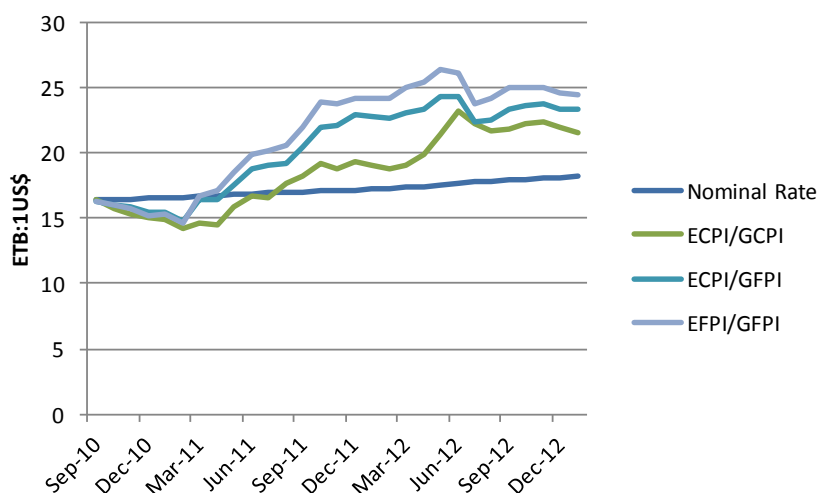
Source: CSA CPI data.<sup>14</sup>

Nevertheless, the non-food component is now the major contributor to ongoing inflation, suggesting that a dislocation between the growth of the money supply and GDP growth continues to exist.

As a result of locally induced inflation, the cost of goods will rise faster domestically than they will externally. In a free market, this phenomenon would result in a compensatory shift in the exchange rate. In practice, this outcome has not occurred. It is possible to calculate a “real” exchange rate relative to a selected starting date using price indices for a basket of commodities priced both in ETB and international currencies. Such a rate should theoretically track the actual exchange rate. Differences between the “real” and actual rates will reflect the extent to which the ETB is over or undervalued. This exercise was repeated twice using different commodity indices and the last major devaluation date (September 2010) as the point of reference. The results (see figure below) show that immediately following devaluation, the real exchange rate actually strengthened, but that inflation in 2011 (due largely to increased food prices) resulted in a substantial depreciation in the real exchange rate. Through much of 2012 however, the real exchange rate has stabilized or strengthened slightly, although it remains significantly higher than the nominal rate, by approximately 18-33 percent. The results are relatively independent of the price indices used, suggesting that they are robust and realistic.

<sup>14</sup> The CSA has now changed its CPI basket of commodities such that an analysis of the components of inflation to include cereals and pulses is no longer possible.

**Figure 5. Calculated Variations in Real Exchange Rate**



Sources: CSA, Index Mundi (CPI: Ethiopian Commodity Price Index, ICP: International Commodity Price Index, FPI: International Food Price Index, EFPI: Ethiopian Food Price Index, GFPI: Global Food Price Index)

The implications of the overvalued ETB are threefold: 1) it indicates that prices in Ethiopia have been rising faster than they have internationally so it negates the argument that inflation has been imported into the country; 2) an overvalued ETB prevents exports from receiving their real value once the export proceeds have been converted from international currencies into ETB and it thus reduces the competitiveness of exports; and subsequently, 3) imports (provided foreign currency is available) become more attractive because it is cheaper to import goods in ETB than it would be at the real exchange rate.

An overvalued ETB is especially relevant to the GoE importation of wheat and edible oil, which are effectively subsidized by up to 25 percent of the Free on Board (FOB) price (i.e., the average difference between real and nominal exchange rates) underwritten by Ethiopian exporters.

Informal trade does not suffer from these imbalances. Therefore, as the gap between the real and nominal exchange rate increases, so does the pressure on the market to engage in informal trade. Moreover, given an artificially low cost of foreign currency, the demand for foreign exchange will inevitably exceed supply. As a result, banks are obliged to ration foreign exchange on a first come-first served basis, under which traders report that it can take three months or more to receive a foreign exchange allocation to import goods.

As a result of the shortage of foreign exchange, some importers have begun to export goods so that they can import on a *franco valuta*<sup>15</sup> basis. Traders report that sesame and other export commodities have been purchased by larger trading houses at domestic prices that often exceed export parity, but that the inevitable export losses can be offset by profits made on the importation of goods purchased with the foreign exchange earned.

## 2.5. Credit

<sup>15</sup> *Frango valuta* imports are goods imported without foreign exchange expenditure from the domestic banking system. In the Ethiopian context, this refers to imports paid for from export earnings retained abroad.

The availability of credit affects market liquidity, and hence the volume of grain that can be traded at any given time. Until 2005, the majority of traders complained that they could not access credit; this hindrance may have contributed to the limited number of players on the market. Over the next three years, as a result of an expansionary fiscal policy, the availability of credit expanded considerably so that by late 2008, almost all traders could access credit and the market was substantially broader (with consequent benefits to farmers who were able to negotiate higher prices). Following the inflationary period of 2008-09, the GoE began to impose credit constraints that limited the purchasing power of traders. While the GoE eased these policies in 2010, new regulations since then have reduced the availability of credit once more. Specifically, the requirement for commercial banks to hold 27 percent of their borrowings as government bonds has reduced the liquidity of banks substantially. Although the statutory reserve was reduced from 15 percent to 10 percent in January 2012 and by a further 5 percent in December 2012, this effort to release funds for credit was not adequate to offset the impact of the bond requirement so commercial lending was still reduced.

Larger merchants report that finance is hard to obtain unless through government banks or as export credits. Despite the availability of collateral, very little finance is available through the commercial banking sector.

Such constraints are less apparent among smaller traders. A comparison of the 2013 and 2012 RRA found that slightly more than 59 percent of small grain traders surveyed were able to access credit in some form in 2012, as opposed to 48 percent in 2011. By contrast, 72 percent of the sampled cooperatives reported that they had access to credit in 2012, as compared with 82 percent the previous year. Among surveyed small traders, 51 percent reported that credit had become harder to obtain, as compared with 61 percent the year before, while 32 percent of cooperatives reported the same as compared with 50 percent the year before.

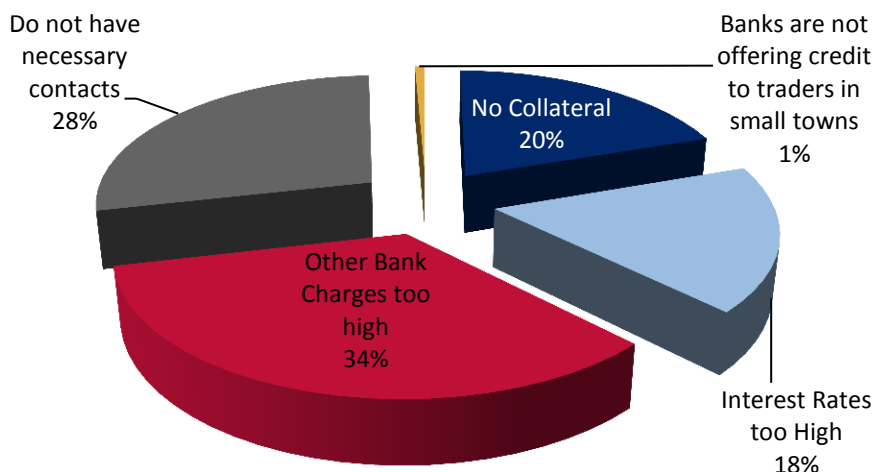
**Table 6. Response to the Question “Is Credit Harder to Obtain Than Last Year?”**

<b>Number of Respondents</b>	<b>Grain Traders</b>	<b>Cooperatives</b>
Yes, Credit is Less Available	100	11
Yes, Credit is available but interest rates have gone up,	18	9
No	80	14

*Source: RRA 2013.*

The overall picture is surprisingly of a small but consistent easing of credit availability among rural traders. Nevertheless, of the 236 traders that responded in 2013, 55 percent indicated that a lack of credit constrained their business. Figure 6 shows the reasons for not being able to access adequate credit.

**Figure 6. Constraints to Access of Credit (n=118)**

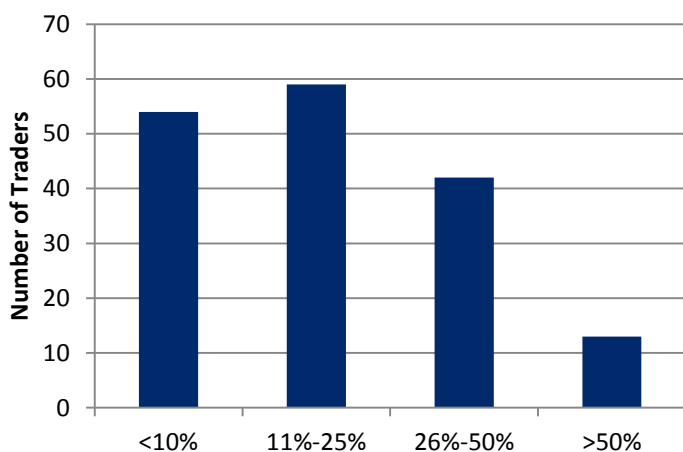


Source: RRA 2013.

Lack of collateral was a constraint for only 20 percent of traders, whereas the cost of finance in terms of interest rates and bank charges was the main constraint for 52 percent of those surveyed. Notably, less than 1 percent reported that financial services were not available.

Eighty-five percent of the traders experiencing a lack of credit reported that they had reduced the extent of the business, purchasing and selling less grain. The general extent of this contraction in business appeared to be between 10-25 percent.

**Figure 7. Extent of Reported Reductions in Grain Purchases/Sales (n=229)**



Source: RRA 2013.

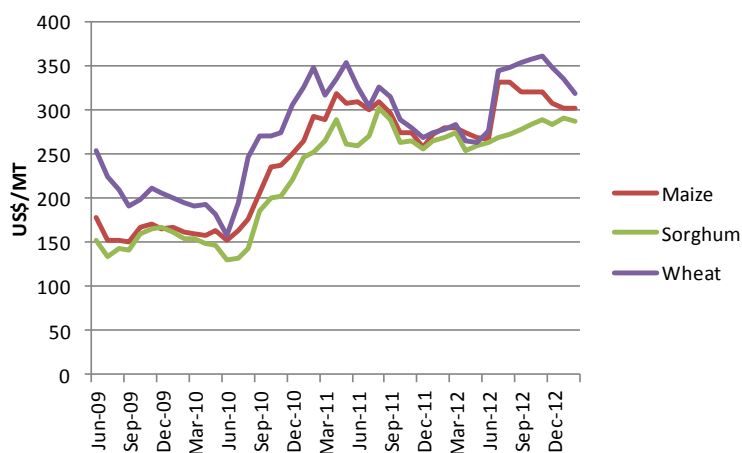
## 2.6. Domestic and International Market Developments

There have been a number of developments in international and domestic markets for cereals, pulses, and oilseeds. The following sections in particular examine the international and domestic prices of these commodities.

## 2.6.1. Cereals

**International cereal prices.** Over the last four years, as the figure below shows, international cereal prices have trended in three phases. First, prices were moving sharply downwards in 2009 from the peaks experienced in 2008. However, with the development of the Euro crisis, prices rose sharply upwards until about May-June 2011. After this high point, prices entered a third phase and decreased once more.

**Figure 8. International Cereal Prices**

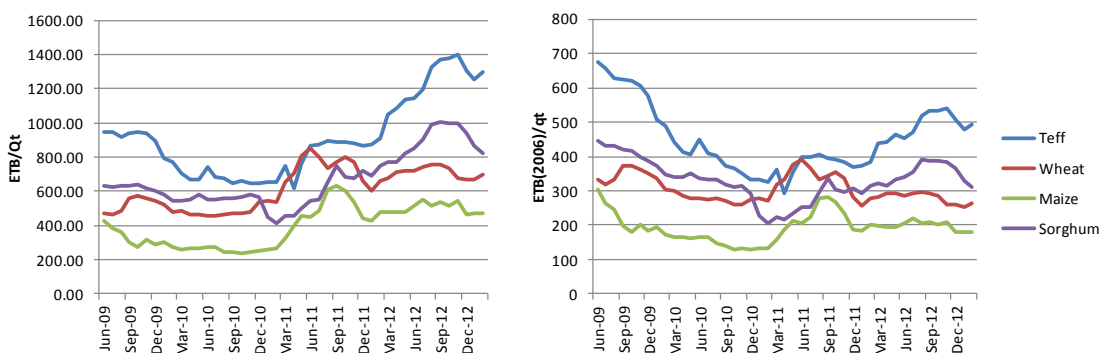


Source: Index Mundi.

As of June 2012, the prospects of poor harvests across much of Europe and North America resulted in a sharp upward movement of maize and wheat prices (by as much as 37 percent). Since then, grain prices have declined somewhat, converging at around US\$300 per MT for sorghum, wheat, and maize. For the last two years at least, cereal prices have remained significantly higher than 2009-10 levels, and given the current volatility of global markets for all commodities, these prices will likely decline over the foreseeable future.

**Nominal versus real price trends.** Domestic cereal prices in Ethiopia have followed somewhat different trends (see following figure).

**Figure 9. Nominal (left) and Real (right) Domestic Cereal Prices (Wholesale Price – Addis Ababa)**

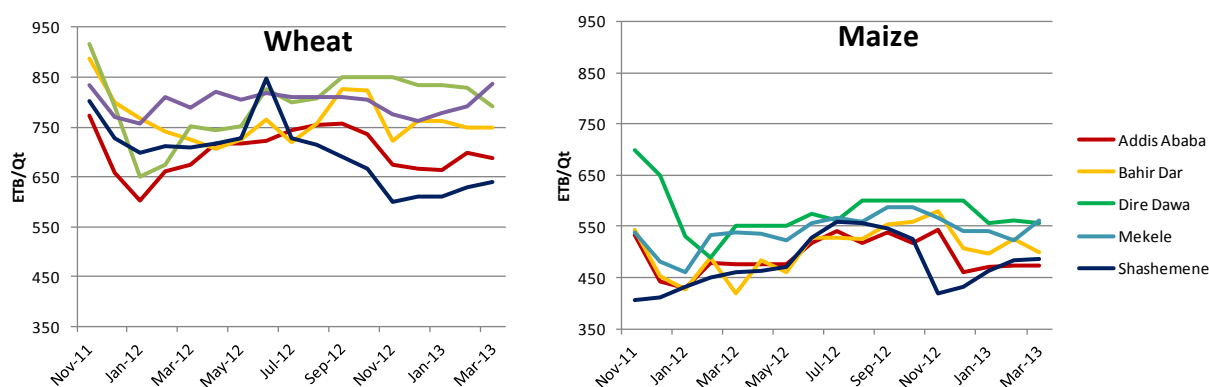


Source: EGTE MIS.

In nominal terms, prices rose in 2011-12 and then either stabilized in 2012-13 (maize, sorghum and wheat) or continued to rise (teff). In real terms, the same trends are evident, although the extent of any price increase is comparatively reduced and, in the case of wheat and maize, real prices in Addis Ababa have even declined slightly. It is significant that although nominal prices remain at or close to record levels, the deflated prices of teff, wheat, maize, and sorghum are substantially less than those recorded in 2008-09.

**Market integration.** Domestic cereal price movements have displayed varying degrees of market integration over the last 18 months. Although Ethiopian grain markets have become more integrated over the last ten years,<sup>16</sup> significant variations in price that exceed the transport differential between markets continue to be observed. Maize prices varied considerably at the very beginning of the marketing season in November 2011 and again in November 2012, although in each year, prices converged thereafter. This trend could be explained by thin markets trading with only limited knowledge of anticipated national production. In the case of wheat, such convergence is less evident and recent prices show continued and substantial divergence. In this case, the responses of traders suggest that the differential was due to uncertainty in the market arising from the Ethiopian Grain Trade Enterprise (EGTE) subsidized wheat.

**Figure 10. Domestic Cereal Wholesale Price Integration, November 2011-March 2013**



Source: EGTE MIS.

A longer-term analysis of domestic cereal price movements over the last ten years shows at least five distinct phases (see Figure 11). A cereal price index for teff, wheat, maize, and sorghum, weighted according to their relative volumes produced each year and deflated by the non-food CPI, shows an initial price peak that was associated with reduced production in 2002-03, followed by a four-year period of constantly increasing real prices (at an average annual rate of 16 percent). In March 2008, real prices increased substantially and reached a peak in August 2008 before declining for the next 18 months until February 2011.

<sup>16</sup> "Structural transformation in Ethiopia: Evidence from cereal markets", B. Minten, D. Stifel, S. Tamiru, 2012

**Figure 11. Real Composite Cereal Price Index**



Source: EGTE MIS and CSA.

Since that time, real prices have once again increased in a stepwise fashion -- by 32 percent since the low of December 2010. It remains to be seen if the stepwise increase will be repeated, but market indications suggest that it will because cereal prices recorded by EGTE in April 2013 show a consistent increase over those of March 2013.

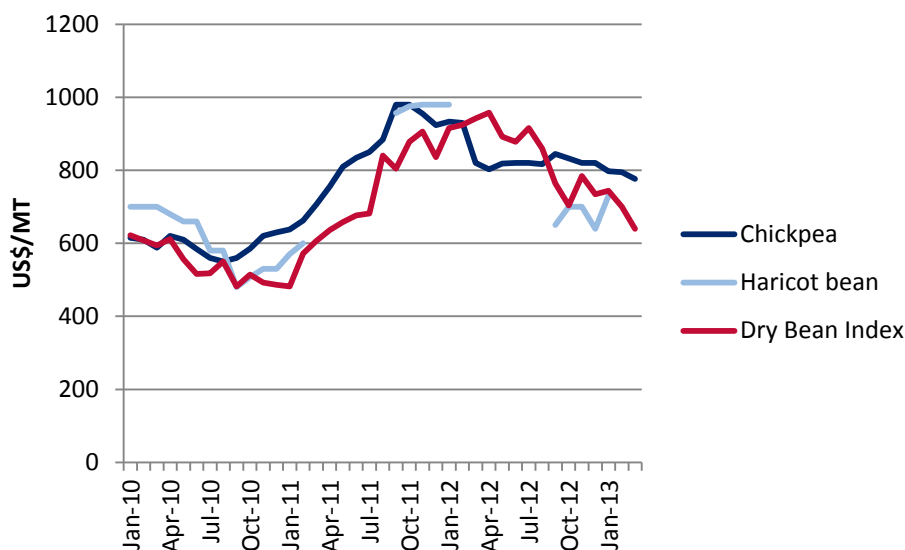
The composite cereal price index suggests that cereal prices are rising faster than the other elements of the cost of living. The upward trend of the composite cereal price index implies that poor Ethiopian households will find it increasingly difficult to afford food on the market.

### **2.6.2. Pulses**

Pulse prices on the international market have been extremely variable during 2012 (see following figure). Chickpea prices, which were increasing in 2011 and early 2012, have declined as a result of increased production by India. Other indices show a decline throughout 2012 in the price of lentils, but a significant upswing in the price of field peas.<sup>17</sup>

<sup>17</sup> See [www.prairiecropcharts.com/pulses](http://www.prairiecropcharts.com/pulses).

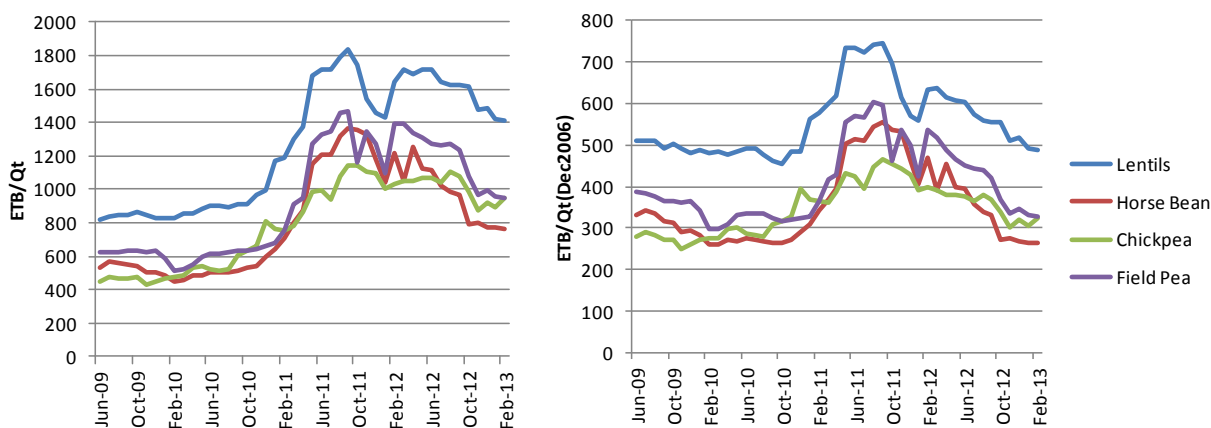
**Figure 12. International Pulse Prices (US\$/MT), January 2010-January 2013**



Source: USDA, Index Mundi.

On the domestic market, all Ethiopian pulses have mirrored international price trends in declining in price over the last 12 months both in nominal and real terms (see Figure 13). Chickpea prices have been affected by surplus production in India, while lentil prices also reflect the ongoing decline on global markets.

**Figure 13. Nominal (left) and Real (right) Domestic Pulse Prices, June 2009-February 2013**



Source: EGTE MIS.

Nevertheless, while it may appear that prices are now low, in nominal terms they remain higher than in 2009 and even in real terms they have remained roughly constant. When compared to global prices, domestic prices for both lentils and field peas are 70 percent higher than North American prices, while only chickpea prices are lower (by 33 percent) than prices elsewhere. In the past Ethiopia appeared to have a comparative advantage in the production of pulses; exports of red kidney beans to Kenya, horse beans to Sudan and haricot beans to Europe were

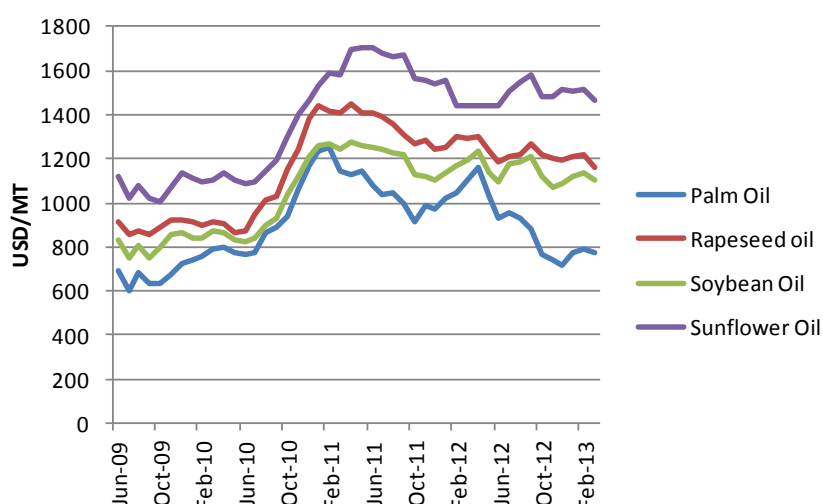


common and pulse prices were based on export parity. Since 2008, that situation has reversed, and while exports of pulses do still occur, the prices of those pulses consumed domestically (field peas, lentils, chickpea, and vetch) have all risen substantially. Although import parity data for these commodities are difficult to obtain, the observed price difference between domestic and global markets suggests that domestic pulse prices exceed import parity and that some pulses could be imported if foreign exchange were accessible.

### 2.6.3. Oilseeds

Over the last twelve months, edible oil prices have either trended slightly downwards or remained flat (see figure below). The only exception has been palm oil, the price of which peaked in April 2012 but has since declined by 34 percent. Despite the decrease in palm oil prices, the Merchandise Wholesale and Import Trade Enterprise attests that the GoE is still subsidizing the import of palm oil. In any event, while the differences in price between cheaper palm oil and the more expensive higher quality varieties (soybean, sunflower, and rapeseed oil) may have increased on global markets, they have remained roughly constant within Ethiopia. The Addis Oil Millers Association imports an estimated 10-15,000 MT per annum of these higher quality oils.

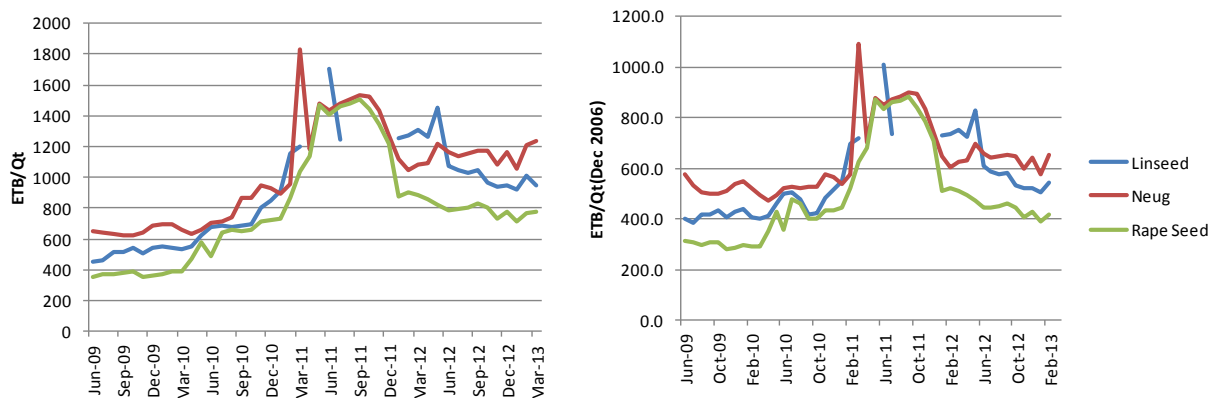
**Figure 14. International Vegetable Oil Prices (US\$/MT), June 2009-February 2013**



Source: Index Mundi.

Local oil producers are therefore operating within a small market space. The bulk of the market is supplied by GoE palm oil imports that are sold at prices with which local processors cannot compete. Consequently, they are obliged to produce a higher quality oil for sale to a limited domestic market at prices that are competitive with imported high quality oils. To produce their quality oils, local oil processors must purchase cottonseed, rapeseed, linseed, or neug from the domestic market where the prices are underpinned by sales to households who will crush these oilseeds to use as a condiment for their cooking (and also in the case of niger seed by a limited export market for birdseed). Current domestic oilseed prices (see Figure 15) require most oil mills to sell at prices in excess of 40 ETB per liter, which is substantially above the price of the palm oil distributed by the GoE (23 ETB per liter).

**Figure 15. Nominal (left) and Real (right) Domestic Wholesale Prices for Oilseeds, June 2009-February 2013**



Source: EGTE MIS and CSA.

Although oilseed prices have trended significantly downwards for linseed and rapeseed, producers are still squeezed between the domestic price of their raw material and the cap on prices set by imported oils. Processors continue to complain that they are unable to source raw materials at competitive prices while operating at only 25-40 percent capacity.

## Chapter 3. Assessment of Food Availability

### 3.1. Introduction

This chapter considers the availability of food in Ethiopia from the perspectives of domestic production, changes in stocks, and trade. Given the ban on grain exports and minimal extent of commercial imports, trade is mainly limited to Government of Ethiopia (GoE) interventions in the wheat and palm oil markets, together with donor imports.

Given the importance of domestic production to food availability and access, this section focuses specifically on the increase in production reported for Ethiopia over the last seven years; the accuracy of this reported increase is assessed against rainfall records, crop hazards, and use of inputs.

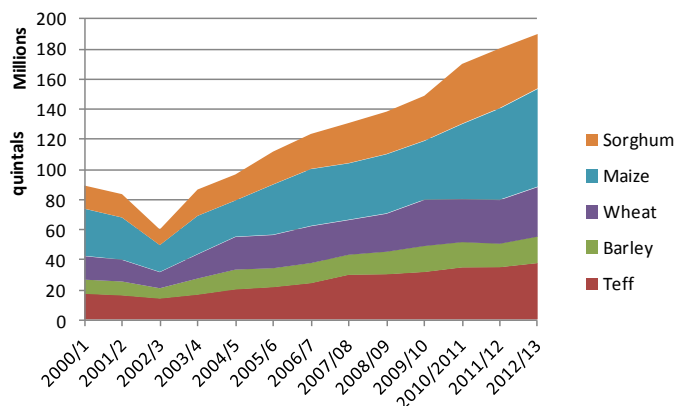
Stock levels are assessed among institutions, commercial traders, and especially households, while GoE interventions are analyzed to determine the extent to which they now affect the national food balance. Donor food imports are similarly assessed.

### 3.2. Cereals

#### 3.2.1. Local Production

Grain production in the *meher* season is the primary determinant of food availability in Ethiopia. Two government bodies collect data to assess production. The Central Statistical Agency (CSA) conducts two surveys each year to produce crop forecasts and production estimates at a zonal level that can be used to derive national figures, and Ministry of Agriculture staff conduct more comprehensive censuses at a *woreda* level. The latter dataset allows detailed comparison of individual *woreda* performance on a year-by-year basis, but the results are primarily of a relative nature and the zonal or regional totals tend to be of limited accuracy. CSA data are the only source of national-level statistics that could usefully inform broader policy and show a consistent trend upward in production that is unparalleled by any other sub-Saharan country.

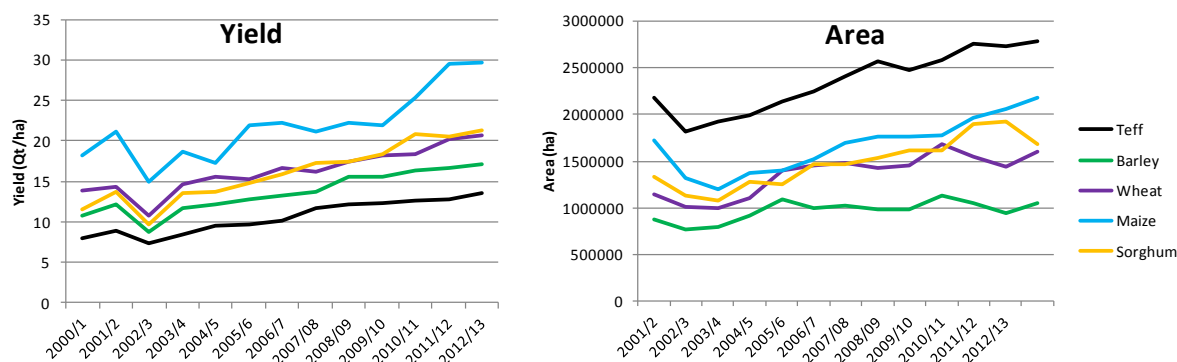
**Figure 16. CSA Data for Meher Cereal Production by Smallholder Farmers, 2000/01-2012/13**



Source: CSA Crop Estimates and Forecast.

The CSA reported production growth is derived from increases in area and in yield, (see figure below).

**Figure 17. Trends in Yield per Unit Area and Area Planted**

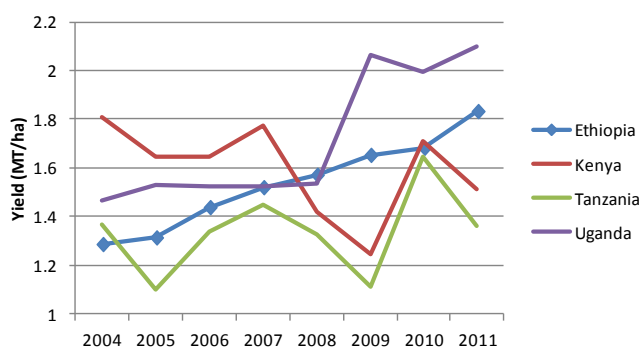


Source: CSA Crop Estimates and Forecast.

The trend for the individual areas sown to different crops have been somewhat variable, but are broadly in line with responses from farmers in the 2013 and previous Rapid Rural Appraisals (RRAs). The trends in yield, especially of cereals other than maize, are remarkably consistent and quite unlike the historical variation in yield seen in neighboring countries (see Figure 18).

Most remarkable of all, however, is the substantial increase in maize yield between 2009-10 and 2011-12, when yields rose from an average of 2.19 metric tons (MT)/hectare (ha) over the previous five years to 2.96 MT/ha over the last two years. Currently, Ethiopia ranks as the 48th highest yielding maize producing country in the world, outranked in Africa only by Egypt (whose production is all irrigated), South Africa, and Rwanda .

**Figure 18. Trends in Cereal Yield in Ethiopia and Neighboring Countries, 2004-11**



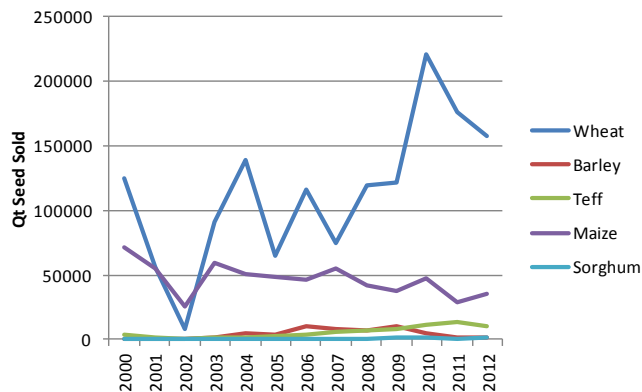
Source: Ethiopia: CSA, Other Countries: World Bank.

### 3.2.2. Use of Inputs

A possible reason for the reported consistent increases in cereal yield is use of improved inputs. To test this hypothesis, USAID-BEST assessed both recent and historical input usage.

**Improved seeds.** The use of improved seeds has the potential to substantially increase yield for relatively little cost. Nevertheless, farmers are still cost conscious and risk averse so they prefer less costly seeds. In 2012, the Ethiopian Seed Enterprise (ESE) reported that, similar to the preceding year, it was unable to sell all of their hybrid seeds. More than 32,000 MT (10,000 MT carried over from 2011 and 22,100 MT remaining from 2012) of hybrid maize seed remained unsold.

**Figure 19. Sales of Improved Cereal Seeds**



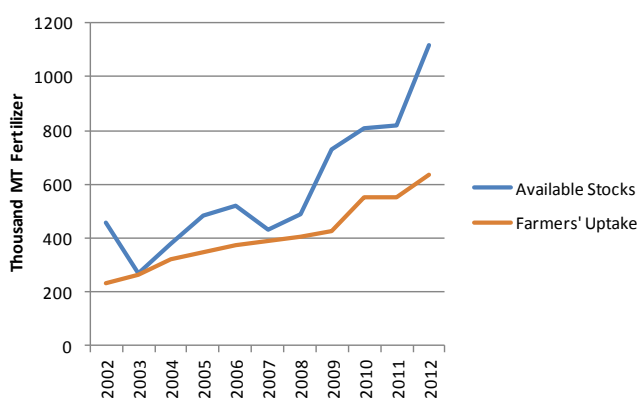
Source: Ethiopian Seed Enterprise.

Sales of wheat seeds significantly increased between 2009 and 2010, despite a decline in wheat production in 2010 of 7 percent, as reported by CSA. As for maize, the substantial increase in maize production that CSA reported to have occurred since 2009 has taken place against a backdrop of declining hybrid maize seed sales from ESE.

**Fertilizer.** Ethiopia applies the second highest rates of fertilizer per unit area in Africa (only South Africa is higher), and the increase in fertilizer application is one possible factor underlying the substantial increases in yield that have been observed since 2004.

The Ministry of Agriculture, working through the Agricultural Inputs Supply Corporation (AISCO), is the exclusive importer of fertilizer and delivers it at cost to cooperative, state farms, and large commercial farms.<sup>18</sup> The volume imported through the AISCO increased substantially (by 56 percent) in 2012 to 889,000 MT, resulting in total initial stocks of 1.12 million MT. Although it was decided in 2011 that cooperatives should supply farmers on a cash-only basis, the uptake of fertilizer that year was limited and in 2012, cooperatives reverted to providing fertilizer on credit. Subsequently, fertilizer sales increased by 15.4 percent (see figure below), but unsold stocks also increased by 79.9 percent to a record level of 481,000 MT.

**Figure 20. Availability and Uptake of Fertilizer**



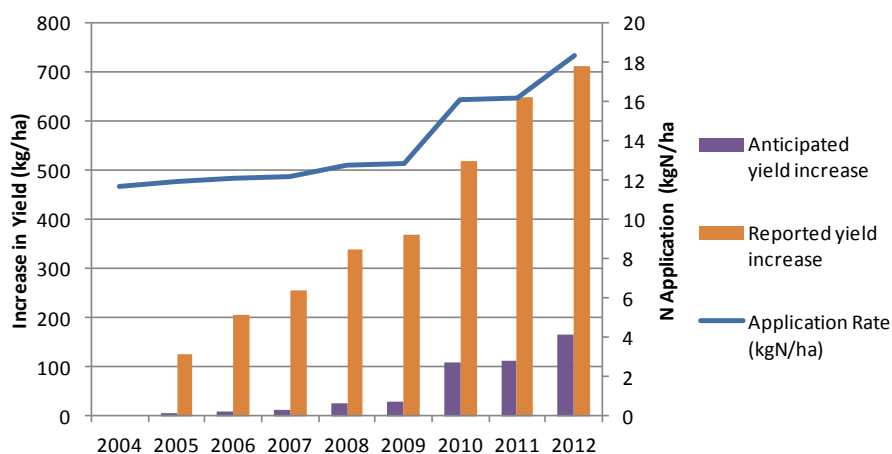
<sup>18</sup> A small quantity (less than 1 percent) of special fertilizer is imported by commercial producers of flowers and some horticultural crops.

Source: AISCO and MOARD.

Altogether, farmers purchased 402,000 MT of diammonium phosphate (DAP) and 234,000 MT of urea for the 2012-13 *meher* season. This total is equivalent to 179,000 MT of nitrogen (N)<sup>19</sup> which, given the area of cereals estimated by CSA of 9,808,958 ha, amounts to an application rate of 18.3 kg N per ha.

While individual fields respond differently to input applications, it is possible at a national level to relate production to the volume of inputs provided and to derive coefficients for nitrogen use efficiency for grain yield (NUEGY) for different crops. NUEGY coefficients for wheat range from 11.6-29.5 kg grain per kg N applied,<sup>20</sup> and for teff from 9.3-17.2 kg grain per kg N applied.<sup>21</sup> As a point of comparison, in Kenya, the NUEGY coefficients for maize are estimated at 13.3-31.7 kg grain per kg N applied.<sup>22</sup> The figure below shows the anticipated increases in cereal yields that would normally be expected from the levels of fertilizer applied over the last ten years, based on an optimistic average of 25 kg of grain per kg of N applied, derived from available NUEGY coefficients, together with the increases in yield reported by CSA.

**Figure 21. Increase in Yield (Relative to 2004/05) as a Function of N Application Rate, 2004-12**



Source: MOARD Fertilizer Sales and CSA crop estimates.

As the chart above illustrates, the increases in overall cereal yield that have been reported since 2004 (orange bars) vastly exceed the increases anticipated based upon normal crop yield responses to nitrogen (purple bars). In sum, even optimistic estimates of fertilizer application rates alone cannot explain the reported levels of yield.

**Rainfall.** Since rainfall amounts are the strongest determinant of crop production in Ethiopia, it is useful to examine the rainfall records for the zones that produce the majority of each crop.

<sup>19</sup> Calculation based upon nitrogen contents of 46% for urea and 18% for DAP.

<sup>20</sup> Haile D, Nigussie D, and Ayana A: Nitrogen use efficiency of bread wheat: Effects of nitrogen rate and time of application. *Journal of Soil Science and Plant Nutrition*, 2012, 12 (3) 389-410.

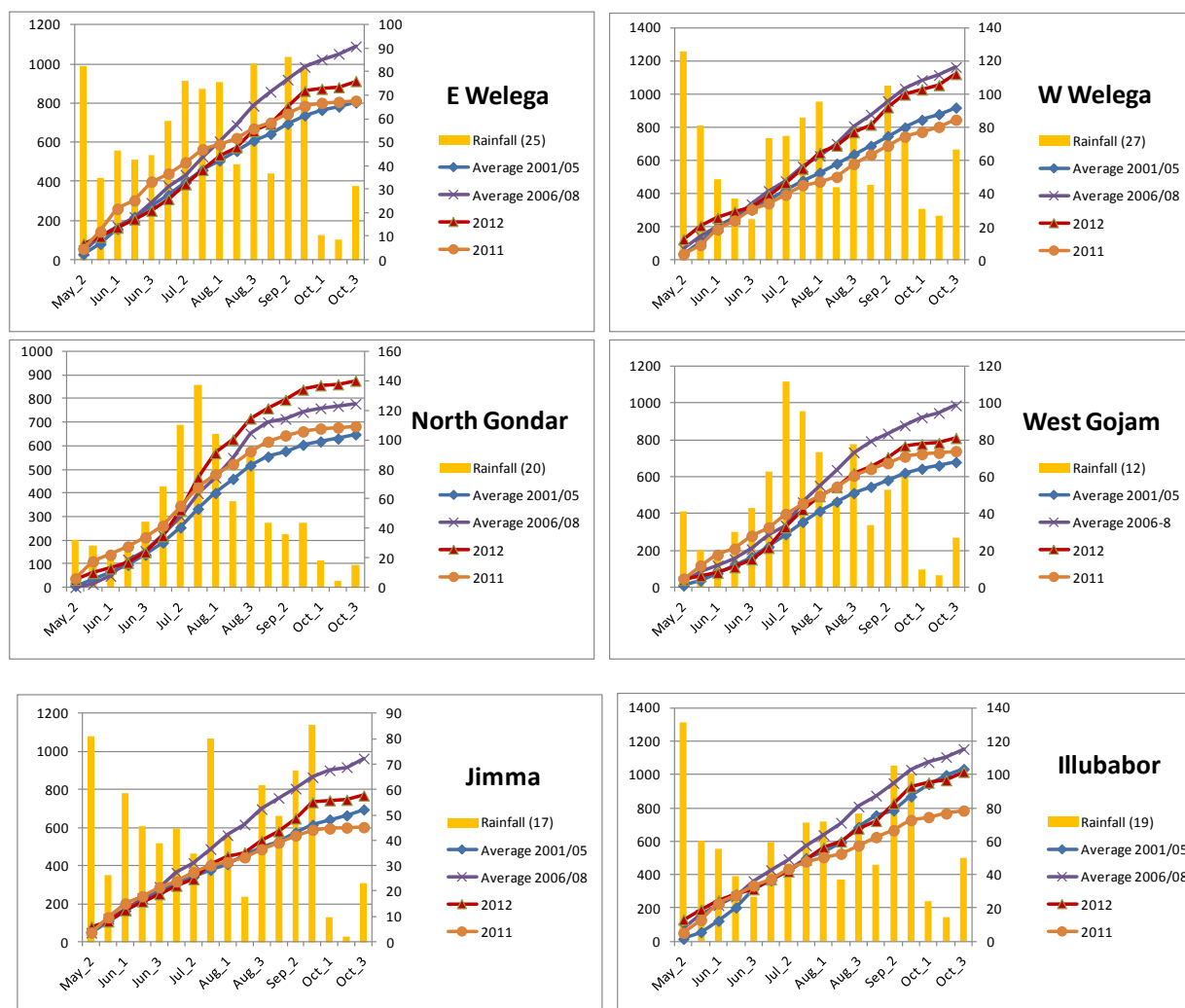
<sup>21</sup> Tsegay A: Improving crop production by field management strategies using crop water productivity modelling: Case study of teff (*Eragrostis Tef* (Zucc.) Trotter) production in Tigray, Ethiopia. Doctoraatsproefschrift nr. 1043 aan de faculteit Bio-ingenieurswetenschappen van de KU Leuven.

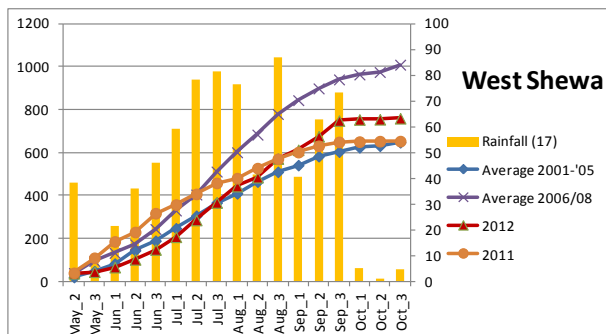
<sup>22</sup> Macharia C.N, Njeru C.M, Kamundia J.W, Nafuma L.S, Gichangi A, and Shiluli M.S: Nitrogen use efficiency and maize yield response to rate and mode of nitrogen application in the Kenya Highlands. *Proceedings of the 12<sup>th</sup> KARI Scientific Conference*, 2010, 103-109.

The following analysis is based upon records of *dekadal* rainfall collected and distributed by the National Meteorological Agency. Average records for the period 2006-08 (three relatively good years of *meher* production), together with average records for 2001-05 (a succession of lower yielding harvests) are used for comparative purposes, providing upper and lower boundaries to reasonable rainfall patterns. The period under consideration runs from the second *dekad* in May (when long cycle crops would be sown), to the last *dekad* in October, by which time much of the *meher* grain crop has completed its growing cycle, although the harvest may not yet be complete.

The results of this comparison show three common trends. In the west of the country, rainfall amounts were adequate and well distributed, and it can be expected that crop yields in these areas will continue at or above normal. Zones that fall into this pattern include East and West Wellega, Jimma, Illubabor, North Gondar, West Shewa and West Gojam. These areas normally produce substantial proportions of the long-cycle crops, as well as significant short-cycle production. Yields of all crops in these zones are expected to be as good or better than 2011-12 figures.

**Figure 22. Zones of Normal or Above Normal Rainfall**



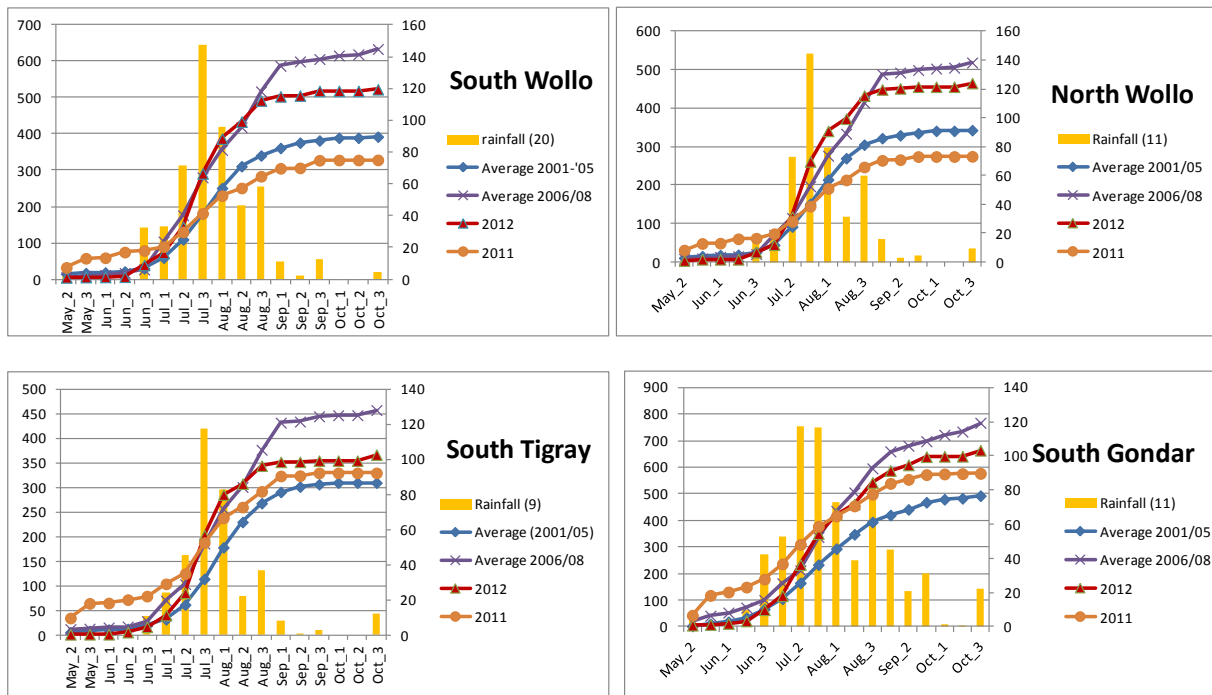


Source: National Meteorology Agency.

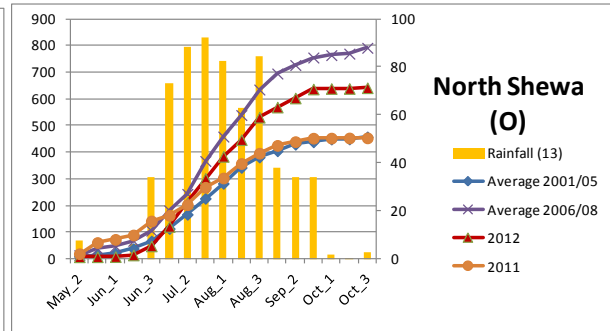
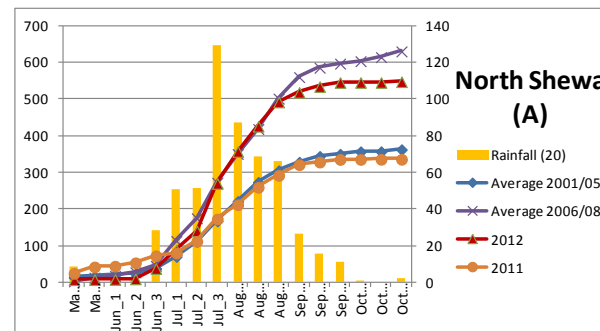
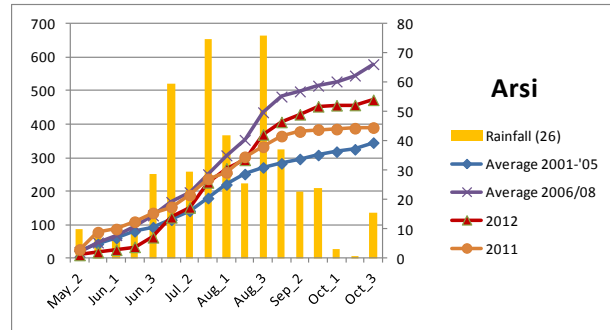
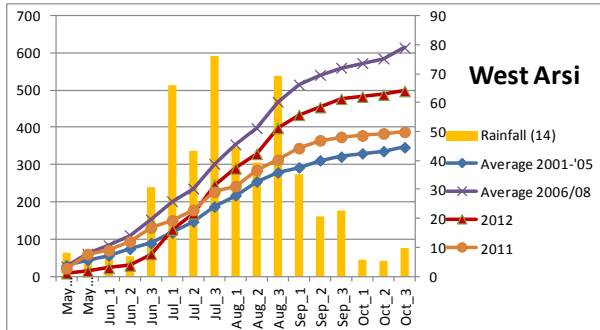
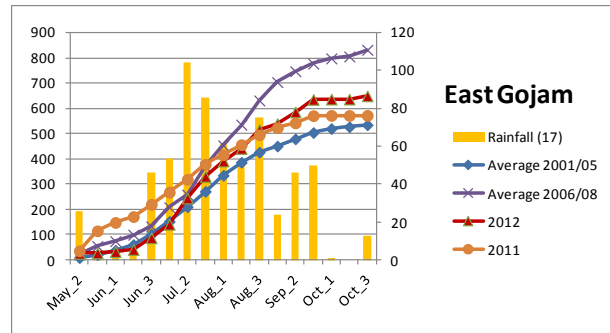
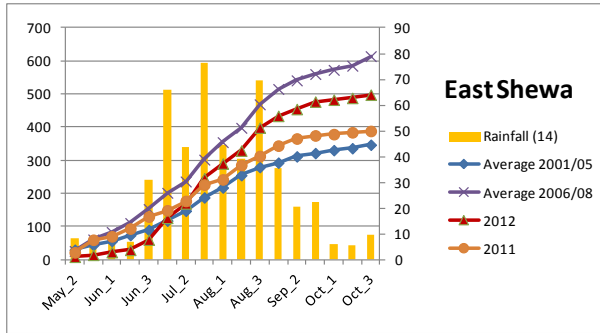
Note: In each graph, the horizontal axis shows decadal periods beginning on each date indicated, while the right and left vertical axes show decadal and cumulative rainfall totals, respectively, in mm. The number in parentheses beside rainfall in each legend is the number of meteorological records contributing to each data point in that graph.

In the center of the country, in South Tigray and parts of the Rift Valley, rainfall amounts at the beginning of the season were low, typically less than 10 mm per *dekad*, and insufficient to sustain even germination and crop growth. Given these conditions, the development of long-cycle crops would have been delayed in these zones. Moreover, the abrupt end to the *meher* rains in mid-September would have further affected crop growth of crops that emerged late as opposed to early sown crops. Zones that were characterized by limited early rains and an abrupt termination of rainfall include North and South Wollo, Arsi, West Arsi, East and North Shewa in Oromia and West Gojam. These areas are predominantly short-cycle crop production zones where teff, barley, and wheat predominate. As such, the impact of the limited rainfall duration would have been minimized since these crops require shorter periods of moisture, but maize and sorghum production from these zones would have been well below normal.

Figure 23. Zones of Limited Rainfall Duration





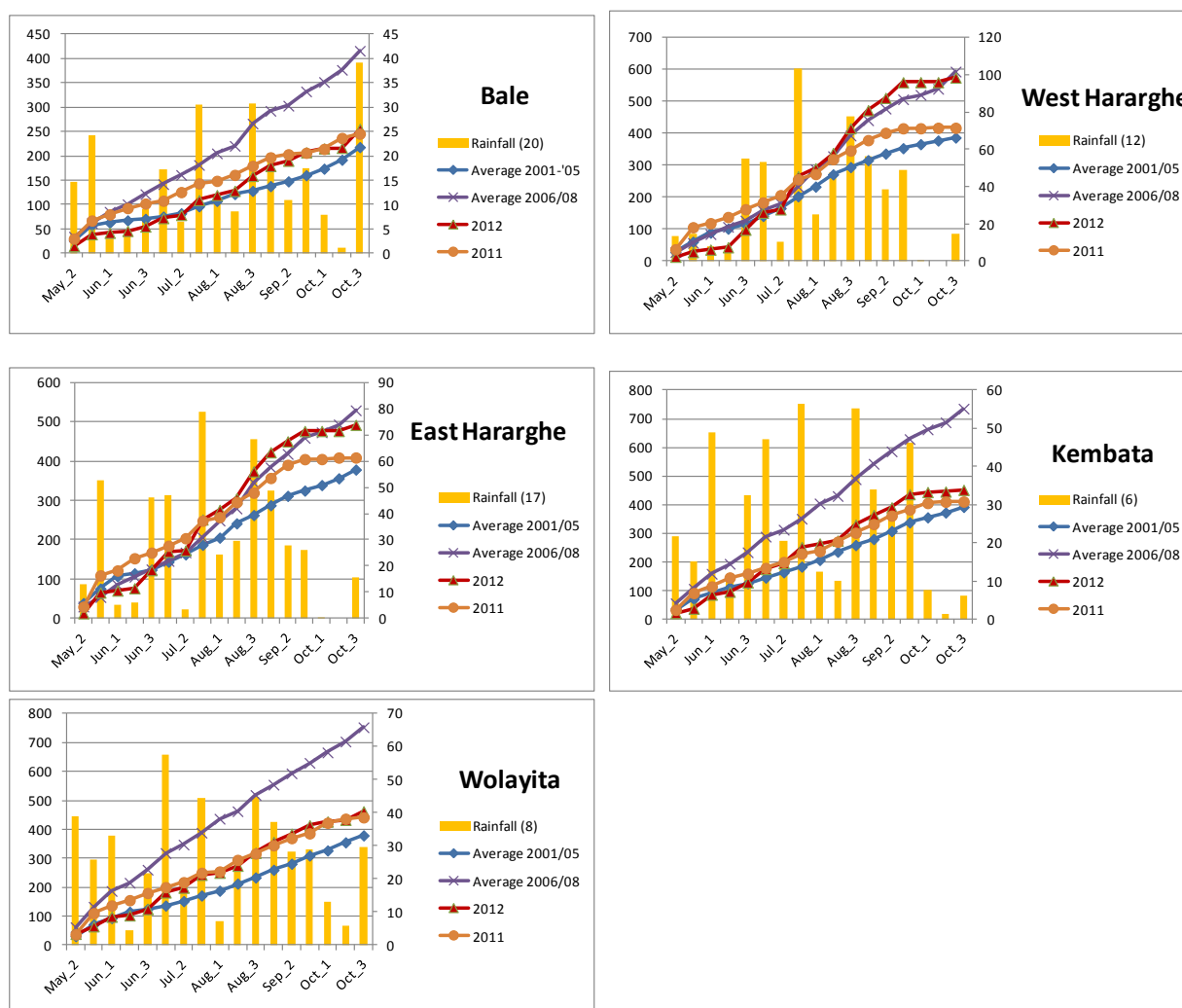


Source: National Meteorology Agency.

Note: In each graph, the horizontal axis shows decadal periods beginning on each date indicated, while the right and left vertical axes show decadal and cumulative rainfall totals, respectively, in mm. The number in parentheses beside rainfall in each legend is the number of meteorological records contributing to each data point in that graph.

In the east and towards the Southern Nations, Nationalities and Peoples' Region (SNNPR), rainfall amounts were adequate, but highly variable with significant periods of low rainfall within the season. Such zones include East and West Hararghe and parts of SNNPR where crop growth can be expected to be below normal. Sorghum production in East Hararghe was particularly affected by the erratic rainfall pattern.

**Figure 24. Zones of Variable and Intermittent Rainfall**



Source: National Meteorology Agency.

Note: In each graph, the horizontal axis shows decadal periods beginning on each date indicated, while the right and left vertical axes show decadal and cumulative rainfall totals, respectively, in mm. The number in parentheses beside rainfall in each legend is the number of meteorological records contributing to each data point in that graph.

In most of these zones, rainfall amounts were similar to those experienced in 2011, albeit in a less well distributed pattern, so a reduction in cereal crop yields would have been expected. In East and West Hararghe, rainfall was equal to or somewhat higher than the 2006-08 average, but farmers and District Advisors (DAs) report that the erratic nature of the rain had definitely reduced crop yields, highlighting the importance of adequate rainfall distribution.

**Table 7. Zonal Contributions to National Production**

Zone	Teff	Barley	Wheat	Maize	Sorghum
<i>Rainfall Near Normal</i>					
Jimma	6%	1%	1%	6%	3%
Illubabor	2%	0%	0%	4%	2%
W. Welega	1%	0%	0%	4%	3%

E. Wellega	3%	0%	0%	7%	3%
W. Gojjam	4%	1%	2%	9%	0%
N. Gondar	5%	6%	5%	3%	12%
W. Shewa	8%	9%	3%	5%	7%
<i>Total</i>	<i>30%</i>	<i>18%</i>	<i>12%</i>	<i>38%</i>	<i>30%</i>

<i>Rainfall of Limited Duration</i>					
E. Shewa	7%	1%	5%	5%	0%
Arsi	3%	12%	17%	3%	2%
W. Arsi	1%	10%	10%	4%	0%
N. Wolo	2%	3%	1%	0%	4%
S. Wolo	4%	3%	4%	1%	6%
S. Gondar	5%	2%	4%	2%	2%
N. Shewa A	5%	7%	3%	1%	7%
N. Shewa O	5%	8%	4%	0%	2%
S. Tigray	2%	5%	4%	0%	2%
E. Gojjam	9%	4%	6%	4%	2%
<i>Total</i>	<i>43%</i>	<i>56%</i>	<i>57%</i>	<i>20%</i>	<i>28%</i>

<i>Erratic Rainfall</i>					
Bale	1%	5%	9%	1%	1%
W. Harerghe	0%	0%	0%	3%	7%
E. Harerghe	0%	0%	1%	3%	7%
<i>Total</i>	<i>2%</i>	<i>6%</i>	<i>10%</i>	<i>8%</i>	<i>15%</i>

Source: RRA 2013 and CSA Crop Estimate 2011.

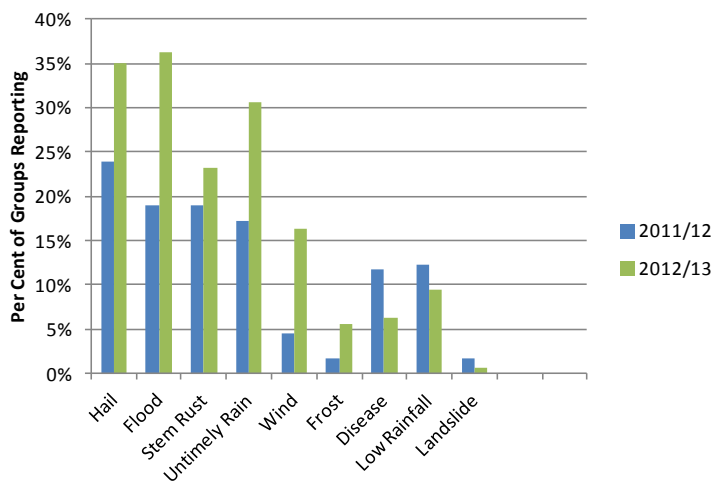
Based on rainfall data, inadequate and poorly distributed rainfall could substantially reduce 28 percent of the national maize crop and 43 percent of the national sorghum crop. Alternatively, at least 38 percent of the maize and 30 percent of the sorghum crop experienced good rainfall and would have been expected to produce typical yields.

Much smaller proportions of the short-cycle crops (teff - 2 percent, barley - 6 percent, and wheat - 10 percent) would definitely have been affected by poor rainfall distribution. By contrast, at least 30 percent, 18 percent, and 12 percent of teff, barley and wheat crops, respectively, received good rainfall volumes and distribution so these portions would have experienced above average yields.

For short-cycle crops, rainfall data in areas of shorter seasons is less definitive. However, it can be inferred that where crops were sown in a timely fashion, yields would have been closer to the average, but late sown crops would almost certainly have suffered from the early curtailment of the rains.

**Crop Hazards.** Finally, yields can be expected to vary as a result of hazards, including pests, diseases, and extreme weather conditions such as hail or flooding. These are harder to quantify, but farmers' responses to the 2013 RRA for the 2012-13 *meher* season are compared to responses obtained in 2012 for the 2011-12 *meher* season in the figure below.

**Figure 25. Relative Frequency of Hazards (n=155)**



Source RRA 2012 and 2013.

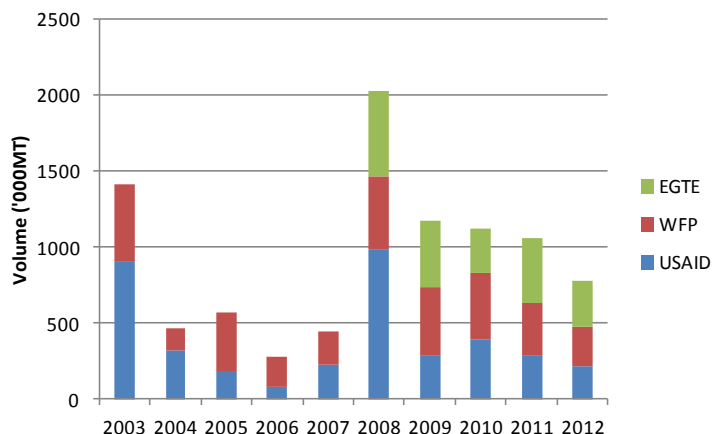
Relative to 2011-12, farmers indicated a 47 percent higher frequency of hazard overall in 2012-13, with increased levels of hail, flood, wheat stem rust, untimely rain, and wind damage, but reduced frequency of yield loss through disease or inadequate rainfall. Seventy-four percent of farmers reported such hazards caused moderate to severe loss of yield, although the extent of the damage was less than 25 percent of the area planted, and does not appear to have affected zonal yields significantly. Overall, the impact and extent of natural hazards in 2012-13 was reported by farmers to be very similar to that reported for 2011-12.

Overall, the meteorological and hazard data suggest that *meher* production varied considerably throughout the country, but that at a national level output of cereals was not significantly different to the previous year. Similar market dynamics, including similar import volumes, can therefore be anticipated.

### 3.2.3. Imports

In addition to local cereal production, the market has been supplied with significant volumes of imported cereals. An analysis of the shipping data captured by WFP reveals that since 2008, the volume of cereals imported by donors and the GoE has increased significantly over the levels seen from 2004-07. A significant part of this increase has been made up of wheat imported by the GoE for distribution through the Ethiopian Grain Trade Enterprise (EGTE).

**Figure 26. Cereal Import Volumes by Importer**



Source: WFP Shipping Bulletins.

### 3.2.4. Consumer Demand

The reported increase in cereal production has been regularly questioned since the real composite cereal price index has tended to increase over the last decade, suggesting that supply has not kept pace with demand. If per capita demand were to remain constant, an increase in real cereal prices would imply that the rate of increase in cereal production was less than the population growth rate, i.e., less than 2.5 percent per annum. This difference between the reported and expected rates of increase in cereal production has been explained as the result of an increase in per capita demand due to increasing per capita income, in line with overall GDP growth. Indeed, estimates of income elasticity of demand for cereals calculated using 2004-05 Household Income Consumption Expenditure (HICE) data show a close match between GDP growth, estimated demand, and reported levels of cereal production.

Nevertheless, more recent consumption data collected by CSA in 2010-11 shows that the per capita consumption of cereals has actually decreased by 2 percent over the last six years, (exposing the circular nature of the argument that cereal consumption has increased due to GDP growth, which has itself been caused by increased cereal production). Total calorie consumption over this period has only increased by 4 percent, or 0.75 percent per annum.

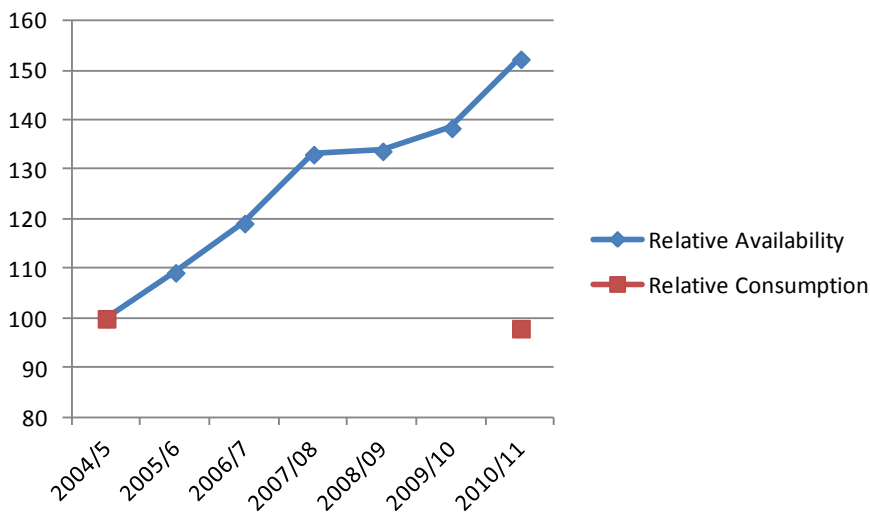
**Table 8. Trends in Caloric Consumption from Cereals and from All Food**

	Year	1999/00 (kcal)	2004/05 (kcal)	2010/11 (kcal)	% Change
<b>Calories from Cereals</b>	Rural Population		1534	1450	-2.2
	Urban Population		1294	1339	3.5
	<b>National Population</b>		<b>1503</b>	<b>1473</b>	<b>-2.1</b>
<b>Calories from All Food</b>	Rural Population	2292	2397	2478	3.4
	Urban Population	1738	2073	2336	12.7
	<b>National Population</b>	<b>2211</b>	<b>2352</b>	<b>2455</b>	<b>4.0</b>

Source: CSA HICE.

Taking the year 2004-05 as a base year, and allowing for imported food aid (as reported from WFP shipping bulletins), the chart below illustrates the reported relative increase in per capita cereal availability against the reported relative change in per capita cereal consumption.

**Figure 27. Comparison of Relative Cereal Availability (2004/05=100) with Relative Consumption**



Source: CSA HICE and CSA Crop Estimate Data.

The chart above shows that relative availability has increased by more than 50 percent as compared with relative consumption. Under such circumstances, unless there have been substantial accelerated losses of cereals through wastage, exports, or use in animal feed, market prices would be expected to collapse. In actuality, prices have not collapsed but have instead trended upward. This pattern has occurred at a time when the export of cereals has been banned and the informal export levels reported by the Food and Agriculture Organization have been low. Although there may have also been a marginal increase in the proportion of the cereal crop utilized in animal feed, these factors cannot account for the massive disappearance of grain that would be required to achieve a stable or increasing market price. The figure above shows that in 2010-11 the surplus amount stood at 50 percent of per capita consumption, or 76 kilograms (kg) per capita. At a national level this amount was equivalent to 6.2 million MT. Assuming losses of 25 percent, the surplus production would still be 4.7 million MT, which is greater than the entire volume of cereals in the commercial domestic market (estimated at 3.7 million MT). Such data suggest that volumes of production may have been consistently overestimated.

### 3.2.5. Conclusion

Overall, in the 2012-13 *meher* season, cereal production was clearly below normal in the north and west of the country, but better yields were achieved in the south (especially parts of Oromiya and SNNPR). Farmers report that the long-cycle crops (maize and sorghum) yielded below their potential (especially in Tigray). This outcome falls in line with *meher* production trends after a poor *belg* season, and reflects the delayed sowing of long-cycle crops in many areas and early curtailment of the *meher* rains.

### 3.3. Pulses and Oilseeds

Horse beans and field peas are the main pulse crops grown as staples in Ethiopia. Haricot beans, chick peas, and lentils are increasingly grown as cash crops, while soybeans represent less than 2 percent of all pulses and oilseeds production. The RRA data for pulses and oilseeds are too variable to provide reliable estimates of yield, but suggest that, compared with 2011-12,

yields of staple and cash pulses are substantially reduced in Tigray, moderately lower in Amhara, and remain approximately stable in Oromiya and SNNPR.

Reported yields of domestically consumed oilseeds (niger seed, linseed, and rapeseed) in 2012-13 show no significant difference from yields reported in 2011-12, with the exception of niger seed in Oromiya, which is down by 40 percent.

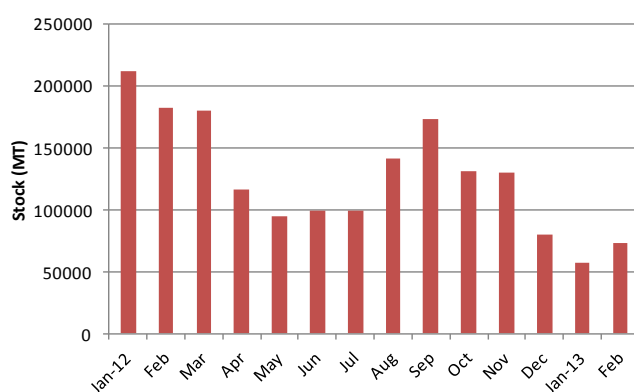
Because pulses and oilseeds are not consistently grown across all of the *woredas* selected for assessment (which were biased towards PSNP *woredas*), there are inadequate data to estimate the production levels of these crops with any degree of accuracy.

### 3.4. Stocks

Changes in three levels of stockholdings (institutions, traders and processors, and domestic households) can also affect food availability in Ethiopia.

At the institutional level, the Ethiopian Food Security Reserve Administration (EFSRA) holds the main stock. The EFSRA reports that the grain reserve in 2012-13 had been depleted below the threshold level to less than 60,000 MT. However, this stock level is less than 0.04 percent of national production, and is of negligible significance to the national availability of grain.

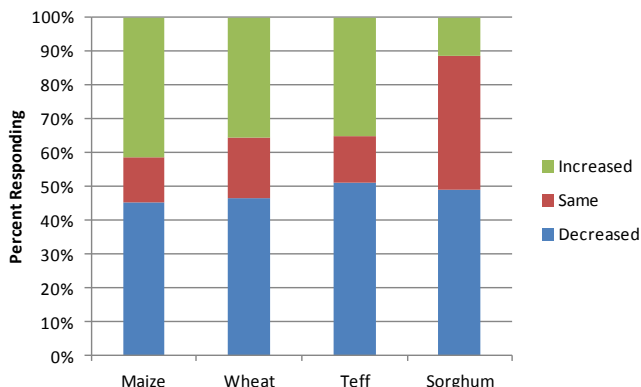
**Figure 28. EFSRA End of Month Stock Levels – 2012/13**



Source: EFSRA.

Stocks held by traders and processors have a greater influence on availability and market prices. Stock levels depend upon the availability of grain, the availability of finance, and traders' and processors' perceptions of risk. In response to the RRA, the largest proportion of traders reported decreases in the flow of grain from producers to the market (inflows) for every crop, and very few traders reported increased inflows of sorghum. Overall however, the responses were less biased towards either an increase or a decrease (see figure below).

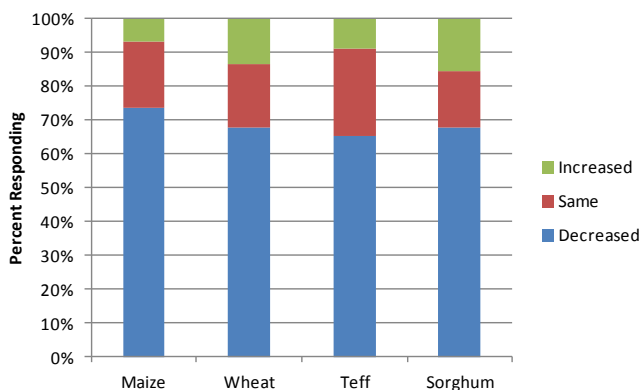
**Figure 29. Traders' Perceptions of Grain Inflows in 2012-13 as Compared with 2011-12 (n=239)**



Source: RRA 2013.

Responses from traders on the flow of grain out of each *woreda* were more definitive (see figure below). Seventy-five percent of respondents reported that flows of grain out of the area were significantly less than they had been in the previous year, which indicates that overall a greater proportion of the grain produced was being consumed locally (see chart below).

**Figure 30. Traders' Perceptions of Grain Outflows in 2012-13 as Compared with 2011-12 (n=239)**

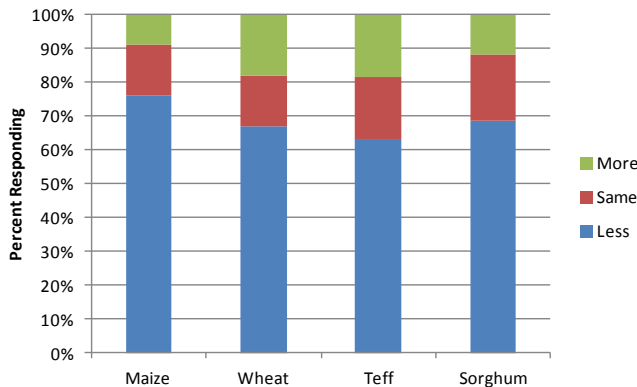


Source: RRA 2013.

The primary reason for the observed reduction in grain flow given was reduced local production. Indeed, focus groups of farmers clearly indicate that they will sell less grain in 2012-13 than they sold in 2011-12 (see chart below).



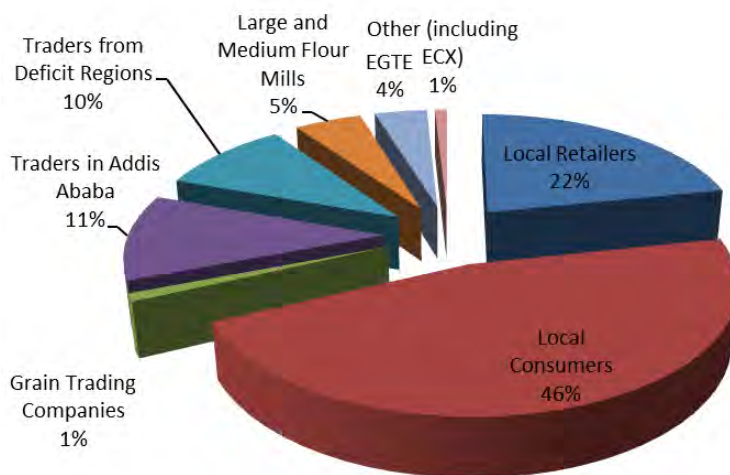
**Figure 31. Farmers' Crop Sale Intentions for 2012/13 (Relative to 2011/12) (n=160)**



Source: RRA, 2013.

The bulk of traders' sales (almost 2/3) were made directly to consumers and local retail outlets, while 1/4 went to traders in deficit regions and Addis Ababa. EGTE, large and medium flour mills, and grain trading companies made up a further 10 percent, and ECX slightly under 1 percent.

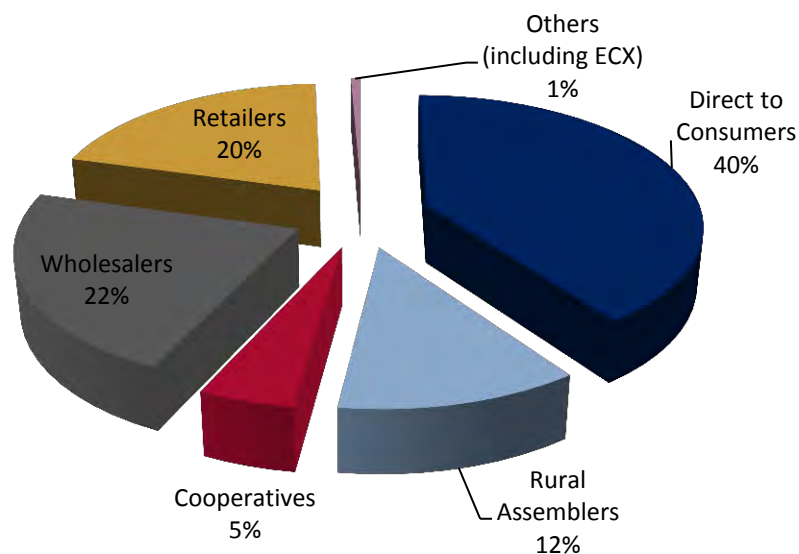
**Figure 32. Traders' Sale Outlets by Volume (n=239)**



Source: RRA, 2013.

The data suggest that a substantial proportion of grain reaching the market remains in the area in which it was produced and will be consumed directly or retained as household stocks (see figure below).

**Figure 33. Farmers Sales Outlets by Volume (n=160)**



Source: RRA, 2013.

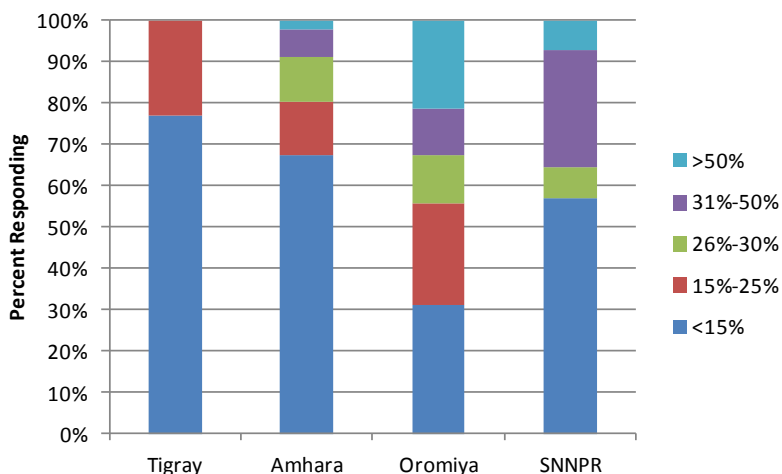
The relative volume of sales made to rural assemblers is surprisingly small and suggests that this element of the value chain may be diminishing in importance as the reach of wholesalers (especially the Isuzu traders) extends farther into the rural areas. The proportion sold to cooperatives is typical of farmer responses in previous RRAs, and shows the limited importance of this outlet to the overall grain market.

CSA estimated that the volume of grain sold on the market represents approximately 25 percent of average household production.<sup>23</sup> Focus group responses suggest that this figure may vary between regions. While households in Tigray retain a substantial majority of their crop, households canvassed in Oromiya and SNNPR indicate that they typically sell significantly higher volumes (see figure below).

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<sup>23</sup> CSA Crop and Livestock Utilization report for 2009-10 puts the figure at 23.7 percent.

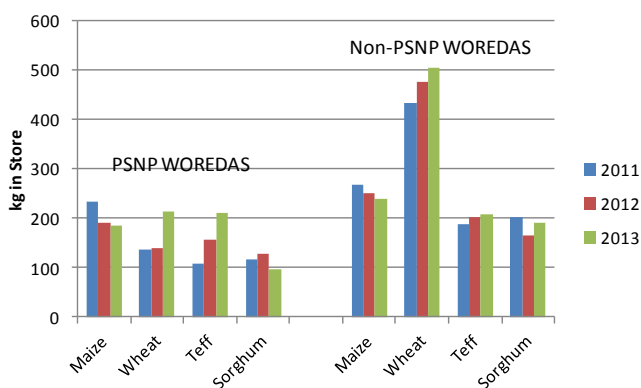
**Figure 34. Proportion of Household Grain Production Expected to be Sold in 2012/13 (n=160)**



Source : RRA 2013.

Household stock holdings have been quantified by successive RRAs over a number of years and it has become apparent that households have a significant quantity of cereals still held as stocks at the end of the season (i.e., just before harvest). As illustrated in the chart below, the responses indicate significant volumes of grain were held as carryover stocks, even by PSNP households. Non-PSNP focus groups reported levels that were approximately twice those stored by PSNP households.

**Figure 35. Focus Group Estimates of Household Stocks at the Beginning of the Season (n=160)**



Source: RRA 2011, RRA 2013.

If the focus group estimates are extrapolated to a national level, the total carryover stock held by 10 million rural households represents approximately 2 million MT. This amount is substantially greater than that held by the EFSRA, or even by traders, suggesting that it is household stocks that are of greatest significance to the national food budget and that household grain marketing intentions are the primary determinants of the amount of grain that is available on the market.

In PSNP *woredas*, stocks appear to have increased marginally for wheat and teff, but have remained constant for other crops. In the non-PSNP *woredas*, stock levels of wheat show a consistent increase, but have remained constant for other cereals.

Overall, RRA responses show that the bulk of the grain in the country continues to be held by farmers, and that this quantity may increase in 2013, if farmers hold to their stated intentions of selling less on the market. Consequently, the team believes the availability of grain on the market will decline rapidly over the latter four months of this year's *meher* season.

### 3.5. Market Interventions

The GoE continues to import select goods (especially wheat and palm oil) for sale through GoE outlets. Additionally, the GoE and donors provide food assistance in the form of in-kind food transfers and cash.

The price controls introduced in January 2010 have been largely discontinued with the principal exception of certain wheat flour and bread loaves of specific sizes. Bans on the export of specific cereals and pulses remain in place.

#### 3.5.1. GoE Importation of Edible Oil

Interviews with staff from the Merchandise Wholesale and Import Trade Enterprise (MEWIT) indicate that in March 2012, a GoE tender resulted in the contracting of four companies<sup>24</sup> to supply 300,000 MT of palm oil from June 2012-May 2013. These contracts are ongoing. Containers of palm oil are imported under the auspices of MEWIT and distributed through 36 strategic outlets to registered wholesalers, cooperatives, and consumer associations at a price of 20.2 ETB per liter for a 20 liter container, and 22 ETB per liter for a 2 liter bottle. These institutions resell to the general public at a regulated margin of 7 percent. MEWIT indicated that although it is exempt from import duty and Value Added Tax (VAT), the fixed prices to consumers, which average 23 ETB per liter, do not cover the full cost of importation (or the local costs of sales). No other entity is allowed to import palm oil, even on a commercial basis, so the GoE is the only player in the palm oil market. Commercial companies are entitled to import other oils, but must pay full duty and VAT if they do so.

Although these imports of palm oil have met a large part of consumer demand, the anticipated excess of supply over demand has not materialized because demand for oil has significantly increased, especially in urban markets. In March 2013, MEWIT reported accumulated stocks of only 18 million liters (i.e., less than one month of supply).

The changing concept of oil as a condiment to that of oil as a source of nutrition may be motivating an increase in demand. Particularly for palm oil, the low sales price makes it competitive with wheat and sorghum as a source of carbohydrate energy.<sup>25</sup> Previously palm oil was considered the most inferior of oils and was consumed mainly by the poorest urban households. Its widespread consumption now suggests that tastes have shifted as a result of the subsidized price of palm oil and potentially of increased urban poverty that has obliged more consumers to switch to a lower quality oil.

Irrespective of the underlying causes, the fact remains that the GoE is now importing the equivalent of 785,400 MT of cereals as oil on a regular basis. Given an estimated urban population of 14 million, these imports amount to 56 kg per capita of cereal equivalent per

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<sup>24</sup> The four companies are the Malaysian/UAE Joint Venture FELDA iFFCO, Singapore-based Wilmer Trading, and Malaysian companies, Pacific Interlink and MOI international.

<sup>25</sup> The conversion ratio used in previous Bellmon analyses to determine the “cereal equivalent” value of oil is 2.618.

annum, i.e., more than 1/3 of the estimated annual urban cereal consumption of 139 kg per capita.<sup>26</sup>

The importation of large volumes of palm oil has not been highly detrimental to local oil producers selling into urban markets as they report continued demand for their products, all of which (including neug oil, cotton seed oil, rapeseed oil, and linseed oil) are considered higher quality than palm oil. Processors report that they have been able to market their various oils, at prices well above the price of palm oil, but that they have been constrained mainly by the limited supplies of oilseed. Similarly, a market for imported quality vegetable oils does exist (albeit of very limited volume) and this market will limit the prices that domestic producers can charge.

The importation of palm oil may be a constraint to the profitability of local oil production but current market prices and volumes, and the responses of oil millers, suggest that even if government subsidized imports of palm oil were to cease, local production would continue to be constrained by the availability of raw materials.

### **3.5.2. Controlled Bread Price**

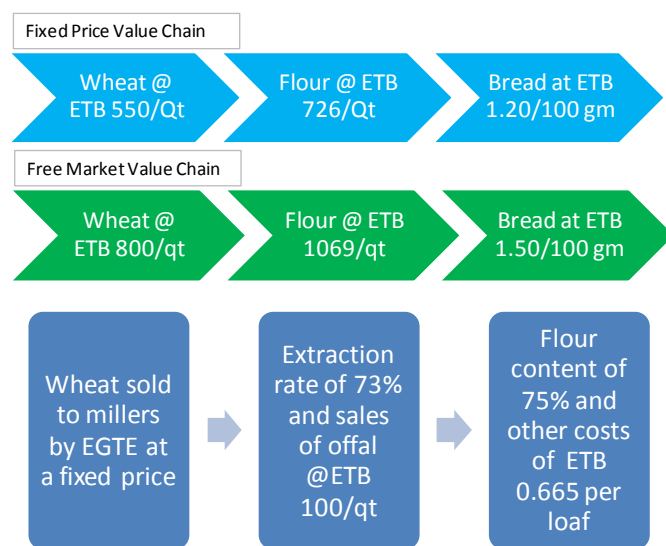
Since 2007, EGTE has imported 1.773 million MT of wheat for sale primarily to mills, (although initially, government institutions and consumer associations were also supplied) at a subsidized and fixed price. This substantial market intervention is primarily designed to facilitate the sale of cheap bread in urban markets. A value chain has been established by the Ministry of Trade that is anchored by the sale of bread at a fixed price, (a 100 gram loaf cannot be sold for more than 1.1 ETB wholesale, or 1.2 ETB retail). This price is rigidly enforced in urban markets and bakers report their concern that they can be arbitrarily inspected and penalized if a single loaf is found to be underweight. As a result, they tend to produce slightly overweight loaves so that no loaf of any batch might be found to be underweight.

A comparison of the free market and fixed value chains (see figure below) shows that it is not currently economically feasible to produce bread at the controlled price using domestically produced wheat. To do so, bakers use flour that is marketed at a controlled price (726 ETB per Qt wholesale) and produced by mills that process EGTE wheat at a subsidized price of 550 ETB per kg. This price is significantly lower than the current free market price for domestic wheat (approximately 760 ETB per Qt), which would otherwise result in a cost of flour of 1,014 ETB per Qt and a 100 gram loaf of bread costing 1.42 ETB.

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<sup>26</sup> CSA HICE 2004/05.

**Figure 36. Fixed and Free Market Value Chains for Bread**



Source: Ministry of Trade and stakeholder interviews during 2013 field work.

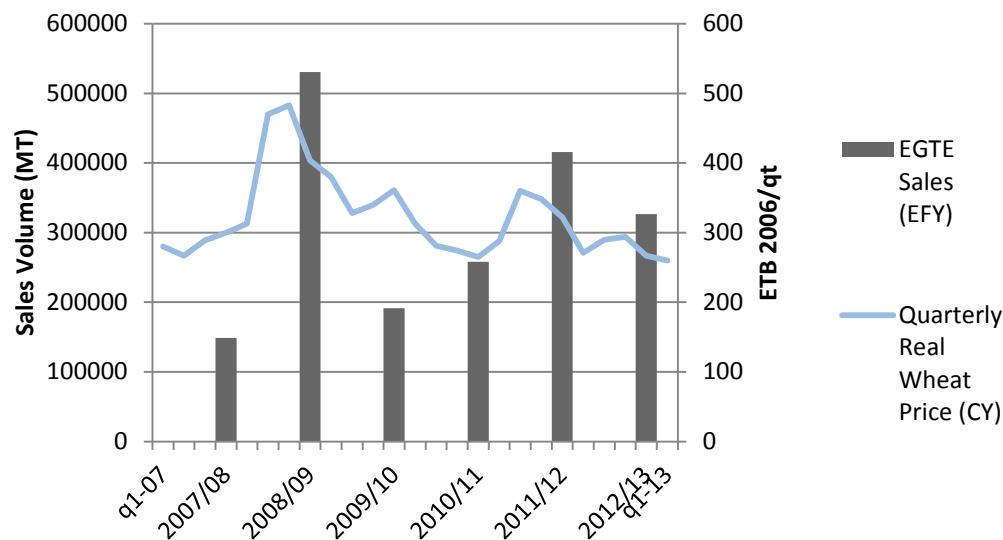
Mills that receive subsidized wheat are expected to maintain records showing the sales of flour derived from that wheat at the government price so that theoretically, all subsidized wheat should be converted to cheap bread. Despite its lower price, the millers' demand for subsidized wheat has been limited. A number of millers noted that there were few advantages to the purchase of EGTE wheat, since the value chain had been calculated on the basis of slim margins, efficient extraction,<sup>27</sup> and a price of offal that was higher than the market would bear.<sup>28</sup> As a result, some mills report that they could readily obtain additional supplies of EGTE wheat if needed and desired.

The extent of this intervention has been considerable. From 2007 onwards, EGTE has sold almost 1.9 million MT of wheat (of which 200,000 MT is outstanding to the EFSRA). A further 600,000 MT has been purchased on the world market and is currently under delivery, and although at least 100,000 MT of this 400,000 MT is scheduled to repay part of the EFSRA loan, average annual sales by EGTE exceeded 400,000 MT in Ethiopian Fiscal Year (EFY)11-12 and will do so again in EFY13. A comparison of EGTE sales volumes against quarterly real wheat prices suggests that the impact of EGTE sales on wheat prices over the last 24 months has been significant.

<sup>27</sup> The GoE assumes extraction rate of 73 percent, whereas in practice most mills in Ethiopia are only able to obtain seven Qt of flour for every MT of grain they mill.

<sup>28</sup> The GoE assumes a price of 100 ETB per Qt, whereas the current market price is closer to 90 ETB per Qt.

**Figure 37. EGTE Sales and Quarterly Wheat Prices (Q1, 2007 to Q1, 2013)**



Source: EGTE.

Taken together, GoE interventions in the edible oil and wheat markets now provide additional food equivalent to 1.2 million MT of cereals per annum, an amount which is roughly equivalent to almost 25 percent of the total commercial market volume.<sup>29</sup> This amount is sufficient to meet the basic calorific requirements of 5.4 million people for a full 12 months, (i.e., approximately double the impact of the non-pastoral PSNP) and exceeds average total food aid imports into Ethiopia (as recorded by InterFAIS) by 20 percent. The relative stability of food prices over the last 18 months, therefore, may well be explained by this massive intervention.

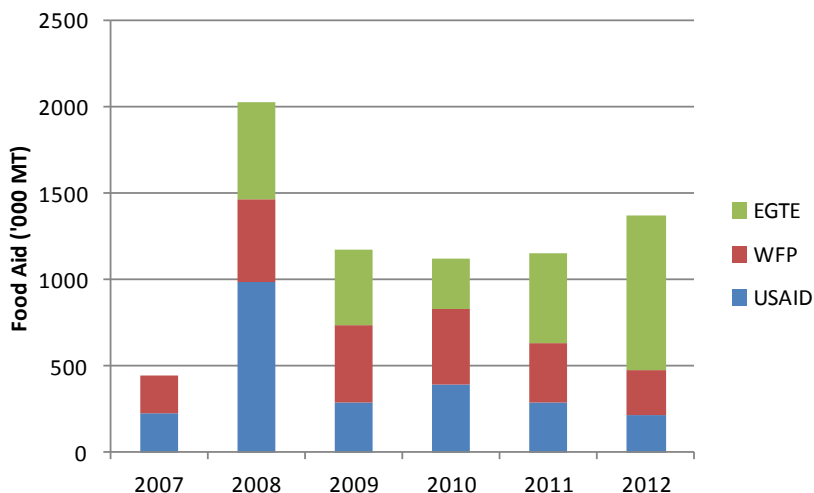
Stakeholders in Addis Ababa (small grain merchants) are surprisingly sympathetic to this market intervention. They note that, on the one hand, distribution of EGTE wheat has a stabilizing effect on prices and that, on the other, it is highly beneficial for the urban poor, many of whom are dependent upon cheap bread as a staple food.

### 3.5.3. Development and Humanitarian Food and Cash Assistance

In addition to the interventions described above, markets are inevitably affected by humanitarian assistance in the form of either food and cash. Food has been imported over the last five years as part of the PSNP, and as part of emergency assistance. The PSNP has also disbursed cash to some beneficiaries, which has also been expected to affect the market by increasing demand for food.

<sup>29</sup> The size of Ethiopia's domestic commercial cereals market is estimated at 3.7 million MT. WFP Draft Concept Note: Creation of a National Food Reserve Agency in Ethiopia, D. Mckee August 2011.

**Figure 38. Imported Food Aid and Stabilization Program Wheat**

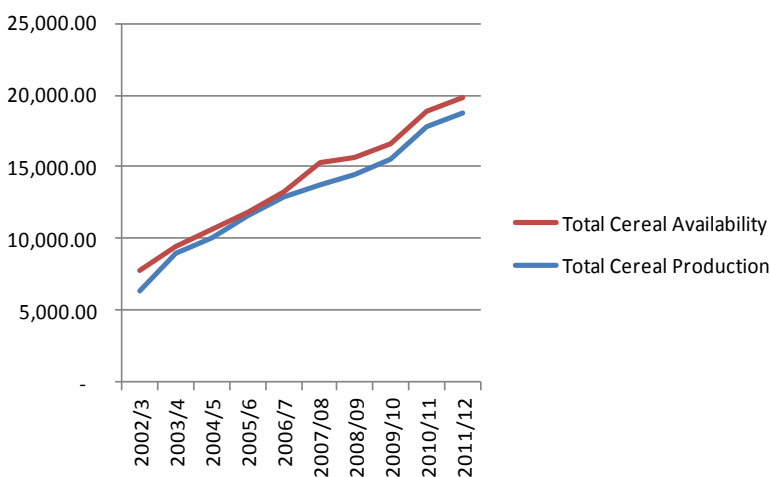


Source: WFP Shipping Bulletins, InterFAIS data for 2012.

As indicated in the figure above, the volume of food aid imported by WFP and USAID has consistently declined since 2010, but this decrease has been offset by additional GoE imports of edible oil and wheat which, although classified as commercial imports, are sold at a substantial discount below real cost.

Taken together, the volumes of donor and GoE imports appear substantial and show little sign of decreasing. Since 2008, such imports have consistently exceeded one million MT, whereas prior to 2008, imports were consistently around 500,000 MT (i.e., the last ten years have witnessed an effective doubling of imported food aid and/or subsidized food). However, the significance of such imports is better shown in the figure below, which displays the volumes of total cereal availability (production, commercial imports, and food aid imports) against total domestic production as estimated by CSA.

**Figure 39. Trends in Domestic Cereal Production and Total Cereal Availability (with Food Aid)**



Source: WFP Shipping Bulletins and CSA Crop Estimates.



Even though CSA estimates of cereal production may be optimistic, when set against local production, food aid volumes are quite small. Although they appear to be gradually increasing, they are far from a dominant component of the national food balance.<sup>30</sup>

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<sup>30</sup> The relative importance of food aid as a production of total supply in Ethiopia differs by crop. If EGTE wheat and donor wheat are combined, in-kind wheat food aid and subsidized wheat/wheat products represents 25 percent of domestic production. For edible oil, MEWIT imports and donor food aid combined represent more than 75 percent of the domestic market.

## Chapter 4. Distributed Food Aid

### 4.1. National Considerations

At the national level, grain imported into the country as food assistance or for subsidized sale is a relatively small proportion of the total grain produced in-country. Specifically, Title II distributed food aid for 2013 (127,090 metric tons (MT)) represents less than 1 percent of that amount. However, whether Title II food aid is properly utilized without harming the market depends on the extent to which households consume it without changing their planting and buying habits. In other words, the effect on the market depends on the balance between supplementation and substitution.

The vast majority of households in surveyed *woredas* spent more than half of the cash provided as a transfer on cheap staple foods, and therefore, the team very roughly estimates that at an outside estimate up to 50 percent of a food transfer of equivalent value might be considered to be supplemental. At the most, the substitution effect (including self-monetization) would be limited to 50 percent of the distributed food aid.

Using this estimate, Title II volumes of 127,090 MT in 2013, and a total grain market estimated at 3.7<sup>31</sup> million MT, the proportion of Title II food aid in the market would be no more than 2 percent even if all the "excess" food aid were self-monetized.

This analysis might be simplistic in that Title II food aid is distributed alongside other Productive Safety Net Programme (PSNP) food transfers and its impact could be more accurately considered in the context of the total food aid volume under that program (280,000 MT),<sup>32</sup> but even so this amount represents only 7.5 percent of the total marketed volume of grain, in a domestic market where prices are approaching and in some cases exceeding import parity. This strongly suggests that even if as much as 50 percent of the total PSNP distribution were to be self-monetized, the disincentive to production would be minimal, while millers and consumers would be better able to source cereals at prices closer to those of the global market.

Under current circumstances, the nation's caloric requirements cannot be met unless domestic production is regularly augmented by both the Government of Ethiopia (GoE) and donor imports of wheat, pulses, and vegetable oil. In the case of the first commodity, it is possible that domestic production of wheat might eventually rise to meet demand, but as yet current market prices above the Import Parity Price (IPP) suggest that ongoing imports will be required for the foreseeable future. The import parity benchmark strongly suggests that at the current levels, there is no real disincentive effect to wheat production

In the case of the second commodity - edible oil, the soya oil supplied from Title II sources is sold at a substantial premium currently 25-50 percent above that of locally produced oils, again suggesting that the impact on local markets is negligible and even in the long term, it is unlikely that this oil will exert an impact on the price of locally produced oils. The Title II oil is self-monetized at prices that represent a potential ceiling to local market prices, but that ceiling has not yet been reached, even within a value chain that claims to be unable to source enough raw materials to satisfy demand.

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<sup>31</sup> WFP Concept Note: Creation of a National Food Reserve Agency in Ethiopia, August 2011.

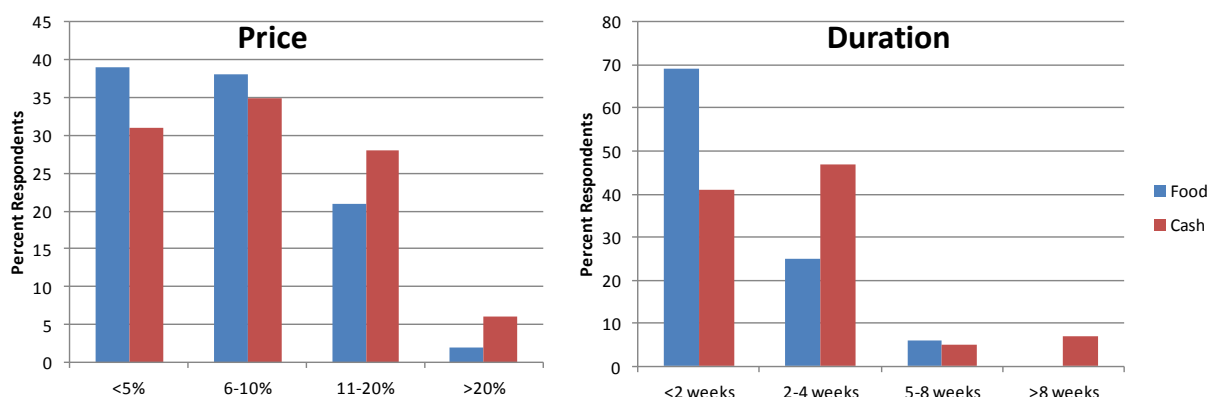
<sup>32</sup> It is not valid to use the total volume of food aid distributed within Ethiopia as the framework within which the Title II food impacts might be assessed since a substantial proportion of that total is distributed on an emergency relief rather than development basis, is subject to different targeting procedures with different degrees of substitution as a result, and is distributed in different geographic areas where markets may be more or less well integrated with markets in other areas of the country.

In the case of pulses, market differentiation is again evident with some pulses such as haricot beans continuing to be exported, while the prices of others such as field peas are approaching or have already exceeded import parity. Nevertheless, it would appear that the relatively consistent increase in the price of domestically consumed pulses over the long term is indicative of an increase in demand that cannot be met from local supply alone. Under such circumstances, the importation of Title II pulses cannot be seen to have a disincentive effect upon production, especially when prices are at or exceeding import parity.

#### 4.2. Local Impacts

The local impacts of PSNP transfers of cash and food appear to be surprisingly similar in extent, although they are opposite in nature. According to interviews with beneficiaries and traders in PSNP *woredas*, food transfers result almost universally in a reduction in local market prices, while cash transfers result in a similarly universal increase. The extent of the changes and the duration of the impacts is shown in the figure below.

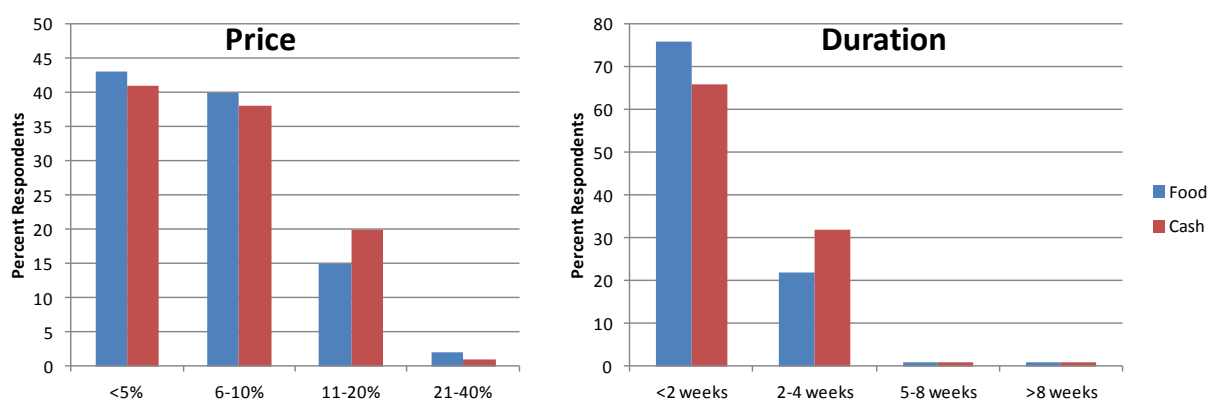
**Figure 40. Impact and Duration of PSNP Transfers - Beneficiary Responses (n=96)**



Source: RRA, 2013.

The responses of traders to the same questions were very similar (see figure below).

**Figure 41. Impact and Duration of PSNP Transfers - Traders' Responses (n=152)**



Source: RRA, 2013.

Overall, in the majority of *woredas* (77 percent household responses, 82 percent trader responses), the reduction in market prices due to food transfers was less than 10 percent, while cash transfers caused a complementary price increase of less than 10 percent in 65 percent (households) to 79 percent (traders) of the *woredas* sampled. For both transfer types, the impact did not last beyond four weeks, although the impact of cash transfers did appear to last a little longer than that of food transfers.

### 4.3. Self-Monetization

Self-monetization, or the practice of selling some part of the food transfer, is known to occur, but the extent of the practice has not been well documented, since neither farmers nor traders readily admit to the practice.

Evidence from the Rapid Rural Appraisal (RRA) and elsewhere indicates that some level of self-monetization of food aid is inevitable, although the 2013 RRA suggests that it is around 10-20 percent (it may be greater for edible oil in some *woredas*).

To investigate self-monetization, the RRA avoided direct questioning and instead asked PSNP beneficiaries about trader behavior, and vice versa. As shown in the table below, traders noted that some monetization of PSNP wheat occurred in 66 percent of *woredas*, while for pulses and edible oil the proportions were 52 percent and 48 percent, respectively. Some regional variation was evident, with the least self-monetization occurring in the Southern Nations, Nationalities, and Peoples Regions (SNNPR). Nevertheless, in the majority of all *woredas* where self-monetization had occurred, the average volume sold was reported by traders to be less than 10 percent of the total transfer. In only 15-20 percent of *woredas* did the volume sold exceed 20 percent of the total transfer.

**Table 9. Traders' Estimates of Self-Monetization (% of Woredas Reporting) (n=48)**

Commodity	Share of Total Transfer Amount				
	None	<10%	20-30%	~50%	>50%
Wheat	34	54	8	1	3
Pulses	48	31	12	7	1
Edible Oil	52	24	8	6	10

Source: RRA 2013.

PSNP beneficiaries were asked about trader activities and reported that traders came to buy food transfers from beneficiaries in 59 percent of the PSNP *woredas* canvassed, although this proportion varied considerably from 11 percent in SNNPR to 90 percent in Amhara. Where traders did purchase food transfers, they attended every food distribution in 53 percent of the *woredas* they visited, and attended regularly in 40 percent of cases. Occasional visits only occurred in 7 percent of *woredas*. These numbers suggest that most traders had the opportunity to develop stable relationships with these sources of supply (PSNP in-kind food aid beneficiaries) and, therefore, PSNP distributions represent a regular part of traders' businesses.

The majority (69 percent) of traders purchased all types of food aid, while 27 percent purchased only wheat. Very few traders (less than 2 percent) purchased oil or pulses exclusively. The bulk of the self-monetized commodities (59 percent) was bought by small local traders who would resell within the community, while 40 percent was shipped out of the area, either by local traders (24 percent) or Isuzu traders (16 percent).

**Table 10. Beneficiary’s Estimates of Traders’ Purchase Activities (% of Woredas Reporting, n=48)**

Commodity	Percent of food aid Purchased				
	None	<10%	20-30%	~50%	>50%
Wheat	0	80	13	7	0
Pulses	0	62	16	18	4
Edible Oil	0	51	10	8	31

Source: RRA 2013.

Even though they only registered the presence of traders in 59 percent of *woredas* canvassed, PSNP beneficiaries noted some trader purchase activity in every single *woreda*. No *woredas* reported zero sales to traders of wheat, pulses, or edible oil food aid. Of the three components of the standard ration, wheat was the least monetized and edible oil the most, with pulses midway between the other two. In more than 30 percent of the *woredas* canvassed, beneficiaries sold more than 50 percent of the edible oil they received through PSNP.

The actual volumes purchased by individual traders were small. In half of the cases, the volume was less than five MT. Only in 18 percent of *woredas* did the average trader collect more than five MT of food aid.

Overall, the data suggest that self-monetization is a widespread and common practice undertaken by many beneficiaries, but in relatively small amounts per beneficiary. Only edible oil is self-monetized in larger quantities that represent a substantial proportion of the total transfer. Nonetheless, the cumulative total volumes of individual beneficiary sales are not insignificant, not only because of the implications for food distribution, but also because the RRA results provide an indication of the coverage that can be achieved by traders if adequate buying power exists in a specific area.

#### 4.4. Traders’ and Farmers’ Reactions to PSNP Transfers

The results from the RRA show that 75 percent of traders indicate no change in their business as a result of PSNP transfers, while a further 22 percent report growth. Only 3 percent report a decline in business as a result of PSNP transfers.

Of those traders who report increased business activity, they cited the following as main reasons:

- The increased availability of food in some *woredas* where self-monetization increases traders' ability to access additional supply.
- The increased availability of cash in other *woredas*.
- The stabilizing effect of food aid on the market which increases their confidence to purchase food for sale in an otherwise uncertain market.

Farmers’ responses were similar. Producers outside of PSNP *woredas* reportedly do not notice any significant decline in prices and do not intend to change their cropping practices as a result of PSNP transfers. Producers within PSNP *woredas* are slightly more affected. Almost all (more than 95 percent) note a change in market prices (upwards or downwards for cash or food transfers respectively), but less than 5 percent altered their cropping practices as a result of food transfers, and less than 10 percent as a result of cash transfers.

#### 4.5. Ports, Transport, and Storage

Since the 2010 Ethiopia USAID-BEST Analysis, which described in detail the Port of Djibouti and the Port of Berbera, there has been no significant change in capacity or management; that assessment remains valid (see Annex 3).

Although there is more than adequate capacity to import currently anticipated Title II volumes, interviews with stakeholders revealed some concerns. First, while the movement of containerized goods (including edible oil) through the Port of Djibouti is well managed, predictable, and fast, the same cannot be said for the movement of bulk cargo, which appears to be less well managed and is consequently slower and less predictable. Second, GoE imports (Ethiopian Grain Trade Enterprise (EGTE) wheat, steel, and fertilizer) continue to disrupt the flow of commercial and donor imports. Government intervention in the movement of trucks into the port and the prioritizing of offloading bulk cargos has been most disruptive to the movement of food aid. Third, port management expressed concern about the increased traffic to and from South Sudan via Djibouti.

Overall, it appears that the Port of Djibouti has ample physical capacity to meet the commodity importation needs of Ethiopia and other countries that may occasionally enter via this route. However, the management of that capacity can lead to the intermittent disruption of the flow of goods. Consequently, the supply of Title II food into the country remains somewhat uncertain. Nevertheless, there are adequate buffer stocks within the Emergency Food Security Reserve (EFSR) and elsewhere to offset this variability and the overall impact of mismanagement is minimal.

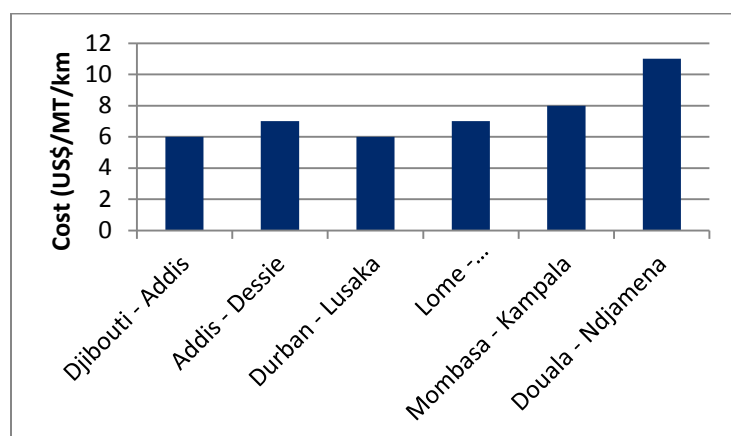
The universal opinion of stakeholders is that although the flow of goods through the Port of Djibouti Port could be improved, the port is adequate to meet anticipated food aid importation needs and that, unless the situation in the Horn deteriorated significantly, additional imports of food aid through Berbera are unlikely (that port was used only once in 2012).

The cost of transport from Djibouti to Addis has declined significantly over the last ten years as haulage capacity has increased and the quality of the national fleet has improved. Long distance haulage by 40 MT trucks now costs approximately US\$0.06-0.07/MT/km. EGTE reported that for the importation of wheat from Djibouti to Addis - 895 km - transport costs in 2012 were ETB 97/Qt (US\$0.062/MT/km), while rates to Dessie from Addis - 420km - were ETB52/Qt (US\$0.071/MT/km). As shown below, these figures are at the lower end of transport costs for equivalent volumes and distances in Africa, which were recently assessed to be US\$0.06-0.11/MT/km.<sup>33</sup>

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<sup>33</sup> Transport Prices and Costs: The Need to Revisit Donors' Policies in Transport in Africa, G.Raballand, P.Macchi 2008.

**Figure 42. Costs of Transport on Key Routes in Africa**



Source: Raballand & Macchi, 2008.

In addition to the EFSR, which has a physical storage capacity of 388,000 MT, Ethiopia possesses substantial grain storage capacity for food aid, including private sector warehouses and the excess warehousing capacity of EGTE. Altogether, EGTE storage capacity exceeds 800,000 MT. Almost all of this 800,000 MT is in the form of warehouses, although slightly under 80,000 MT is in the form of grain silos. Current levels of utilization rarely exceed 100,000 MT so potentially 85 percent of this capacity (600,000 MT) is available.

Private voluntary organizations (PVOs) distributing Title II food generally rent storage from government institutions or the private sector. Occasionally, PVOs possess their own storage resources. However, the availability of government storage exceeds 1.2 million MT while that of the private sector is certainly comparable so the option of renting additional space is always available.

**Table 11. Regional Storage Capacity of Cooperating Sponsors**

Warehouses		Oromiya	Harar	Dire Dawa	Amhara	Addis Ababa	Somali	Afar	Tigray	Total
CRS	Number	5		19	5				1	30
	Capacity	31,000		20,300	9,200				3,253	63,753
CARE	Number	37	5	8	5	2				57
	Capacity	15,741	1,668	5,247	2,000	4,500				29,156
FH	Number				37					37
	Capacity				19,790					19,790
REST	Number								>20	0
	Capacity								37,000	37,000
SAVE	Number	3			7		7	2		19
	Capacity	5,700			30,230		2,400	1,000		39,330
Total	Capacity	52,441	1,668	25,547	61,220	4,500	2,400	1,000	40,253	189,029

Source: Cooperating Sponsors.

Current physical storage capacity exceeds the PSNP Title II requirement of 127,090 MT by nearly 50 percent. On the basis that stocks will be rotated through a warehouse at least twice during the course of a year, total handling capacity can be expected to be at least twice the

physical storage capacity, i.e., 378,000 MT. Storage is not a constraint to future Title II food aid distribution and/or monetization requirements and PVOs utilize fairly professional warehouses.

#### 4.6. Conclusions

Overall, the responses of focus groups and traders indicate that the local impact of recent PSNP transfers, as either cash or food, may have a discernible effect on price, but it is of limited duration and generally less than a 10 percent variation in either direction. Responses show that it has not negatively affected a majority of either traders or producers to any appreciable extent. The disincentive effects of either type of transfer appear to be negligible.

Accordingly it can be anticipated that the distribution of 127,090 MT of Title II food in PSNP *woredas* will not create a disincentive effect in the markets and that neither producers nor traders will alter their business plans as a result of such transfers.

From the perspective of port handling capacity, it is evident from past experience, that the Port of Djibouti is well capable of handling substantially greater volumes of food aid than are anticipated under Title II provisions for 2013. More significantly however, there are no indications that existing capacity will be overstretched by an increase in the throughput of other commodities in the future. Accordingly, the port handling capacity can be considered adequate.

Additionally, adequate transport capacity exists to move large volumes of grain between Djibouti and Addis, and from there to storage depots. Transport costs are at the lower end of the spectrum for Africa.

Finally, storage capacity available to PVOs comfortably exceeds anticipated volumes of Title II in-kind resources.



## Chapter 5. Shifting from In-Kind Food Aid to Cash

### 5.1. Introduction

The Government of Ethiopia (GoE) has expressed its intention to shift from in-kind food transfers to cash transfers in the Productive Safety Net Programme (PSNP) for three reasons:

- Cash disbursements are less expensive and physically less demanding than the transfer of bulky food commodities.
- Cash transfers allow beneficiaries to select the appropriate foods to meet their needs.
- Cash transfers can stimulate the market for increased agricultural production under the Growth and Transformation Plan (GTP), as opposed to in-kind food transfers that have the potential to depress prices and disincentivize production.

In the past, PSNP *woredas* were originally designated to receive either food or cash. By 2010, many *woredas* received cash for some months (generally the first three months of the six-month cycle when food was most available) and then food for the remainder (generally the last three months when food was relatively scarcer). The mix of cash and food varied among *woredas* according to local conditions. The *woredas* with limited access to markets generally received more food, while those with better access received mainly cash.

Nevertheless, Title II awardees have yet to move entirely away from food distributions as USAID continues to assess the potential effect of such a change and investigate the factors that might ensure beneficiaries' food security under a cash-only modality.

### 5.2. Risks

A number of potential risks are associated with cash transfers, all of which might occur if the PSNP becomes a cash-only program. These risks can be summarized as:

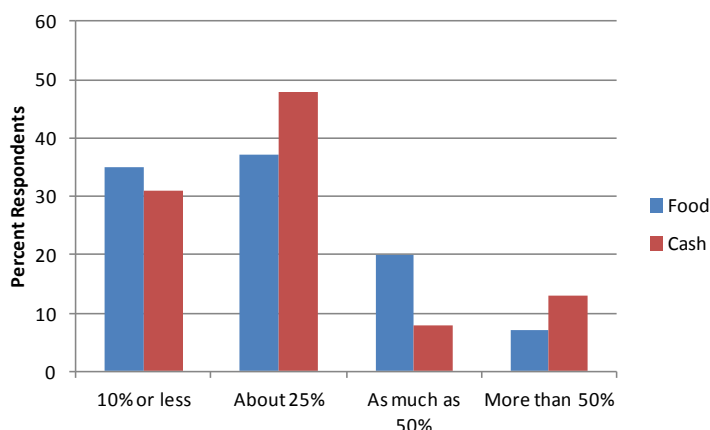
- Potential inflationary impact of cash disbursements.
- Inadequate capacity on the part of traders to meet increased demand due to a range of factors, including limited credit and poor market information.
- Inadequate domestic supply (an overall shortage of grain within the country may result in higher prices as food aid imports are reduced).
- Costs of transport.
- The value of the cash transfer may be set too low to meet the nutritional requirements.
- Gender-related impacts.
- The value of the cash transfer may be eroded as prices rise, either as a result of inflation or seasonal price variations.

This section discusses each of these potential risks, examines evidence from successive Rapid Rural Appraisals (RRAs), and summarizes the team's perception of the likelihood that each risk will occur.

Before addressing these concerns, however, it is useful to place the issue in perspective by assessing the significance of either food or cash transfers to beneficiaries. The PSNP transfers provide six months of support to targeted beneficiaries. This amount is fixed irrespective of whether a household needs support for five months or for seven months. In this regard it is useful to see how significant PSNP transfers really are to a household's food or cash requirements. Focus groups in PSNP *woredas* were asked to indicate what proportion of a household's food was made up of PSNP food transfers during food distribution months. A

similar question was asked of cash, i.e. to estimate the proportion of a household's overall cash needs that the PSNP cash transfer provided during the months when cash was distributed. The results are shown in the figure below.

**Figure 43. Significance of PSNP Transfers Relative to Total Needs in Distribution Months (n=96)**



Source: RRA 2013.

Food or cash transfers meet no more than 25 percent of their household needs for the majority of beneficiaries polled during the RRA (73 percent of beneficiaries in the case of food, and 80 percent for cash). In only about 10 percent of cases does the PSNP transfer constitute more than 50 percent of a household's food or cash requirements. Beneficiaries have an incentive to overestimate the importance of the transfer when interviewed; therefore, these are a reasonable upper bound estimate of the importance of PNSP cash/food transfers during the distribution period.

### 5.2.1. Inflation

The levels of cash disbursed under the PSNP are relatively small when compared with the overall economy. If all of the 6.35 million non-pastoral PSNP beneficiaries received a cash transfer of 162 Ethiopian Birr (ETB) per month for six months (see table below), the total cash disbursement would be 6.17 billion ETB. This amount is less than 0.9 percent of Gross Domestic Product (GDP) (estimated by the GTP 2012 Annual Report at 739 billion ETB) and only 1.9 percent of agricultural GDP (estimated for 2012 in the same report as 44 percent of total GDP).

**Table 12. Monthly Standard Ration Value (2012)**

Commodity	Kg	ETB/Kg	ETB
Wheat	15	7.5	112.5
Beans	1.5	12	18
Oil	0.45	70	31.5
<b>Total</b>			<b>162</b>

Source: WFP and EGTE MIS.

Based on these estimates and assuming an own price elasticity of demand for staple foods close to -1,<sup>34</sup> the national impact upon food prices would be no more than a 2 percent increase.

Such an argument supposes that the beneficiaries' use of the cash transfers would mirror that of the average Ethiopian household. This assumption would imply a complete absence of the targeting that normally attempts to ensure that transfers are only provided to those who would not otherwise be able to access food. Given 100 percent efficiency of targeting, all cash provided would be used to purchase additional food so that in the limited commercial grain market (an estimated 3.7 million metric tons (MT), and valued using the composite cereal index at 28 billion ETB), 100 percent cash transfers would generate a potential 15 percent<sup>35</sup> increase in demand and a 15 percent increase in price of cereals.

In practice, the impact of cash transfers will lie somewhere between these two extremes of 2 percent and 15 percent. Even the poorest Ethiopian households will spend approximately 30 percent of their income on non-food needs so the impact of cash transfers on the commercial grain market should be reduced by 30 percent, to a maximum of 10.5 percent. Additionally, as targeting is never entirely effective (a 70 percent accuracy with 30 percent inclusion error<sup>36</sup> is often the best that can be achieved) and the PSNP selectively targets households unable to access food without suffering asset depletion, an accurate macro-assessment of cash transfers is extremely complex and beyond the scope of this analysis. It is only possible to present the range of potential price impacts. Empirical observation suggests that localized price increases at the upper end of this 2-15 percent range may occur following cash transfers in a short duration but are not at all (and will not be) reflected in national price variations as indicated by EGTE wholesale price data.

In 79 percent of *woredas*, prices increased by less than 10 percent for less than four weeks following the disbursement of cash, according to the 2013 RRA. Similar responses from traders and beneficiaries alike suggest that even in PSNP *woredas*, markets are sufficiently responsive to absorb the impact of a temporary and localized increase in demand. Generally, cash transfers have no discernible effect on national prices and only a limited impact on local markets such that very few traders or farmers indicated any intention to change business or cropping plans.

### **5.2.2. Traders' Capacity**

The majority (81 percent) of traders cited strong market competition as a serious constraint to their current operations. Given that the majority (64 percent) of the traders canvassed were from PSNP *woredas*, this situation suggests that traders are present in sufficient numbers to promote competition even in many of the poorer areas where the PSNP is operating.

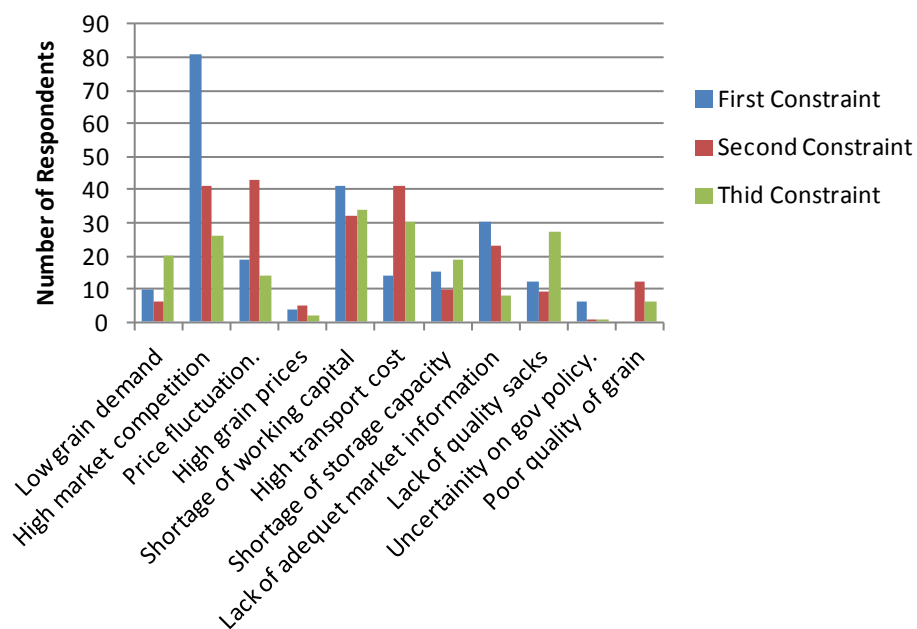
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<sup>34</sup> ESSP, Food Demand Elasticities in Ethiopia: Estimates Using Household Income Consumption Expenditure (HICE) Survey Data: Ethiopia Strategy Support Program II, Working Paper 11, April 2010.

<sup>35</sup> Assuming that proportion of the total 6.17 ETB cash transfer spent on grain would be in proportion to the value of grain in the standard ration.

<sup>36</sup> According to an unpublished WFP targeting assessment.

**Figure 44. Traders' Constraints (n=205)**

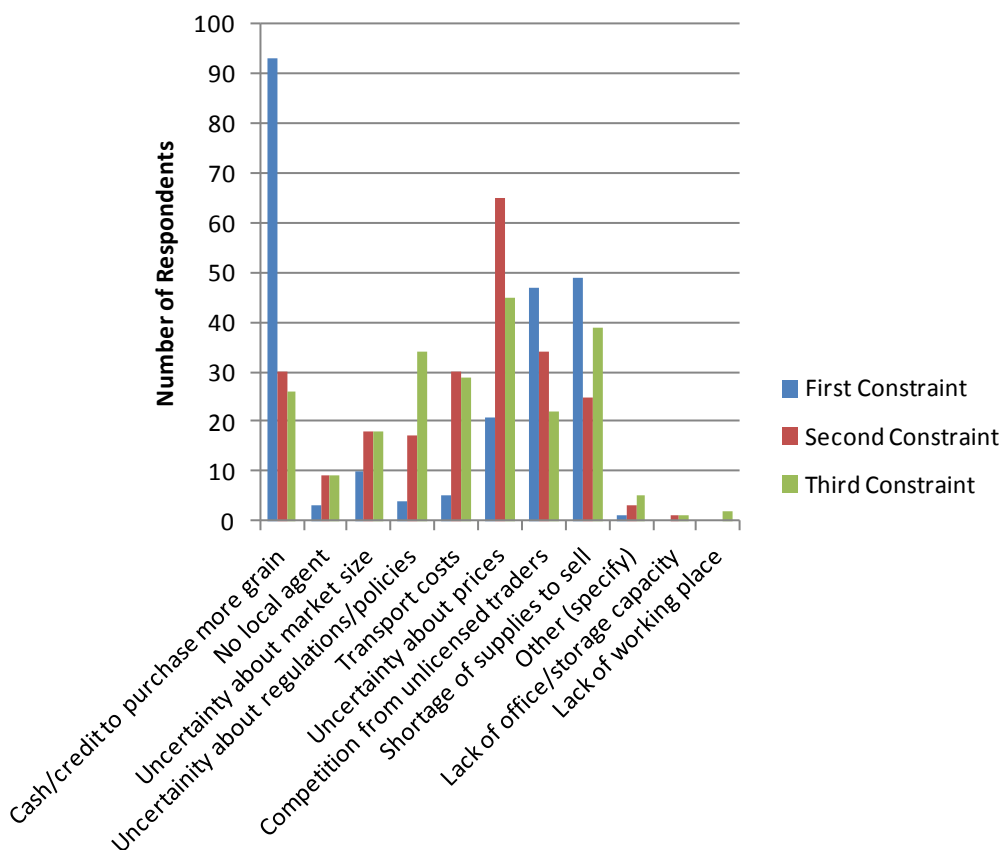


Source: RRA 2013.

Additional issues include lack of working capital, access to market information, transport costs, and price uncertainty. Nevertheless, the capacity of traders to buy and sell at prices that are relatively lower or higher than those of other traders is most important to business.

Somewhat different responses were obtained when traders were asked to list the key constraints encountered when opening up new markets (see chart below). Competition from other (unlicensed) traders was rated less important in the instance of opening up of new markets. Instead, traders cite working capital as the major constraint. A shortage of supplies to sell is also important, and this problem reflects working capital constraints.

**Figure 45. Constraints to the Development of New Markets (n=202)**



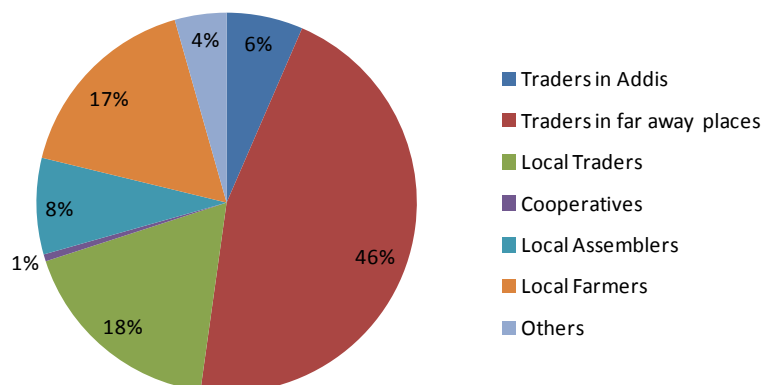
Source: RRA 2013.

Overall, while existing markets are dominated by the interaction among traders, new markets cannot open unless credit constraints are addressed.

**5.2.3. Trading Patterns**

To supply their markets, traders access grain from a variety of sources (see figure below).

**Figure 46. Sources of Grain (n=230)**



Source: RRA 2013.

The responses of over 200 traders show a change in emphasis in two key areas of the market over the last five years. First, the role of Addis Ababa as a central market for the collection of grain has been reduced. Only 6 percent of grain in the deficit areas is now sourced from Addis. Secondly, the role of assemblers in the market is also quite limited as traders are purchasing more than twice as much grain from farmers as they do from assemblers.

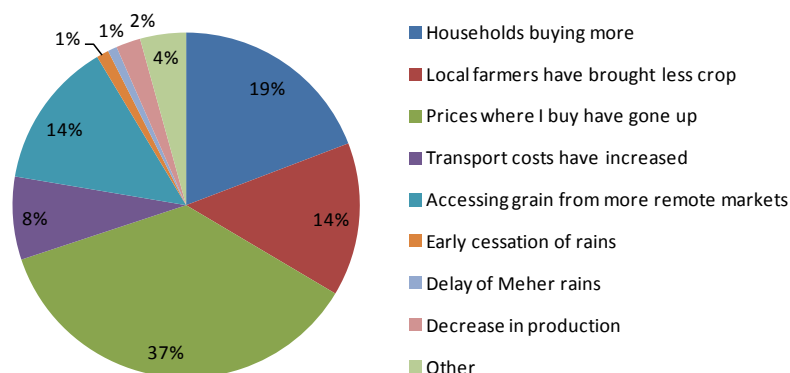
The largest share of traders' purchases are made directly from surplus areas. A similar, but slightly smaller volume is purchased locally from nearby traders and producers. Purchases from cooperatives are insignificant.

These results suggest that traders are well able to access supplies of grain from surplus areas. They appear to possess adequate market information to source grain directly without reference to the central market in Addis. While they may also source grain locally, they are not restricted to their local market.

#### **5.2.4. Market Information**

Of the traders canvassed, 92 percent said they have good access to market information and 97 percent of these traders obtained this information by contacting other traders by mobile phone. The remaining 3 percent received price data from radio bulletins and the Ethiopian Commodity Exchange (ECX). Traders are largely unaware of the factors that determine price.

**Figure 47. Traders' Reasons for Increasing Grain Prices (n=212)**



Source: RRA 2013.

Few traders commented on either the nature of the *meher* season or the level of production as a factor that influences grain prices. Although some traders noted that sales had increased, and that farmers were bringing less grain to the market, the main reason quoted was simply that prices in the supply area had increased. These responses are typical of the lack of information that traders possess on the overall production and availability of grain on the Ethiopian market.

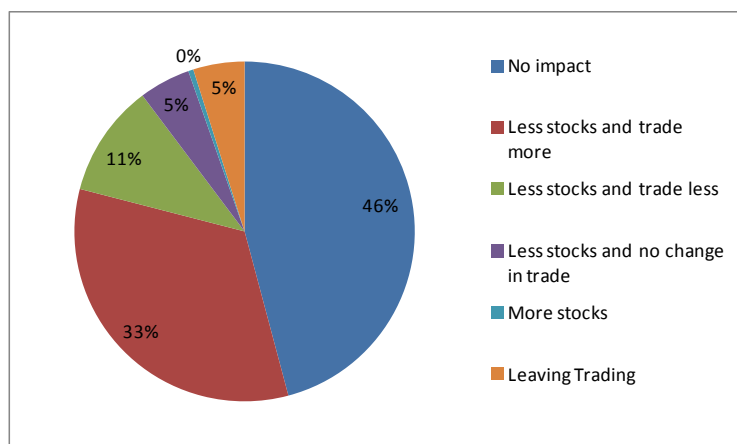
### 5.2.5. Market Integration

Figure 10 provides a clear indication of the extent to which the markets for maize and wheat are integrated at a national level, but there is less direct evidence of integration at the local level, where markets could be distorted by monopolies or oligopolies. In practice, the RRA responses suggest that traders are very sensitive to the prices offered by their competitors and that competition exists even at the local level so as to promote effective market integration. This is not to say that local oligopolies do not occur, but there does appear to be sufficient awareness of prices among both farmers and traders for such groups to be limited in extent or duration.

### 5.2.6. Impact of Government Policies

In January 2010, the government announced measures to restrict the amount of grain held in stores (from both imports and domestic production). Since that time, traders have occasionally been harassed if suspected of hoarding grain. Although the official limit for grain stores was set at 50 quintals (Qt) (5 MT), it has proved impractical to police the multitude of small grain stores across the country, and many traders now store more grain than this amount. Nevertheless, the measures remain in place and are relevant to the capacity of traders to meet the demands of an expanding market.

**Figure 48. Traders' Responses to Government Policies on Grain Storage (n=198)**



Source: RRA 2013.

Though traders commonly stated that these government policies do not affect their activities, they admit to holding less stock and a faster turnover rate of stocks. This is an important finding because traders would need to accumulate stocks in anticipation of new cash transfers to avoid short-term shortages of grain or price increases.

Nevertheless, traders reacted negatively to such a suggestion, which indicates that they would only buy and sell on the basis of observed prices and demand. This reaction is partly due to the uncertainty of the market and the general unpredictability of transfers (although 68 percent of beneficiaries knew when PSNP transfers would be made, only 46 percent indicated that the transfers occur on time).<sup>37</sup> There is also a stigma that it would be anti-social to accumulate grain so as to take advantage of the situation, since this might be construed as hoarding.

### 5.2.7. Traders' Capacity to Increase Supply

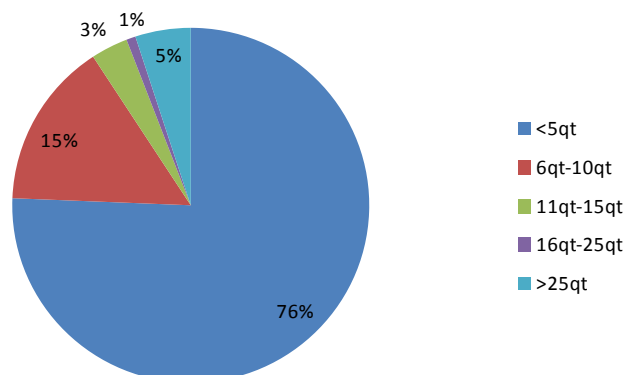
In a typical *woreda*, there are about four grain markets with an average of 20 grain traders selling a combined total of about 20 Qt per week.<sup>38</sup> This total is equivalent to 640 MT of grain per month per *woreda*, or enough to meet the cereal requirements of 43,000 people. To determine whether traders would have the capacity to meet the increased demand of switching from food to cash, traders were asked to indicate how much additional grain they could comfortably buy and sell if the market were to increase in size. The response varied from less than 5 Qt per week to more than 25 Qt per week (see chart below).

<sup>37</sup> RRA 2013.

<sup>38</sup> This calculation is based upon median values since mean values were confounded by outliers.



**Figure 49. Traders' Additional Sale Capacity (n=212)**



Source: RRA 2013.

More than 75 percent of traders indicated that they would not be able to turn over more than 5 Qt per week above their current level of business. On the basis that the average trader might achieve 2.5 Qt per week, (equivalent to 12.5 percent of average normal turnover), the average response to additional cash transfers would be 80 MT per *woreda* per month, which is sufficient to meet the theoretical cereal needs of just 5,300 beneficiaries.<sup>39</sup>

Overall, the responses of traders indicate that they would not be able to meet the increase in demand that would be created by switching from food to cash unless their key constraints (access to finance) are addressed. Even with increased access to finance, however, traders would not be proactive; instead, traders note that they would respond to increasing demand as it occurs, rather than stocking additional supplies prior to a cash distribution.

Traders also consistently indicated that they considered the food transfers to be beneficial to their business in that food transfers stabilize the market and ensure price stability that might not otherwise exist. By moderating prices, the food transfers appear to remove an element of risk from the traders' business that allows them to buy and sell larger volumes of grain.

### **5.2.8. Inadequate Grain Supply**

At existing price levels, there may not be enough grain available on local markets to meet demand. Consequently, the switch from food to cash transfers may deplete the already limited supply of food within the country as a whole and in the PSNP *woredas* in particular.

The first concern is based upon a reasonable premise – that the availability of domestically produced food is limited and potentially diminishing on a per capita basis. Nevertheless, the immediate outcome of such a situation would be an increase in prices both in PSNP *woredas* and across most of the country. As such, the impact of such a shortfall would be related more to the purchasing power of the cash transfer than to the availability of food.

The second issue is effectively the inverse of the concern regarding cash disbursements – namely that while an increase in cash might promote inflation (either nationally or locally), a reduction in the availability of food might have a similar effect.

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<sup>39</sup> Beneficiaries who receive cash transfers are likely to purchase a maximum of 70 percent of that amount on food.

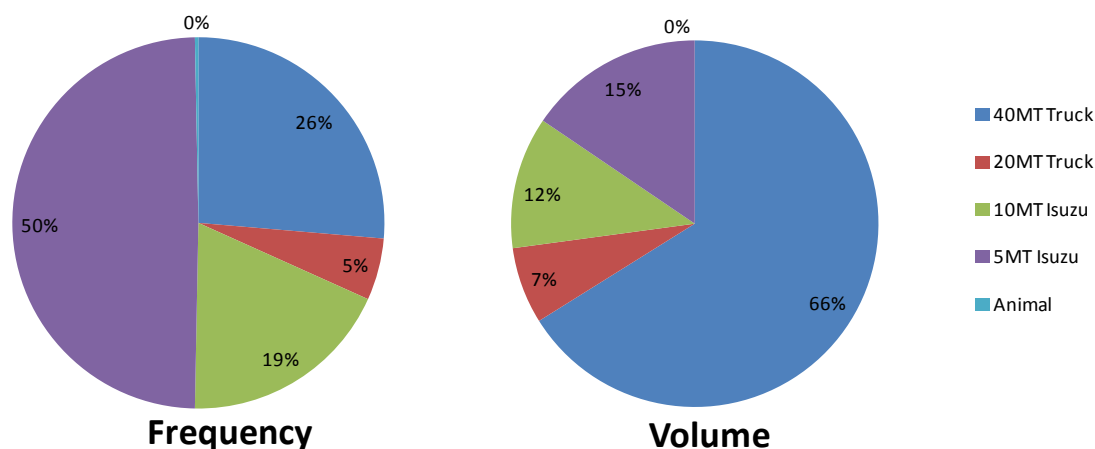
The same arguments apply to a reduction in food supply as they do to an increase in cash. The PSNP cereal distribution of approximately 280,000 MT is less than 1.5 percent of national cereal production and its withdrawal might therefore increase cereal prices. On the other hand, the quantity is more than 7.5 percent of the volume of cereals that is commercially traded, so a much greater impact could be expected on commercial markets.

Again, the actual impact at the micro-level (i.e., on local markets serving PSNP *woredas*) will depend upon the efficiency of targeting and the extent to which beneficiaries would have been unable to access food in the absence of the PSNP food transfers. If beneficiaries would otherwise have been unable to access food, then the impact of withdrawing food on the market would be minimal. If however, food aid had substituted for purchases made from (albeit limited) cash resources, the impact would be increased. While transfers of food reduced prices by 10 percent, cash transfers increased prices by approximately the same amount. A switch from food to cash would therefore result in a relative increase by 20 percent, although the duration of this impact would likely be less than four weeks.

### 5.2.9. Transport Costs

The 5 MT Isuzu truck is the most commonly used form of transport among traders, while in terms of proportion of traded volume, the 40 MT trucks carry the most grain.

**Figure 50. Frequency of Use and Proportion of Volume Carried by Transport Type (n=238)**

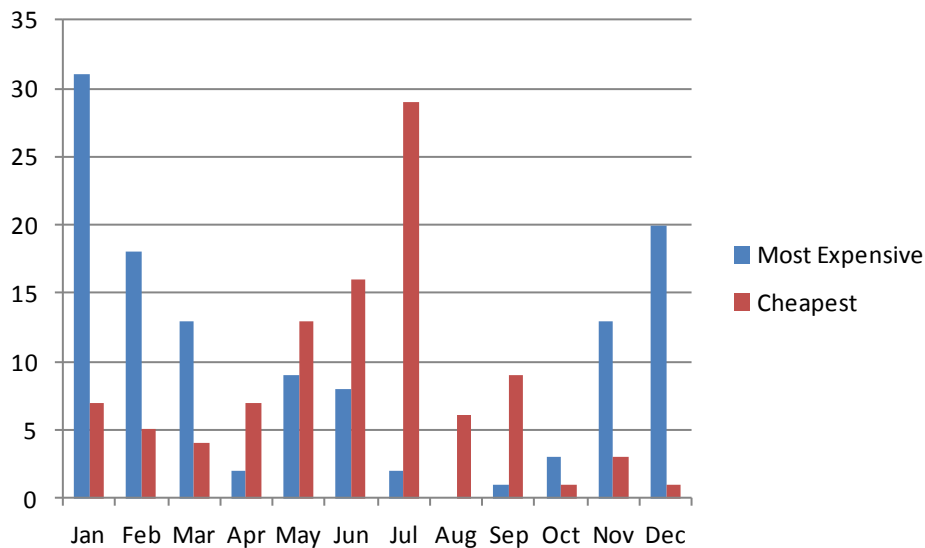


Source: RRA 2013.

For 83 percent of traders surveyed, the cost of transport has increased since 2011/12. Despite the increase in cost, a majority of traders also reported an increase in the availability of transport. For 40 MT and 20 MT trucks, 43 percent of traders reported increased availability while 41 percent reported no change and only 16 percent reported that large trucks were less available than the year before. For Isuzu trucks, the results were more marked as 67 percent of traders reported increased availability compared with the previous year.

In terms of cost, the most expensive months are from November-March, with a peak in January. The cheapest months to access transport are June and July.

**Figure 51. Months Reported as Cheapest and Most Expensive for Haulage**



Source: RRA 2013.

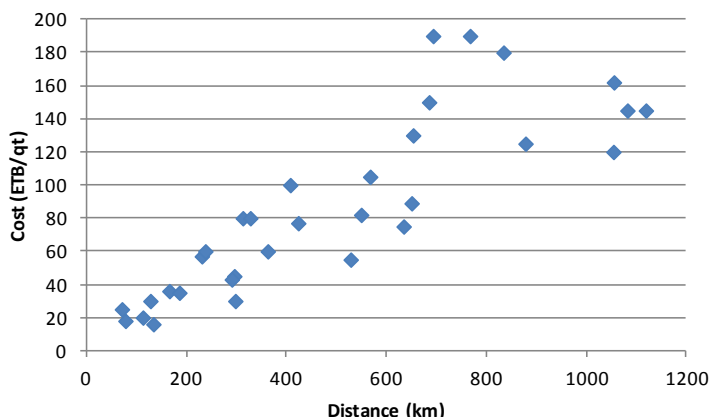
Since the switch from food to cash transfers would be mainly in the months of May-July/August, when freight rates are at their lowest, the effect of transport costs will be relatively reduced.

Actual costs varied widely according to the method of transport and the route. The figure below shows the variation of rates by distance carried paid by grain traders at the time of the survey.<sup>40</sup> It was evident that between areas of economic activity, where the possibility of a back load was high and traffic was frequent, haulage rates were low (e.g., between Addis and Dire Dawa, the rate was US\$0.06 per MT per km, while between Addis and Babile it was US\$0.08 per MT per km). These rates are competitive with the lowest rates found in Africa. Conversely, the rates to places of low economic activity were much higher. Thus between Addis and Sekota, the haulage rate was US\$0.15 per MT per km and between Nekemte and Sekota, the rate was US\$0.12 per MT per km. The areas facing such high transport rates are not particularly remote or inaccessible. The distances in each case are around 600-800 km and places such as Sekota can be reached along adequate all weather roads. (By contrast, from Nekemte to Wukro and Hawzen, rates were US\$0.07 and US\$0.08 per MT per km respectively, even though the distances exceeded 1000 km.) Areas such as Sekota provide few opportunities to pick up back loads, a fact which leads to higher overall per MT costs for a round trip.

As a result, haulage costs of grain to areas such as Sekota can increase the cost of grain delivered to the area by up to 40 percent. This price increase is a significant additional cost that has to be considered in a cash transfer to meet the needs of beneficiaries in more remote or less economically active areas.

<sup>40</sup> All freight rates are converted into US dollars using a rate of US\$1 = 18.5 ETB.

**Figure 52. Scatter Plot of Freight Rates against Distance Carried**



Source: RRA 2013.

### 5.2.10. Cash Transfer Value

The cash transfer to PSNP beneficiaries is referred to as a wage rate because beneficiaries receive the transfer in exchange for working on PNSP activities. The wage rate is calculated based on the cost of the standard ration. The use of food prices as a yardstick for the transfer is reasonable given that 75 percent of beneficiaries reported that they spend more than half of the PSNP cash transfer on food.

Nevertheless, as the table below shows, wage rates reported by traders in peri-urban and rural areas have increased significantly, by approximately 24-39 percent. This rate reflects not only food prices but other key expenses. Actual wage rates may have been driven upward by increased costs of non-food items; while food price inflation has declined, non-food components continue to rise at close to 10 percent per year. Although PSNP wage rates are primarily calculated based on food prices, they should reflect the same price trends as non-food items so as to meet beneficiary needs.

**Table 13. Regional Variations in Mean Daily Rate for Unskilled Urban and Rural Labor**

	Urban			Rural		
	2012/13	2011/12	% Increase	2012/13	2011/12	% Increase
Tigray	58	46	26	61	49	25
Amhara	38	29	31	36	26	39
Oromiya	45	33	36	37	27	37
SNNPR	36	29	24	33	24	38

Source: RRA, 2013.

The PSNP intends to smooth the consumption of food by supplying food or cash to beneficiaries. However, the experience in many countries over time has clearly demonstrated that it is unrealistic to provide a fungible transfer with the expectation that it will be used to meet a "food gap" alone because households do not experience a "food gap"; rather, households experience poverty, which does not allow them to buy enough food or other necessities for some period of the year. Therefore, although the PSNP wage is a transfer made in exchange for five days of work per month and is not equivalent to an actual wage, the PSNP transfer should still increase at the same rate as minimum wages in the marketplace to reflect cost of living

trends and the fact that households are likely to utilize at least some of any food transfer to meet those non-food needs.

Only 2.5 percent of beneficiaries reported that cash transfers were adequate to meet their food needs. Nevertheless, beneficiaries do share their cash transfers with non-beneficiaries. The following table presents the frequency of this habit in different regions.

**Table 14. Frequency of Sharing Cash or Work<sup>41</sup> Between Households (n=96)**

Region	Sharing of Cash	Sharing of Work
Tigray	0%	11%
Amhara	7%	28%
Oromiya	29%	14%
SNNPR	0%	0%
Total	14%	16%

Source: RRA 2013.

Beneficiaries surveyed report a preference for food transfers over cash transfers because they worry about increasing food prices, and because they believe that the value of the food transfer is greater than the amount they receive in the cash transfer. As the table below illustrates, nearly 3/4 of respondents in the focus group prefer food only over a cash transfer or a cash/food mix. The strength of beneficiary preferences is especially important because the data include the experience of those who have shifted from food to cash in the past three years, and who made up 50 percent of the survey. The figures clearly show that no more than 6 percent of these beneficiaries (3 percent of the total sample) would prefer cash all the time. The desire for a food transfer for all or part of the program was almost universal.

**Table 15. Beneficiary Preferences for Transfers**

Transfer Option	Percent of Focus Groups Preferring (n=96, P<0.01)
Cash all the time	3
Food all the time	74
Cash and food in the months when prices are high	20
A mixture of cash and food every month	3

Source: RRA 2013.

Only 10 percent of focus groups indicated limited food availability as the main reason for preferring food transfers, (i.e., that they could not always find grain on the market). The six woredas who responded in this way were: Mereb Lehe, Beyeda, Kilde Awlalo, Goro Gutu, Kacha Bira and Dire Dawa. There appears to be no common characteristic defining such woredas, Kilde Awlalo is close to the town of Wukro, Dire Dawa is similarly close to an urban center and Goro Gutu lies close to a main road. More remote woredas include Mereb Lehe on the border with Eritrea, Beyeda at the border of Amhara with Tigra and Kacha Bira. However, there are equally remote woredas that clearly indicated problems of access were of greater concern than those of availability.

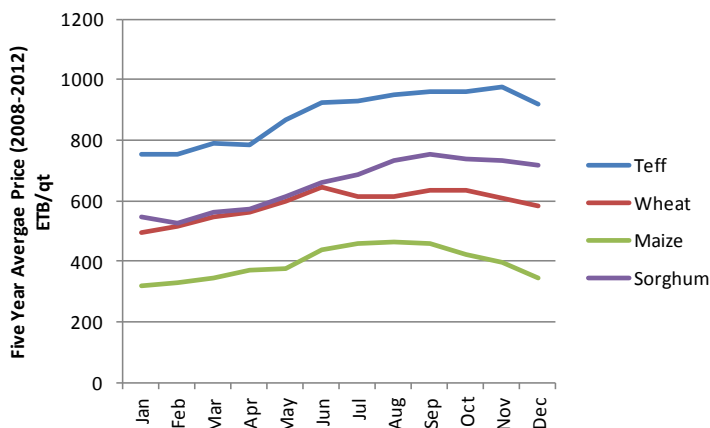
These responses strongly suggest that beneficiaries are most concerned about the relative value of the cash and food transfers and the impact that inadequate cash might have on the accessibility of food. This worry leads beneficiaries to prefer an all-food package.

<sup>41</sup> PSNP work is supposed to be done by a fixed group of beneficiaries who all work the same amount – generally six months. In practice, some beneficiaries will work three months and another group will work the last three months. This happens when communities do their own informal targeting and decide to split the benefits.

**Erosion of Cash Transfer Value.** At present, both food and non-food inflation are contributing to rising prices. Under current circumstances, given the estimated levels of production of the last season, prices will likely rise substantially. Although world market prices have trended downwards over the last eight months, they remain high and (with the exception of wheat) significantly exceed domestic prices. Given this environment, recipients of a constant value cash transfer would become vulnerable to food insecurity within the course of a few months of unpredictable price increases.

As food prices are frequently cyclical in nature (see the figure below as an example), seasonal coefficients should be built into a formula to vary cash transfer amounts according to anticipated market conditions over the course of a year.

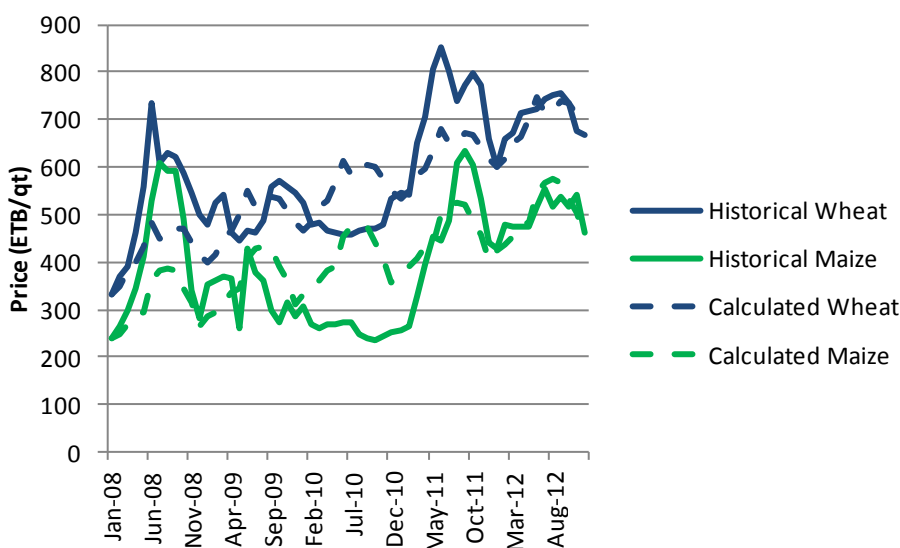
**Figure 53. Seasonal Variation in Cereal Prices**



Source: EGTE.

In practice, it is almost impossible to predict the extent of changes in price that might occur in any given year. The figure below shows the historical prices of wheat and maize between January 2008-December 2012 and the theoretical prices calculated on the basis of seasonal coefficients derived from the average prices over the same period.

**Figure 54. Comparison Between Historical and Calculated Wheat and Maize Prices**



Source: EGTE.

The match between historical and theoretical prices during 2009 and 2012 was quite close, but in the years before that, the theoretical coefficients underestimate prices in 2008 and 2011, and overestimate prices in 2010. Beneficiaries receiving a seasonally modulated cash transfer would have been substantially disadvantaged in two out of the last five years.

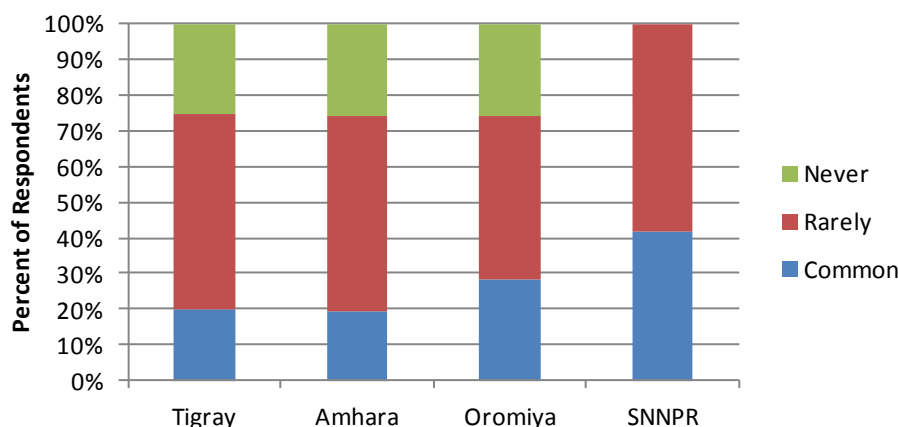
Therefore, a seasonal adjustment should be made; however, the accuracy of the adjustment to account for actual (rather than predicted) price changes will likely be low, and cash recipients will likely end up with less food with a cash transfer than with a food transfer. There are cash transfers programs in other countries (e.g., WFP’s current MVAC Emergency Response cash transfer program in Malawi) that allow for monthly adjustments based on prevailing market prices. Whether such an agile system would be feasible in the PSNP context is unclear.

When the PSNP food and cash transfers are assessed it is clear that they represent a very approximate tool to augment the income of beneficiary households. The amounts provided in either case are not precisely matched to household needs, and the proportion of needs met is in most cases only 25 percent or less. This is not to suggest that the transfers are unnecessary. Their contribution to household income is clearly critical for most households. Nevertheless, it is not the absolute value of the transfer that is of most concern to beneficiaries, it is the relative value of the two transfer modalities and the experience that the cash transfer has inevitably lost value against the food transfer during the course of each season of the PSNP that lead beneficiaries to prefer an all-food package.

### 5.2.11. Gender

The switch from food to cash may result in a decrease in welfare for women and children in PSNP households if the cash is distributed to men, according to RRA respondents. In those *woredas* where a change from food to cash had occurred, 25 percent of respondents indicated that it was common for men to spend the cash transfer on luxuries (e.g., alcohol and cigarettes). In SNNPR, this figure was as high as 40 percent. An additional 53 percent indicated that such “abuse” of cash transfers by men did happen, but only rarely. Only 22 percent of all respondents suggested that abuse of cash transfers by men did not occur.

**Figure 55. Frequency of Abuse of Cash Transfers by Men (%) (n=160)**



Source: RRA 2013.

The majority of focus groups considered women better handlers of both food and cash; interestingly, men are considered more responsible when handling cash than food (see table below). In sum, the risk of men abusing cash transfers appears to be real but appears to be a relatively lower risk than abuse of a food transfer.

**Table 16. Variation of Responsibility (%) According to Sex and Type of Transfer (n=96, p<0.01)**

Percentage of Respondents	Handled more responsibly by:		
	Men	Women	No Difference
Cash	33	52	15
Food	6	83	11

Source: RRA 2013.

### 5.3. Conclusions and Recommendations

#### 5.3.1. Conclusions

Although the government has initiated some efforts to control food price inflation, non-food price inflation has remained stubbornly consistent and may yet increase if the exchange rate depreciates in line with real market values. Nevertheless, production is barely enough to meet demand and a stable market is only maintained through the importation of food aid or subsidized grain and oil. The possibility that food price inflation might reoccur is not only possible, but probable. Under such circumstances, households inevitably consider a food transfer greater in value to food security than a cash transfer of declining relative value. Beneficiary responses to the RRA are quite definitive on this issue. Not only would a cash transfer be inadequate to purchase the same amount of food, but a food transfer could be sold for an increasing amount of cash with which to buy other commodities. PSNP beneficiaries recognize the uncertainty of the market, and even those who have been transferred from food to cash transfers indicate a clear preference for food as all or part of the PSNP program. They have firsthand experience of the difficulties in developing a cash transfer mechanism that could predict the necessary value of the cash transfer with enough degree of accuracy to ensure their food security.

At a macroeconomic level, the inflationary impact of cash disbursement is as minimal as the disincentive effect of an equivalent food transfer. Nevertheless, it must be accepted that the



proposed transfer to cash will take place against a situation of national food deficit that is only balanced by significant volumes of imports. A shift to cash transfers can only increase that import requirement, and it might be suggested that such a shift should be phased in only as domestic production levels rise. The domestic market for wheat is already at import parity price levels so that a cash transfer that accurately reflects food prices would allow for the importation of the additional food volumes. Nevertheless in practice, millers report that shortages of foreign exchange do restrict imports of grain. The impact of a shift to cash is therefore more affected by the rate of exchange and the willingness of the GoE to allow that rate to meet real market levels, than it is by the level of domestic production.

The inflationary impact of cash disbursements can be discounted as an argument against switching from food to cash because it appears it would be of limited duration and the rate would be less than 10 percent in extent. Rather, beneficiaries are more so worried about food accessibility in a cash transfer. Specifically, they are concerned about the potential effect on grain price if a national shortage were to occur. Although grain supplies have been adequate to date, traders and farmers have noted the reduced levels of production and reduced grain outflows, both of which will affect prices as supplies become depleted. Wholesale prices of all grains, especially maize and sorghum, will likely rise between now and the next harvest season. Traders will also face a credit constraint in meeting the increased demand resulting from a shift to cash. When the sources of supply become depleted, prices will rise; therefore, the value of a cash transfer must also be increased if it is to remain effective. Further affecting prices is the seasonal variation of transport costs. Since generally transport costs are lowest from June-August (the months of the cash transfer), the reduced costs favor the shift from food to cash as it facilitates the movement of food to deficit markets. Nevertheless, the costs of transport varies substantially from one location to another (e.g., 190 ETB per Qt in one market versus 10 ETB per Qt in another). Such drastic differences requires the substantial adjustment of a cash transfer to take account of the additional transport cost that would be passed back to the consumers in *woredas* where transport is more expensive.

Traders' capacity to supply PSNP markets must be considered in the light of:

- Their limited access to finance which, while adequate to meet their needs, is not adequate to address additional market requirements.
- Their ubiquity, selling and buying in almost all PSNP *woredas*.
- Their access to market information, which appears to be quite adequate in all cases.
- Their fundamentally reactive attitude to the market, in particular their unwillingness to take a position in terms of increased stock holdings, either as a result of uncertainty or because of a GoE-promulgated attitude towards hoarding.
- Their capacity to source food commodities from distances of up to 1,000 km, and yet...
- Their lack of an overall perspective on national production and price movements.

These characteristics contribute to a situation in which traders can be expected to have the capacity to trade into new areas if supplied with credit and the encouragement to undertake the venture (either as part of a GoE/donor program or through advertising the opportunities that would be available once a shift from food to cash was in process). They appear to be operating purely on a spot market basis and with no discernible (probably limited) collusion. As a result, they appear to contribute toward an integrated market in which prices are rising and falling in line with supply and demand and the costs of transport.

As such, traders can be expected to participate adequately in the supply of cash-based *woredas* with food, but this participation will need to be facilitated with finance and encouragement if it is to be immediately sufficient.

Neither food nor cash transfers represented exclusive sources of food for PSNP beneficiaries. In fact they generally represent only approximately 25 percent of the resources available to the average beneficiary household. Cash transfers are occasionally shared among households and in some *woredas* households rotate to access cash-for-work or food-for-work. Beneficiaries do not equate the cash transfer with a minimum dietary requirement, and while they universally considered the cash inadequate for their needs, they did not identify those needs.

Therefore, an effective cash transfer should not be based upon absolute nutritional requirements, but should be allowed to vary relative to the cost of living. Minimum wage levels might more accurately reflect the overall cost of living for the poorest households (albeit on the assumption of a relatively perfect market for labor), and these numbers have risen significantly faster over the last twelve months than either the cost of food, or inflation overall. This is not to imply that the cash transfer should be set at the local minimum wage rate, especially since the conditions under which the cash transfers are made are substantially different from those of normal employment. Rather, any change in cash transfers should be made at the same relative rate as changes in the minimum wage.

It is important to note that for a small minority of *woredas* food availability still remains an issue. The short-term solution would be to maintain food transfers, but in the longer term, if not immediately, a potential solution would be to proactively engage traders to develop markets in those specific areas by providing incentives to cover the costs of establishing new businesses (see 5.3.2. Recommendations). Unless food is maintained or trading activities are actively promoted in these areas, PSNP beneficiaries will be significantly disadvantaged by cash transfers.

As for any potential abuse of the cash transfers, surveyed households believe that men occasionally use cash transfers to buy luxury items. Nevertheless, while women are rated as the most responsible agents to handle both food and cash, that emphasis was greatest for food and surprisingly less for cash. This result suggests that a shift from food to cash might increase the frequency with which transfers might be abused, but the extent of such abuse might be less than anticipated.

### **5.3.2. Recommendations**

There remain some *woredas* where food availability continues to be the predominant concern of beneficiaries and where markets are inadequately developed to allow a cash transfer mechanism to work. It is quite possible that after a period of cash transfers, traders might eventually be drawn to these areas, but in the hiatus between the switch and the appearance of traders in the PSNP *woredas*, beneficiaries would be exposed to food insecurity. It is critical therefore that these *woredas* should be identified<sup>42</sup> and either remain as food transfer beneficiaries, or they should benefit from a program to encourage traders to develop markets in the area. Such a program would include access to credit for both the renting of premises and purchase and transport of grain, and might also require the incentive of a guaranteed minimum revenue for the first twelve months of operation. Once such a program has been in operation for at least two years, the necessary markets should be in place to support continued cash transfer systems.

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<sup>42</sup> The survey found six *woredas* where the availability rather than the accessibility of food was the primary concern. These were Dire Dawa, Goru Gutu, Kilde Awlalo, Kacha Bira, Merebe Lehe, Beyeda. There appear to be few consistent characteristics of these *woredas*, only the last three are remote from markets. Nevertheless, because this was not a comprehensive assessment of all *woredas* under the PSNP this list may not be complete. Hence the recommendation to assess the status of the remaining *woredas* in order to determine if there are any others where availability is a primary concern.

Generally, for all PSNP *woredas*, rather than a system of cash transfers that would require continual adjustment to meet the unpredictable increases in the cost of living, a commodity voucher system (a voucher that is tied to a basket of commodity, rather than a monetary value) should be introduced that would allow beneficiaries to access food from traders in exchange for vouchers traders redeem in exchange for cash. The use of a commodity voucher would place all the burden of price risk on donors, and remove all risk from beneficiaries. With a commodity voucher, PSNP beneficiaries would be guaranteed a specific food basket but would buy that basket from local traders, rather than receiving it as in-kind transfer.

Commodity vouchers have the added benefits of being nearly as cost-efficient as cash, stimulating local production, and yet ensuring poor households receive a certain food basket as part of the social safety net. There are a number of transfer mechanism options for a commodity voucher including, among others, paper vouchers, electronic vouchers via SIM cards using a mobile phone network, and pre-loaded debit cards.

One system that would incorporate the advantages of vouchers while simultaneously safeguarding the food security of those *woredas* that are poorly served by traders would be to invoke the principles of a Public Private Partnership (PPP) whereby the private sector would be contracted to perform a service that fulfills an obligation of the public sector. In this case the service would be the delivery of food to PSNP areas for purchase by beneficiaries using vouchers. Under the proposed PPP arrangement, the GoE or donor agency would request bids from traders for the supply of lots of grain of a specified quantity (e.g., 20 MT) into specific markets in PSNP *woredas*, up to a volume equivalent to the volume of grain covered by the vouchers issued to beneficiaries in each *woreda*. Tenders might be put out on a monthly basis, two months in advance of actual sale. Winning bids would receive a proportion of the payment up front and would purchase, transport, and market the grain into the targeted *woredas* in exchange for vouchers supplied to the beneficiaries, exchanging the vouchers with the GoE or donor agency for the remaining amount of cash outstanding on the bid on a pro rata basis.

Such a system could be operated in tandem with a credit facility and could be used specifically to encourage traders to operate in those areas where cash has been inadequate to address issues of food availability, although it could also be used throughout all PSNP *woredas* if required.

#### **Terminology**<sup>43</sup>

**Cash voucher:** Beneficiaries receive a voucher that has a cash value. The cash voucher can be redeemed at pre-identified shops, through pre-identified traders, and/or at pre-identified markets. The cash voucher can be exchanged for a range of commodities up to the specific cash value. This mechanism is also referred to as an open voucher because end purchases are not defined.

**In-kind/commodity voucher:** Beneficiaries receive a voucher which can be redeemed at pre-identified shops, through pre-identified traders, and/or at pre-identified markets for a range of pre-determined commodities. Commodity vouchers can be exchanged for a fixed value or quantity of selected commodities. This mechanism is also referred to as a closed voucher because the program pre-determines the range of end purchases. Closed vouchers can also be used for non-food items, such as livestock or agricultural inputs.

Vouchers allow beneficiaries access to the standard ration and would be redeemed by traders for cash provided by the PVO supporting the PSNP in each *woreda*. Redemption could be on a

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<sup>43</sup> Cornell University, 2010, LRP Market Monitoring Training, Introduction to LRP and CaLP, 2012, Cash Transfer Programming.

monthly basis and should reflect the wholesale cost of a standard ration as determined by EGTE prices, including a fixed transport premium for the market and destination.

It would be essential that vouchers would be location-specific and would include a premium to cover the cost of transport from the nearest surplus market to the PSNP *woreda* where the commodity voucher would be redeemed by the beneficiary for food.

If a voucher system is impractical and fixed cash transfer amounts must be used, cash transfers should still be made location-specific to reflect the substantial variation in price associated with the different transport costs to various PSNP *woredas* from surplus markets.

Cash transfers should not only reflect location-specific costs of transport, but should include a periodically adjusted element to allow for seasonal price variations. These amounts can be calculated from a base price initially pegged against the cost of the standard ration in each *woreda*, varied thereafter according to seasonal price coefficients calculated from historical data for each area (since prices in different areas increase at different rates). Nevertheless, as shown in Figure 54 (Section 5.2.10), such a system may still underestimate cash requirements by as much as 25 percent and hence an additional 25 percent premium to account for unanticipated inflation is required if beneficiaries are to be safeguarded against any economic shock. From a pragmatic perspective, such a premium (over and above those calculated for transport and predictable seasonal price variation) while theoretically necessary to ensure the integrity of the transfer, is unlikely to be of significant impact to the nutritional status of many households, especially given the relative importance of the transfers to the majority of household budgets. Nevertheless, for some households the PSNP transfers are very crucial to food security and a decision has to be either to add a risk premium to cover all possible eventualities, or to use a calculated figure that might under some circumstances leave a small proportion of approximately 10 percent<sup>44</sup> of households vulnerable in the event of unexpected price spikes.

Thereafter, cash transfers should vary proportionately, not to food costs, but to the cost of labor as determined on a quarterly basis from CSA statistics.

Whichever system is adopted, a facility should be created to allow local traders access to credit to purchase additional grain. If microfinance is available, then support could be provided in the form of a guarantee to the microfinance institution (MFI) to underwrite the loan to each trader. If no MFIs are active in the area, finance could be provided directly by the PVO supporting the PSNP program in each *woreda*. PVOs could be repaid either by offsetting a proportion of the vouchers redeemed over a two-year period, or by direct repayment of cash in installments over the same time frame.

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<sup>44</sup> Based upon the RRA data showing that 6 percent and 12 percent of beneficiaries are more than 50 percent reliant upon food and cash transfers respectively .

# **USAID OFFICE OF FOOD FOR PEACE ETHIOPIA USAID-BEST ANALYSIS**

**JUNE 2013**

This report is made possible by the support of the American people through the United States Agency for International Development (USAID). The contents of this report are the sole responsibility of Fintrac Inc. and do not necessarily reflect the views of USAID or the United States government.

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# BEST Project

Bellmon Estimation Studies  
for Title II (USAID-BEST)

USAID OFFICE OF FOOD FOR PEACE  
USAID-BEST ANALYSIS ANNEXES  
ETHIOPIA  
JUNE 2013

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## Preface

The following annexes present essential background information to the full USAID-BEST report and includes the questionnaires for farmers and grain traders, a section on the adequacy of ports pulled from the 2010 USAID-BEST Ethiopia Analysis, and finally, a list of contacts from the research and field work.



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# Annex 1. Questionnaire for Farmers' Focus Group Discussion (March 2013)

## A1.1. Introduction

Three focus groups of farmers (comprised of 8 farmers each) will be interviewed per *woreda*.

## A1.2. Identification

Region \_\_\_\_\_ (A1)

Zone \_\_\_\_\_ (A2)

Woreda \_\_\_\_\_ (A3)

Name of locality/PA where the interview was conducted \_\_\_\_\_ (A4)

Name of FGD Participants (A5)

- |          |          |
|----------|----------|
| 1. _____ | 5. _____ |
| 2. _____ | 6. _____ |
| 3. _____ | 7. _____ |
| 4. _____ | 8. _____ |

## A1.3. Area Planted

**Has there been an increase in area planted in the past 3 years (2001-2004 E.C) in your area? (B1)**

1=yes      2=no

**If yes, what were the major reasons for the increase in area planted?**

- \_\_\_\_\_ 1st important reason (B2a)  
\_\_\_\_\_ 2nd important reason (B2b)  
\_\_\_\_\_ 3rd important reason (B2c)  
\_\_\_\_\_ 4th important reason (B2d)

**If there was an increase in area planted in the past 3 years, what is your estimate of the overall increase (in %)? (B3)**

1= less than 5%    2=5-10%      3=more than 10%

**If there was an increase in area planted, for which crops was the additional area used?**

- \_\_\_\_\_ 1st important crop (B4a)  
\_\_\_\_\_ 2nd important crop (B4b)

\_\_\_\_\_ 3rd important crop (B4c)

**What proportion of the farmers in your area has increased their cultivated area in the past 3 years? (B5)**

- 1=less than 5%      4=up to 50%  
2=up to 10%      5=more than 50%  
3=up to 25%

**What proportion of the farmers (if any) in your area has decreased their cultivated area in the past 3 years? (B6)**

- 1=less than 5%      4=up to 50%  
2=up to 10%      5=more than 50%  
3=up to 25%

#### A1.4. Belg Season Rainfall

**Does your area normally benefit from belg season rains? (C1)**

- 1=yes      2=no

**If yes, which crops do farmers in your area plant during the belg season? Indicate up to 4 major crops in order of importance with respect to production.**

- \_\_\_\_\_ 1st important crop (C2a)  
\_\_\_\_\_ 2nd important crop (C2b)  
\_\_\_\_\_ 3rd important crop (C2c)  
\_\_\_\_\_ 4th important crop (C2d)

**What percent of the area's annual crop production is produced during the belg season? \_\_\_\_\_ % (C3)**

**When does the belg season normally start in your area?\* \_\_\_\_\_ (C4)**

*\*(Please indicate the time clearly as follows; example: 2nd week March or 3rd week February, etc)*

**How was the onset of the belg season in 2005 E.C? (C5)**

- 1= on time      2=late by a week      3=late by two weeks  
4=late by more than two weeks

**How was the amount of belg rain compared to normal period? (C6)**

- 1=about normal      2=much below normal  
3=just below normal      4=above normal

**When did the belg rain stop in 2005 E.C? (C7)**

- 1=normal      2=early      3=late      4= Not yet stopped

**How do you expect the 2005 E.C belg season production to be compared to normal? (C8)**

1=about normal      2=below normal  
3= much below normal      4=above normal

**Do you normally grow some Belg maize (i.e. a maize crop that can be followed by another grain crop in the meher season)? (Yes/No)**

**If yes, was the yield last year normal, less than normal or more than normal?**

**If yes, was the belg harvest on time or late?**

- a) On time
- b) A bit late
- c) Very late, we harvested in the meher season.

#### A1.5. Meher Season Rain

**When does the meher season normally start in your area?\*** \_\_\_\_\_

*\*(Please indicate the time clearly as follows; example: 2nd week June or 3rd week June, etc) (D1)*

**How was the onset of the meher season in 2004/2005 E.C. crop season? (D2)**

1= on time      2=late by a week      3=late by two weeks  
4=late by more than two weeks

**How was the amount of meher rain compared to normal period? (D3)**

1=about normal      2=much below normal  
3=just below normal      4=above normal

**When did the meher rain stop in 2004-05 E.C. Crop season? (D4)**

1=normal      2=early      3=late

**How do you rate the 2004-05 E.C meher season production compared to normal? (D5)**

1=about normal      2=below normal  
3= much below normal      4=above normal

**Where you able to plant all of your crops on time? (D6)**

1=yes      2=no

**Were you able to replant? (D7)**

1=yes      2=no

**If you were able to replant, how much of the failed area was replanted? (D8)**

1=small amount      2=less than 25%      3= 25- 50%      4=more than 50%

#### A1.6. Availability and Use of Fertilizer and Improved Seed

**How was the availability and use of fertilizers and improved seeds in 2004/2005 E.C. (2012 G.C) crop season? Please provide the answer for the different crops in the following table:**

Crop type	Did you use fertilizer in 2003/04 E.C. (2011 G.C) crop season? 1=yes 2=no	Did you use improved seed in 2003/04 E.C. (2011 G.C) crop season? 1=yes 2=no	If you did not use fertilizers in 2003/04 E.C. (2011 G.C) crop season, what are the reasons? 1=too expensive 2=no credit 3=not available 4=came to late 5=other specify____	If you did not use improved seed in 2003/04 E.C. (2011 G.C) crop season, what are the reasons? 1=too expensive 2=no credit 3=not available 4=came to late 5=other specify____
E1a	E1b	E1c	E1d	E1e
Maize				
Wheat				
Teff				
Sorghum				
Barley				

#### A1.7. Prevalence of Natural Hazards and Plant Diseases

**Were there any natural hazards or plant diseases in your area in 2004/04 crop season (F1)**

1=yes 2=no

**If there were natural hazards and plant diseases, would you please list them and explain the extent of the damage caused by such factors in the following table:**

Type of natural hazard or plant disease: 1=flood 2=hail 3=wind 4=untimely rain 4= other (specify_____	area coverage: 1=less than 5% of total area 2=up to 10% of total area 3=up to 25% of total area 4= up to 50% of total area 5= more than 50% of total area	Extent of damage on yield: 1=severe 2=moderate 3=small 4=none	Extent of damage on quality of grain 1=severe 2=moderate 3=small 4=none
F2a	F2b	F2c	F2d

#### A1.8. Farmers' Assessment of Yield of Crops

**What is your assessment of yields in 2002-03 and 2004-05 E.C. crop year (2011 and 2012 G.C) compared to a good year and last year? (G1)**

Crop type	Estimate of average yield in <b>A Good Year</b> (in quintals/Ha)	Estimate of average yield in 2002/03 E.C crop year (in quintals/Ha)	Expected average yield in 2003/04 E.C crop year (in quintals/Ha)
<b>G1a</b>	<b>G1b</b>	<b>G1c</b>	<b>G1d</b>
Maize			
Wheat			
Teff			
Sorghum			
Barley			
Horse bean			
Field pea			
Chick pea			
Lentils			
Haricot bean			
Nueg			
Flax			
Rape seed			
Sesame seed			
Other (specify_____)			

#### A1.9. Farmers' Grain Sales and Stock Holding Intentions and Price Expectations

**What portion of your 2005 E.C. (2011/12 G.C) crop do you intend to sell? (H1)**

1= less than 15%                      2= 15%-25%                      3=26%-30%    4=31%-50%                      5= more than 50%

**Who are your principal sales outlets and what would be their relative share of your total annual sales? Should add up to 100%. (H2)**

Major sales outlets:	% share
1. Directly to consumers	
2. Rural assemblers	
3. Cooperatives	
4. Wholesalers	
5. Retailers	
6. Others (specify )	
H2a	H2b
Total	100%

**Do you think you will sell as much of your crop this year as you did last year? Please answer for each type of crop separately in the following table.**

Crop type	Do you think farmers will sell more or less of their crop this year as they did last year? 1=the same as last year 2=less this year 3=more this year
H3a	H3b
Maize	
Wheat	
Teff	
Sorghum	

**Will you or have you sold grain through a cooperative this year? Please answer for each type of crop separately in the following table.**

Crop type	Will you or have you sold through a cooperative this year? 1=yes 2=no
H4a	H4b
Maize	
Wheat	
Teff	
Sorghum	

**How much grain did you have left over in store at the beginning of the new year' harvest in 2002 E.C., 2004 E.C and 2005 E.C.? Please indicate your left over stock in the following table.**

Crop type	How much grain did a farmer in your area have left over in store at the beginning of the 2002 E.C. marketing season (2009/10 G.C)	How much grain did a farmer in your area have left over in store at the beginning of the 2003 E.C. marketing season (2010/11 G.C)	How much grain will a farmer in your area have left over in store at the beginning of the 2004 E.C. marketing season (2011/12 G.C)
H5a	H5b	H5c	H5d
Maize (in kilogram)			
Wheat (in kilogram)			
Teff (in kilogram)			
Sorghum (in kilogram)			

E.C. =Ethiopian Calendar; G.C=Gregorian Calendar

#### A1.10. Root Crops

**Importance of root crops in the area in meeting households' food needs. Please answer the questions shown in the following table.**

Crop type	How important is the crop in your area?	If the root crop is very important or important, what percent of the farmers in your area produce it?	If the root crop is very important or important, what percent of the farmers' annual food needs does it normally meet?	How much does a farmer in your area normally produce in a good year (quintals/household)	How much did a farmer in your area produce in 2003/2004 crop season? (quintals/household)	How much did a farmer in your area produce in 2002/2003 crop season? (quintals/household)	How much was the price received by farmers in 2003 E.C? (birr/kg)	How much was the price received by farmers in 2004 E.C? (birr/kg)
J1a	J1b	J1c	J1d	J1e	J1f	J1g	J1h	J1i
Irish potato	1=Very important 2=Important 3=Insignificant	1=up to 10% 2=11% to 20% 3=21% to 50% 4=More than 50%	1=up to 10% 2=11% to 20% 3=21% to 50% 4=50% to 75% 5=More than 75%					
Sweet potato								
Taro								
Enset								

Note: Please express the production of enset in terms of kocho and bula

**A1.10.1. Availability and Adequacy of Planting Materials and Productivity of Root Crops**

**Please answer the questions shown in the following table.**

Crop type	How do you rate the availability of planting materials in 2003/04 crop season?	How do you rate the quality of planting material in 2003/2004 crop season?	On average, how much does a farmer in your area normally plant in a good year? (Ha/household)	On average, how much does a farmer in your area get per hectare in a good year? (Qt/Ha)	On average, how much did a farmer in your area plant in 2002/2003 planting season? (Ha/household)	On average, how much did a farmer get in 2002/2003 planting season? (Qt/Ha)	On average, how much did a farmer plant in 2003/2004 planting season? (Ha/household)	On average, how much did a farmer get in 2003/2004 planting season? (Qt/Ha)	How much was replanted in 2003/2004?
J2a	J2b	J2c	J2d	J2e	J2f	J2g	J2h	J2i	J2j
Irish potato	1=More than enough 2=Just enough 3=Between half and all that we needed 4=Less than half of what we needed	1= Good 2= Just ok 3= Poor (weak or diseased)							1=None 2=little bit (up to 5%) 3=Quite a lot (up to 25%) 4=At least half (around 50%) 5=Almost all of it (more than 60%)
Sweet potato									
Taro									
Enset									

Note: please express the production of enset in terms of kocho and bula

**Has the production of kocho increased in your area in 2004/2005 compared to last year? (j3)**

1=Yes      2=No

**If production of Kocho increased in 2004/2005 compared to last year, what was the most important reason? (j4)**

- 1=Production of other crops was less so we produced more Kocho
- 2=Growth of enset was stronger so we were able to harvest more
- 3=We had more enset plants to harvest this year.



4=Price of Kocho was higher than last year (please indicate prices this year and last year)

**If the production of Kocho has gone down compared with last year, what was the main reason? (J5)**

1=Production of other crops was more so we produced less Kocho

2=Growth of enset was weaker so we were able to harvest less

3=We had less enset plants to harvest this year.

4=Price of Kocho was lower than last year (please indicate prices this year and last year)

**Considering all types of agricultural activities (crop production, root crops production and livestock), on balance, which is more important to your food security? (Please tick only one response given by the farmers). (J6)**

1= Either: The food and income that your household gets from your own crops and livestock

2=Or: The income that your household gets from other activities

#### A1.11. Overall Assessment of Prices

**What is your overall assessment of current commodity price? Please answer the questions shown in the following table. (K1)**

Commodity type	Is the price now too high or too low compared to last year?	If you think the price of a commodity is too low, what is the main reason?	If you think the price of a commodity is too low, what is the main reason?
	1=Too low 2=Too high  3=The same	1=We have produced more in the area 2=We have produced the same but the country has produced more as a whole  3=Farmers have produced the same but need cash so they are selling more 4=The number of traders has gone down, 5=The traders are buying less 6=Other (specify-----)	1=There is less production in the area 2=We have produced the same but there is less production in the country as a whole 3=Farmers have produced ok but are holding back 4=There are more traders coming to buy 5=The traders are the same but are buying more 6=Other (specify-----)
K1a	K1b	K1c	K1d
Maize			
Sorghum			
Wheat			
Teff			
Cattle			
Goats			
Sheep			

#### A1.12. Labor

**What is the cost of unskilled labor in your area (per day) now? \_\_\_\_\_ Birr/day (M1)**

**Has the cost of labor increased since last year or decreased? (M2)**

1=increased            2=the same            3=decreased

**What was the cost of labor at this time last year? \_\_\_\_\_ Birr/day (M3)**

**Is unskilled labor easier or harder to find than it was at this time last year? (M4)**

1=Easier            2=No change            3=Harder

**A1.13. PSNP Impacts (for PSNP woredas only)**

**What is the average distance from the community to the nearest market selling wheat/pulses/oil?**

**What is the average distance from the community to the main road?**

**Does this woreda receive food or cash or both under the PSNP? (L1)**

1=food            2=cash            3=both

**Do you notice any change in prices when PSNP food or cash is distributed? (L2)**

1=yes            2=no

**If yes, what changes do you notice when food is distributed? (L3)**

1=increase in food prices            2=decrease in price

**If you observed increase in food price when food is distributed, what is your estimate of the increase? (L4)**

1=less than 5%            4=21% to 40%  
2=5% to 10%            5=more than 40%  
3=11% to 20%

**If you observed decrease in food price when food is distributed, what is your estimate of the decrease? (L5)**

1=less than 5%            2=5%to 10%  
3=11% to 20%            4=21% to 40%            5=more than 40%

**How long does the price increase last when food is distributed? (L6)**

1=less than two weeks            2=2-4 weeks            3=5-8 weeks  
4=more than 8 weeks

**How long does the price decrease last when food is distributed? (L7)**

1=less than two weeks            3=5 to 8 weeks  
2=2 to 4 weeks            4= more than 8 weeks

**If you noticed price change when cash is distributed, what changes did you notice when cash is distributed? (L8)**

1=increase in food prices            2=decrease in food prices

**If you observed increase in food price when cash is distributed, what is your estimate of the increase? (L9)**

1=less than 5%            4=21% to 40%  
2=5% to 10%            5=more than 40%  
3=11% to 20%

**If you observed a decrease in food price when cash is distributed, what is your estimate of the decrease? (L10)**

1=less than 5%            2=5% to 10%  
3=11% to 20%            4=21% to 40% 5=more than 40%

**How long does the price increase last when cash is distributed? (L11)**

1=less than two weeks            3=5 to 8 weeks  
2=2 to 4 weeks            4=more than 8 weeks

**How long does the price decrease last when cash is distributed? (L12)**

1=less than two weeks            3=5 to 8 weeks  
2=2 to 4 weeks            4=more than 8 weeks

#### **A1.13.1. Woredas that Get Food:**

**In those months when food aid is available through the PSNP, what proportion of the food that a household eats will come from the PSNP?**

- Very small amount (up to 10%)
- A significant amount (20-30%)
- As much as half
- More than half

**Do traders come to buy food when it is distributed? (Yes/No)**

**If Yes:**

**How many?**

**What type?**

- Isuzu traders from outside who will take it away and sell
- Local traders who will take it away to sell
- Larger traders with big trucks
- Very small traders who live locally and will resell in the area

**What commodity do they buy most of? (wheat/pulses/oil)**

**Do they always come to buy?**

**How much do they buy altogether?**

- A small truckload (5MT)
- Less than that.
- More than that.

**What proportion of the food aid wheat do they buy?**

- Very small amount (up to 10%)
- A significant amount (20-30%)
- As much as half
- More than half

**What proportion of the food aid pulses do they buy?**

- Very small amount (up to 10%)
- A significant amount (20-30%)
- As much as half
- More than half

**What proportion of the food aid oil do they buy?**

- Very small amount (up to 10%)
- A significant amount (20-30%)
- As much as half
- More than half

**A1.13.2. Woredas that Sometimes Get Cash:**

**When you get cash how much do you spend on food?**

- Very small amount (up to 10%)
- A significant amount (20-30%)
- As much as half
- More than half

**What sort of food do you buy?**

- Cheap staple foods
- Vegetables and tubers
- Spices, tea, coffee

**Is the money that you get enough to meet your food needs? (Yes/No)**

**In those months when PSNP cash is available, how much of the cash that you have access to comes from the PSNP FFW?**

- Very small amount (up to 10%)
- A significant amount (20-30%)
- As much as half
- More than half

### **A1.13.3. All Woredas**

**How much of the cash that you have access to from any source is ever spent on food?**

- Very small amount (up to 10%)
- A significant amount (20-30%)
- As much as half
- More than half

**Does the community know when food or cash will be distributed? (Yes/No)**

**Is it on time enough to be able to predict it accurately? (Yes/No)**

**Which statement is most true?**

- Cash for work is handled more responsibly by men than by women.
- There is no difference between men and women in their handling of Cash
- Cash for work is handled more responsibly by women than by men.

**Which statement is most true?**

- Food for work is handled more responsibly by men than by women.
- There is no difference between men and women in their handling of food.
- Food for work is handled more responsibly by women than by men.

**When food was replaced by cash in the past, did men take some of the cash and spend it on luxuries?**

- Yes this was common
- Yes but rarely
- No this did not happen.

**Is PSNP cash ever shared among non-beneficiaries? (Yes/No)**

**Do all listed beneficiaries turn up for each month of benefits distribution or is their rotation between households?**

**Which do beneficiaries prefer?**

- Cash all the time
- Food all the time
- Cash some months and food in months when prices are higher
- A mixture of food and cash in every month.

**What are the reasons for preference? List top three in order:**

**For food:**

- Food prices are always increasing
- Can't always find grain on the market
- Can sell the food package and buy more cheaper food

- Value of the food is always more than the cash given
- Other

**For cash:**

- Always need cash for other non-food purchases
- Cash is easier to handle (carry and store) than food
- Cash gives more flexibility in what we use it for
- Other

**Have farmers changed their use of inputs because of the PSNP? (L13)**

1=Yes, we now use more of some inputs and/or less of others

2=No, there has been no change at all

**Have farmers changed their cropping plans because of the PSNP? (L14)**

1=Yes, we now grow more of some crops and/or less of others

2=No, there has been no change at all

## Annex 2. Grain Traders' Survey Questionnaire (March 2013)

### A2.1. Introduction

This questionnaire will be filled by interviewing grain traders operating in selected markets and three traders will be interviewed in each selected market.

### A2.2. Identification

Region \_\_\_\_\_ (A1)

Zone: \_\_\_\_\_ (A2)

Woreda \_\_\_\_\_ (A3)

Market Place: \_\_\_\_\_ (A4)

Name of Interviewee: \_\_\_\_\_ (A5)

Date of Interview: \_\_\_\_\_ (A6)

### A2.3. Market Flow

**What is your assessment of the inflow and outflow of grain to the market this year compared to last year? Please provide an answer for each of the most important crops that the trader normally handles.**

Crop type you handle (Please mention up to a maximum of 5 crops)	Inflow of grain to the market this year compared to last year	If the inflow of grain increased this year compared to last year, what is your estimate of the increase?	If the inflow of grain decreased this year compared to last year, what is your estimate of the decrease?	If the inflow of grain decreased this year compared to last year, what is the most important reason for the decrease?	Outflow of grain from the market this year compared to last year	If the outflow of grain increased this year compared to last year, what is your estimate of the increase?	If the outflow of grain decreased this year compared to last year, what is your estimate of the decrease?	Is the grain more shriveled	Is the grain more sprouted
1=Maize	1=Same as last year	1. Less than 5%	1. Less than 5%	1= Decrease in production	1=Same as last year	1. Less than 5%	1. Less than 5%	1=yes	1=yes
2=Wheat	2=Increased	2=5% to 10%	2=5% to 10%	2=late harvest	2=Increased	2=5% to 10%	2=5% to 10%	2=no	2=no
3=Teff	3=Decreased	3=11%-20%	3=11%-20%	3=poor quality of grain	3=Decreased	3=11%-20%	3=11%-20%		
4=Sorghum		4=more than 20%	4=more than 20%	4=holding of on-farm stock by farmers		4=more than 20%	4=more than 20%		
5=Barley				5=Other (specify)					
6=Horse Beans									
7=Field Peas									
8=Nueg									
9=Flax									
10=Other (Specify)									
B1a	B1b	B1c	B1d	B1e	B1f	B1g	B1h	B1i	B1j
B2a									
B3a									
B4a									
B5a									

**Your assessment of the prices of maize and wheat this year compared to last year. Please answer the questions shown in the table.**



Crop type	Has the price of crop gone up or down compared with this time last year?	If it has gone down what is the main reason?	If it has gone down what is the main reason?
	1. the same 2. gone down 3. gone up	1. Households are buying less 2. Local farmers have brought more crop 3. Prices where you are buying from have gone down 4. Prices where you are buying from have stayed the same but transport is cheaper 5. Cost of transport has stayed the same but you have bought more from closer places. 6. Other (specify _____)	1. Households are buying more (increased demand) 2. Local farmers have brought less to market 3. Prices where I am buying from have gone up 4. Prices where I am buying from have stayed the same but transport is more expensive 5. Cost of transport has stayed the same but I have bought more from places further away 6. Other
G20a	G20b	G20c	G20d
Maize			
Wheat			

#### A2.4. Trade Activities Previous Years and Plan for 2011/12

**For each of the main crops: what is your assessment of this year's purchase compared to the previous two years?**

Crop type you handle (Please mention up to a maximum of 5 crops)	How much did you purchase in 2002 E.C.? (Quintals)	How much did you purchase in 2003 E.C.? (Quintals)	How much did you plan to purchase in 2004 E.C.? (Quintals)	What percent of your planned purchase did you achieve so far in 2004 E.C. (% of plan)	What percent of your planned purchase do you expect to achieve during the remaining months of 2004 (% of plan)	If your grain purchase plan is less than last year, what is the major reason for the decrease?
1=Maize 2=Wheat 3=Teff 4=Sorghum 5=Barley 6=Horse beans 7=Field peas 8=Nueg 9=Flax 10=Other (Specify _____)						1=decrease in production 2=poor grain quality 3=grain directly exported across border to other countries 4=reduced availability of finance 5=other (specify _____)
C1a	C1b	C1c	C1d	C1e	C1f	C1g

Note: There could be more than one reasons, but please indicate the ONE most important reason.

#### A2.5. Market Structure

**How many traders of cereals are there in this woreda?**

**How many quintals of all cereals will the average trader generally sell per week?**

**Would you please indicate in the following table your main grain buyers in 2003/4 E.C.?**

Major buyers that buy grain from you	% share of your annual sales they buy
D1a	D1b
1. Local retailers	
2. Local consumers	
3. Grain trading companies	
4. Traders in Addis Ababa	
5. Traders in deficit regions	
6. Large and medium flour mills	
7. EGTE	
8. Other specify_____	
Total	100%

**Are local retailers and consumers currently buying more or less grain compared to previous years? (D2)**

1=more                      2=less                      3=no change

**Are the medium and large scale flour mills currently buying more or less compared to previous years? (D3)**

1=more                      2=less                      3=no change

**Are grain trading companies and merchants in deficit areas currently buying more or less than in previous years? (D4)**

1=more                      2=less                      3=no change

#### A2.6. Access to Credit and Other Facilities

**Do you have access to bank credit for the purchase of grain? (E1)**

1=yes 2=no

**Has the availability of credit changed over the last year? (E2)**

- No.
- Yes, it has become harder to obtain credit
- Yes, credit is available but interest rates have gone up.

**If credit has become harder to obtain, has that affected your purchase and sales? (E3)**

- No.
- Yes, I purchase and sell less
- Yes, I purchase and sell the same but in smaller amounts

**If credit has become harder to get, what is the main reason? (E4)**

- No collateral

- Interest rates too high
- Other bank charges too high
- Don't have the necessary contacts

**If you purchase and sell less overall, by how much has your business been reduced?** (E5)

- Up to 10%
- Up to 25%
- Up to 50%
- More than 50%

**Do you have storage facility?** (E6)

1=yes 2=no

**Do you have problem getting transport service?** (E7)

1=yes 2=no

**Would you please give us your transport cost of grain for two of your destination markets?** (E8)

Origin market	Destination market	Distance between origin and destination markets (km)	Type of truck you used 1. Truck & trailer 400 qt. 2. Truck 200 qt. 3. ISUZU 100 qt 4. ISUZU 50 qt 5. Other Specify	Transport cost (birr/qt)
E8a	E8b	E8c	E8d	E8e

**Does the cost of transport vary much in the year?** (E9)

1=yes 2=no

**If it does vary, by what percentage?** (E10)

1=Up to 25%

2=Up to 50%

3=Up to 100%

4=More than 100%

**When is transport most expensive and when is it cheapest?** (E10)

Most expensive Months: \_\_\_\_\_ (E11a)

Cheapest Months: \_\_\_\_\_ (E11b)

**How has the availability of large trucks changed compared with last year?** (E12)

1=More available

2=Less available

3=No change

**How has the availability of Isuzu trucks changed compared with this time last year? (E13)**

1=More available

2=Less available

3=No change

**Do you have a problem getting logistics supplies such as sacks and twines? (E14)**

1=yes 2=no

**Do you have adequate access to market information? (E15)**

1=yes 2=no

**What is your main source of market information (E16)**

1=Mobile phone to other traders

2=ECX bulletins

3=Radio

4=Newspaper

5=EGTE

6=Internet

#### A2.7. Market Constraints

**Would you please list down the major constraints you currently face in the market (please list 3 key constraints in order of their importance) (F1)**

\_\_\_\_\_ 1st important problem (F1)

\_\_\_\_\_ 2nd important problem (F2)

\_\_\_\_\_ 3rd important problem (F3)

**What are the greatest constraints you face to opening up new markets? List the top three in order of importance.**

- a) Cash/credit to purchase additional commodities
- b) Knowledge of the people in the market (no local agent)
- c) Uncertainty about the size of the market
- d) Uncertainty about regulations/policy
- e) Transport costs
- f) Uncertainty about price

- g) Competition from unlicensed traders
- h) Shortage of supplies to sell
- i) Other

#### A2.8. PSNP Impacts (for PSNP woredas only)

##### **How much food aid wheat do beneficiaries in your area sell?**

- None at all
- A small amount (0–10%)
- Quite a lot (20–30%)
- About half
- More than half

##### **How much food aid pulses do beneficiaries in your area sell?**

- None at all
- A small amount (0–10%)
- Quite a lot (20–30%)
- About half
- More than half

##### **How much food aid oil do beneficiaries in your area sell?**

- None at all
- A small amount (0–10%)
- Quite a lot (20–30%)
- About half
- More than half

##### **Does this woreda receive food or cash or both under the PSNP? (G1)**

1= Food                      2= Cash                      3= Both

##### **Do you notice any change in prices when PSNP food or cash is distributed? (G2)**

1=Yes                      2= No

##### **If yes, what changes do you notice when food is distributed? (G3)**

1=increase in food prices                      2=decrease in price

##### **If you observed an increase in food price when food is distributed, what is your estimate of the increase? (G4)**

1=less than 5%                      2=5%to 10%  
 3=11% to 20%                      4=21% to 40%                      5=more than 40%

##### **If you observed a decrease in food price when food is distributed, what is your estimate of the decrease? (G5)**

1=less than 5%                      2=5%to 10%

3=11% to 20%      4=21% to 40%      5=more than 40%

**How long does the price increase last when food is distributed? (G6)**

1=less than two weeks

2=2-4 weeks

3=5-8 weeks

4=more than 8 weeks

**How long does the price decrease last when food is distributed? (G7)**

1=less than two weeks

2=2-4 weeks

3=5-8 weeks

4=more than 8 weeks

**If you noticed any change in prices when cash is distributed, what were the changes? (G8)**

1=increase in food prices      2=decrease in price

**If you observed an increase in food price when cash is distributed, what is your estimate of the increase? (G9)**

1=less than 5%      2=5%to 10%

3=11% to 20%      3=21% to 40%4=more than 40%

**If you observed a decrease in food price when cash is distributed, what is your estimate of the decrease? (G10)**

1=less than 5%      2=5%to 10%

3=11% to 20%      3=21% to 40%      4=more than 40%

**How long does the price increase last when cash is distributed? (G11)**

1=less than two weeks

2=2-4 weeks

3=5-8 weeks

4=more than 8 weeks

**If prices rise, do they rise enough to:**

- Attract new suppliers to the area? (a)
- Encourage local traders to look for more supplies? (b)

Which is more common? (a or b)?

**How long does the price decrease last when cash is distributed? (G12)**

1=less than two weeks

2=2-4 weeks

3=5-8 weeks

4=more than 8 weeks

**Has your business changed as a result of the PSNP? (G13)**

1= No – there has been no change at all

2= Yes, we now do more business than before the PSNP

3= Yes, we now do less business than before the PSNP

**If you now do more business than before the PSNP, what are the main reasons?**

1= \_\_\_\_\_ 1st important reason (G14a)

2= \_\_\_\_\_ 2nd important reason (G14b)

3= \_\_\_\_\_ 3rd important reason (G14c)

**If you now do less business than before the PSNP, what are the main reasons? (G15)**

1= \_\_\_\_\_ 1st important reason (G15a)

2= \_\_\_\_\_ 2nd important reason (G15b)

3= \_\_\_\_\_ 3rd important reason (G15c)

**Have you changed your business plans because of the PSNP? (G16)**

1= No, there has been no change at all.

2= Yes, our business has changed.

**If yes, what are the main changes? (G17)**

1= \_\_\_\_\_ (1st important change) (G17a)

2= \_\_\_\_\_ (2nd important change) (G17b)

3= \_\_\_\_\_ (3rd important change) (G17c)

**What are the main reasons for the change? (G18)**

1= \_\_\_\_\_ 1st important reason (G18a)

2= \_\_\_\_\_ 2nd important reason (G18b)

3= \_\_\_\_\_ 3rd important reason (G18c)

**If there was more demand (because of extra cash in the market) how many more quintals per week could you comfortably sell?**

a) Up to 5 extra quintals per week

b) 5-10 extra quintals per week

c) 10-15 extra quintals per week

- d) 15-25 extra quintals per week
- e) more than 25 extra quintals per week.

**If you knew exactly when cash was to be delivered to PSNP beneficiaries in this woreda would you purchase more grain to take advantage of the extra demand?**

**Are there normally traders ready to buy food aid in your area? (Yes/No)**

**If yes – how many?**

- Just one
- A few – prices are limited
- Many and the market is competitive

**If No – why not?**

- The market is too small
- The people would not sell
- The authorities would not allow it
- Other

#### A2.9. Sources of Grain Purchase (PSNP Woredas Only)

**Please indicate where you buy grain from. (G19)**

Major sources of grain purchase	% share of this year	% share of last year
G19a	G19b	G19c
Traders in Addis or far away		
Local Traders		
Local Assemblers		
Local Farmers		
Other specify_____		
Total	100%	100%

#### A2.10. Labor

**What is the cost of unskilled labor in your area (per day) now? \_\_\_\_\_ Birr/day (H1)**

**Has the cost of labor increased since last year or decreased? (H2)**

1=increased            2=the same            3=decreased

**What was the cost of labor at this time last year? \_\_\_\_\_ Birr/day (H3)**

**Is unskilled labor easier or harder to find than it was at this time last year? (H4)**

1=Easier            2=No change            3=Harder



## A2.11. Government Market Control Policies

**How have price controls and government stock holding recommendations affected your purchasing plans? (I1)**

1= They have not changed.

2= I now intend to purchase less

3= I will purchase more

**If you intend to purchase less, what % decrease would you make? \_\_\_\_\_% (I2)**

**If you intend to purchase more, what % increase would you make? \_\_\_\_\_% (I3)**

**How have Government market control policies affected your stocking plans? (I4). Please indicate one most important answer.**

1= There has been no impact and plans will not change.

2= I hold less stocks and trade more

3= I hold less stocks and trade less

4= I hold less stocks and my trading is unchanged.

5= I am holding more stock waiting for the new market regulations to end.

6= I am going to do other businesses.

## Annex 3. Adequacy of Ports

DISCLAIMER: The following Annex pulls from Chapter 5 of the 2010 Ethiopia USAID-BEST Report. It is copied and inserted below so readers can readily use the information as a reference. Please note that certain styles and formatting reflect past USAID-BEST stylistic guidelines.

### A3.1. Ports

#### A3.1.1. Djibouti Port

Ethiopia relies on the medium-sized Port of Djibouti for over 90 percent of its import and export cargo.<sup>1</sup>

French Somaliland's first governor established Djibouti Port in 1888. Twenty-nine years later, the port was linked by railroad to Addis Ababa, Ethiopia. The port is 910 km from Addis Ababa by asphalt road and 781 km by rail. However, the railway is currently in poor condition with occasional service to Dira Dawa but not to Addis Ababa.

The Government of Djibouti owns the port. Dubai Ports World, based in the United Arab Emirates, manages the port, its Free Zone, the international airport, and all customs services. This agreement was reached in a 20-year contract signed between Dubai Ports World and the Government of Djibouti in 2000.<sup>2</sup>



Source: Djibouti Ports and Free Zone Authority

With the port and its related activities accounting for much of Djibouti's formal economy, the effect of Dubai World's private sector investment and management systems has been substantial. Dubai Ports literature says that "Port and customs revenues have increased

<sup>1</sup> Tekle, 2009

<sup>2</sup> Dubai Ports World, 2010

significantly, and shippers note striking improvement in the transparency and efficiency of those operations," a claim which is supported by anecdotal discussions with shipping and port professionals in Djibouti.

The Ethiopian government has also made improvements in an effort to streamline import procedures.

The port generally operates on a first-come, first-serve basis; however, as noted below, the GOE may prioritize fertilizer and other goods at times. Food commodities, building materials, and fertilizer are the key bulk imports; these imports dominate berthing demands as well as inland-bound freight services.

Seasonal increases in demand result in congestion of port operations (and transportation, as detailed later in this section) and Ethiopia's recent commercial development and increase in demand for building materials have added to this congestion. Bulk grain vessels can wait up to three weeks before discharging cargo. On April 11, 2010, there were nine ships waiting to dock at Djibouti Port.<sup>3</sup> Not only do delays increase travel time, but demurrage rates also increase costs.<sup>4</sup>

Fertilizer, a first-tier GOE priority, takes preference in terms of ship discharge, handling, and haulage capacity over food imports from December through the end of January.<sup>5</sup> During these two months, fertilizer is imported in large quantities, significantly adding to port congestion. In 2010, the government facilitated the importation of over 500,000 MT of fertilizer from December through January. A majority of the month of February is spent cleaning the discharge and handling facilities, limiting the bulk grain handling capacity and adding to port congestion. Due to fertilizer prioritization in December and January, and the cleaning delays of February, discharge and inland grain delivery to Ethiopia (both commercial and donor food aid) is severely limited from December through the end of February. See the Transport and Storage sections for details on how fertilizers impacts these two operations.

Cement imports increased significantly in 2008 and 2009 due to increased demand within Ethiopia for cement (due to increased construction), and the closure of two leading Ethiopia cement producers due to reduced electricity supplies. There were significant delays at Djibouti port in March-June 2009 due to increased cement imports, among other factors. However, it is expected that 2010 and 2011 will be better in terms of reduced port congestion (specifically related to cement imports), due to Ethiopia's increased capacity to generate electricity (and produce cement domestically), and decreased private sector construction within Ethiopia, linked to decreased availability of domestic credit.<sup>6</sup>

**Capacity.** Djibouti Port has a cargo handling capacity of six to eight million MT per year and a container handling capacity of three million MT per year.<sup>7</sup> The port facility covers about 65 ha and the harbor has been dredged from 12 to 20 meters.

Djibouti Port contains 18 berths with a total quay length of 2,829 meters and depths from seven to 18 meters.<sup>8</sup> The general cargo facility contains eight berths with alongside depth from seven to 12 meters. There are two roll-on/roll-off berths with alongside depth of 11.5 meters. The Bulk Terminal contains three berths with alongside depth of from 10.5 to 12 meters. The Container

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<sup>3</sup> Field visit, 2010

<sup>4</sup> Addis Fortune, 2009. "Congestion at Djibouti Port Makes Transport Cost Hit the Roof."

<sup>5</sup> Tesfaye, 2009

<sup>6</sup> Email communication, GGray, 9/2010

<sup>7</sup> WFP Logistics Cluster, 2010

<sup>8</sup> World Port Source, 2010

Terminal has two berths with depth of from 9.5 to 12 meters. The Oil Terminal has two berths with alongside depth of 18 meters.

Bulk vessels use Berths 13, 14, and 15, which are all used exclusively for bulk cargo.

Vessels should not exceed 200 meters Length Overall (LOA) and with limit drafts to 11.3 meters.<sup>9</sup> This enables more than one bulk vessel to be operated at the bulk berths.

In summary, Djibouti Port has:

- 8 conventional berths;
- 3 bulk berths - 13, 14, 15;
- 2 oil berths - at Doraleh Port;
- 2 RO/RO berths;
- 2 container berths x 400M total length;
- 1 dhow berth

**Société Djiboutienne de Gestion du Terminal Vraquier (SDTV) Grain and Fertilizer Terminal.** Berths 14 and 15 handle all grain and fertilizer bulk shipments, and are under contract to SDTV, a privately-owned company with an exclusive concession to all dry bulk cargoes (grain and fertilizer) handled within Djibouti Port.

The SDTV operation is modern and efficient by any port standard. The company handles all cargo operations from the ship's arrival until cargo is loaded onto trucks. Because of demand, the SDTV facility is a "just in time" operation.<sup>10</sup>

#### **Bulk terminal specifications and services**

- Quay side draft berth 14/15 - 12 meters
- Airdraft (for vacuators) - 13 meters
- Total length of berth 14/15 - 390 meters
- Bulk ship unloading, bagging, and transshipment services
- Bulk fertilizer storage capacity - 40,000 MT<sup>11</sup>
- Bulk grain storage capacity - 30,000 MT
- Infestation and air pollution control systems and procedures
- 24 hour operations (three shifts of seven hours, each with one hour of maintenance/refuel/prep work)

#### **Bulk terminal facilities and equipment**

- Bagging station - 12 bagging lines (12 to 15 bags of 50 kgs per minute per line)
- 2 Vigan pneumatic ship unloaders for grain - average discharge capacity 300MT/hour per unit
- Conveyor system with flexibility from vessel to silo; vessel to bagging; vessels to silo and bagging; silo to bagging
- 1 grab crane with lifting capacity of 69 MT and operating a grab (hinged bucket scoop) of 21 MT per scoop with capacity of 600 MT per hour from vessel to conveyor system through shore-side hopper

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<sup>9</sup> World Port Source, 2010

<sup>10</sup> "Just in time": a way to minimize warehousing costs by having cargo shipped to arrive just in time for its use. This inventory control method depends on extremely reliable transportation. (American Association of Port Authorities).

<sup>11</sup> Warehouses are specifically designated for fertilizer, as it is a chemical product. (Vigan Engineering publication, 2006. "New grain and fertilizer terminal in Djibouti.")

The SDTV bagging, loading, and truck dispatch capacity is up to 6,000 MT per day.<sup>12</sup> To meet this target, all 12 bagging machines must be used for 21 hours with no breakdowns or maintenance, 200 x 30 MT capacity trucks must be ready to load, all paper work must be completed, and a full contingent of laborers must be ready. If this pace could be maintained continuously for 365 days per year, the total tonnage discharged would be 2,190,000 MT and would require 73,000 truck trips.

The average daily loading and truck dispatch rate for bulk grain food aid through SDTV terminals is 2,000-3,000 MT using six bagging machines.<sup>13</sup> According to a WFP representative in Djibouti, congestion is increased by inadequate trucking capacity, long turn-around times, and changing loading priorities. The WFP representative also emphasized the congestion that resulted from fertilizer deliveries and contributed to food aid delays.

Ethiopia plans to import 750,000 MT of fertilizer for the 2010 planting seasons, according to CRS and WFP representatives. The publication *Addis Fortune* cites this number at 820,000 MT.<sup>14</sup> As of March 2010, MoARD had imported 530,000 MT of fertilizer.<sup>15</sup> In FY08/09, MoARD had planned to import 760,000 MT and actually imported 550,000 MT.

Total grain import needs for Ethiopia during 2010 is expected at 1.16 million MT, including food aid.<sup>16</sup> Given the high average daily dispatch rate of 3,000 MT (100 x 30 MT capacity trucks per day) from the SDTV bulk terminal, it would take 373 days to deliver this requirement to primary storage facilities and logistics hubs in Ethiopia. However, Awardees should keep in mind that this timeline could be substantially affected if fertilizer imports dominate port operations from December-February and transport operations from March-June.

Substantial changes in downstream operations are needed to complement SDTV operations, specifically in the transportation industry. There are a limited amount of trucks available, and existing ones are aging; however, investing in new trucks is prohibitive because of heavy taxes. Furthermore, commercial transport is constrained by the GOE MOFED's heavy taxes on vehicle imports. More importantly, the Djibouti to Addis Ababa railway is decrepit and there are no regional links.

Storage. Djibouti Port contains ample storage for cargo. It currently has 16 warehouses which have a total storage capacity of 250,000 MT (35,400 square meters of covered storage and 63,500 square meters open storage).

The port includes a 20,000 TEU (twenty-foot container equivalent unit) capacity and is ISO 28000 compliant (International Standards Organization safety and security standard - ISO 28000:2007 - specifies the requirements for a security management system, including those aspects critical to security assurance of the supply chain).

Port storage, when available, is free for the first 30 days. Quayside storage is possible. Most berths, transit shed, warehouses, and open storage areas are served by rail. Each of the general cargo berths and the coastal cargo berth has a transit shed ranging between 1,080 to 4,900 square meters.

The SDTV terminal has storage available for 30,000 MT of grain. Ethiopia continues to suffer cyclical drought conditions<sup>17</sup> and simultaneously strives to increase agricultural production. A

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<sup>12</sup> Confirmed by WFP Djibouti Representative

<sup>13</sup> Interview with WFP Djibouti Representative, WFP Ethiopia Logistics personnel, and the chairman of the Ethiopia Freight Forwarders Association in Addis Ababa. April 2010.

<sup>14</sup> Zenebe, 2010.

<sup>15</sup> Zenebe, 2010.

<sup>16</sup> 2010 FAO CFSAM

<sup>17</sup> Previously, these droughts were not well-recorded; recently, efforts have been made to track the drought cycles and conditions.

severe emergency situation in Ethiopia - such as widespread drought and crop failure - would significantly increase demand for commercially imported and donated grain. SDTV would most likely need to increase its current capacity for such a situation. In such a case, food aid donors may consider using other ports to avoid congestion as they have in recent years.

The Free Trade Zone is a commercial area located near the port and Djibouti town. It has 124,037 square meters of storage area, mostly owned by the private sector. It also contains land plots which can be leased for storage or establishment of industries/businesses. Town storage fees are US\$1.4 per MT per month, with shunting and additional handling costs excluded. For storage in excess of 5,000 MT, handling agents must be advised in advance.

As detailed in the following section on transport, Port Sudan is sometimes used as an alternative for Djibouti Port due to congestion. In this case, storage can be challenging, as there are no storage facilities at Metema, the entry point to Ethiopia from Sudan, via Gedarf.

Transportation. Ideally, Djibouti port should have approximately 7,000 heavy trucks available to most efficiently transport its 11 million MT annual capacity. However, many of these trucks are unserviceable, old, or awaiting parts and repair. The average age of the fleet is about 20 years old, and each truck typically makes two to three trips per month. Ideally, the trucks could make four trips a month, but are delayed by frequent repairs, changing schedules, and GOE prioritization. Service centers are limited; spare parts are sometimes available for older truck models and rarely available for newer models. Furthermore, limited financing makes purchasing newer and more expensive trucks a challenge. As noted earlier, GOE prioritization of fertilizer can affect transport efficiency. In March and April of 2009, WFP rerouted vessels to Berbera port due to transportation backups at Djibouti.<sup>18</sup> Also, Port Sudan is also used as an alternative when donors feel that Djibouti is too congested to handle their cargo in a timely fashion, though transport from Sudan to Ethiopia is more expensive than from Djibouti.

The total loading capacity of the trucks operating along the Djibouti corridor is about 181,249 MT. Using a slightly generous assumption that each truck makes three trips from Djibouti to food aid hubs per month, their aggregate monthly carrying capacity is estimated at 543,747 MT.

As shown in the figure below, the trucks operating in the Djibouti-hub corridor transported some 5,388,121 MT in 2008/09, indicating an overall capacity utilization of nearly 83 percent. However, lower capacity utilization of 53 to 75 percent has been observed during July-September, which is a slack season for import/export activities.

**Table 1. Seasonal Pattern of Vehicle Utilization (MT)**

No.		Trade, investment and industrial goods	Food aid and food related goods	Fertilizers	Total cargo	No. of trucks	Capacity utilization (%)
1	January	303,391	141,358	7,127	451,876	969	83
2	February	322,119	127,176	33,207	482,502	1,268	89
3	March	366,345	99,170	51,270	516,785	782	95
4	April	353,831	31,791	97,126	482,748	764	89
5	May	331,116	26,870	121,267	479,253	617	88
6	June	366,047	17,562	64,698	448,308	660	82
7	July	246,007	44,493	207	290,707	1,436	53

<sup>18</sup> DCHA, 2009. "Ethiopia- Complex Emergency."

8	August	287,717	120,680	327	408,724	1,282	75
9	September	263,608	110,337	224	374,169	1,358	69
10	October	390,401	109,877	140	500,418	1,454	92
11	November	302,139	165,620	1	467,759	1,234	86
12	December	303,571	181,059	242	484,872	1,290	89
	Total	3,836,291	1,175,993	375,837	5,388,121	13,114	83

Of the total cargo transported in 2008/09 from Djibouti, trade, investment, and industrial goods accounted for about 71 percent, food aid and commercial import of food accounted for 22 percent, and fertilizers represented seven percent. Dry cargo transported in 2008/09 substantially increased compared to previous years, as shown in the table below.

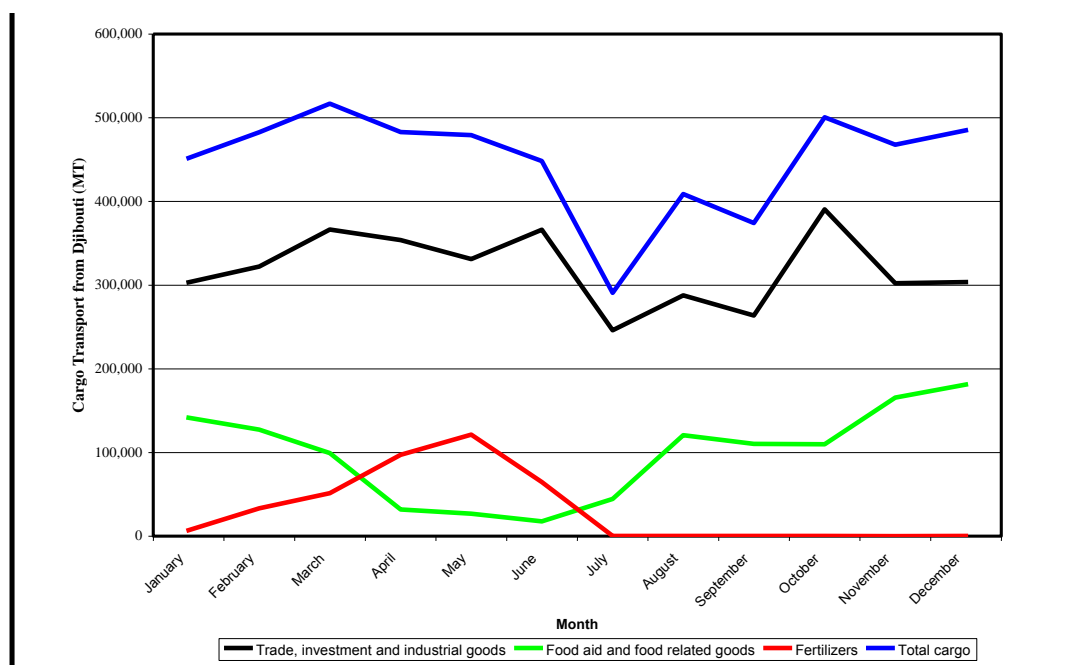
**Table 2. Volume of Dry Cargo Import/Export via Djibouti Port**

Fiscal Year	Import	Export
2004/2005	2,542,000	591,000
2005/2006	3,955,000	675,000
2006/2007	2,837,000	689,000
2007/2008	2,802,000	663,000
2008/9009	5,390,000	730,000
Average	3,505,200	669,600

*Source: Ethiopian Maritime Affairs Authority, Ministry of Transport and Communications*

Transport activities among different commodities vary from month to month, as shown below. Of particular importance is the rise of fertilizer transport and decline of food aid transport, both of which occur from April through June (as noted earlier, fertilizer imports also slow port operations from December-February). Transportation of food aid during these months would be quite difficult and expensive.

**Figure 1. Monthly Cargo transport from Djibouti in 2008/09**



Current haulage rates are about US\$0.07/MT per km from Djibouti inland to Ethiopia storage hubs. At this rate, delivery from Djibouti to Addis Ababa costs about US\$60-65/MT, and a twenty-foot container (which is considered to be the equivalent of 20 MT) costs about US\$1,300.

Ideally, if the SDTV maximum off-load rate of 6,000 MT per day could be maintained continuously for 365 days per year, the total tonnage discharged would be 2,190,000 MT. This would require 200 x 30 MT trucks per day and 73,000 truck trips per year. At current rates of nearly US\$0.07/MT per kilometer, transport costs from Djibouti to Addis Ababa would be US\$139,503,000.

WFP reports that it occasionally moves food aid from Djibouti Port to Dire Dawa by rail, but poor railway conditions result in unreliable and inconsistent transport, which typically overrides any financial savings.

Transport operations from Djibouti would improve if Ethiopia had a modern transportation system, including national rail and highway links, a new national truck fleet, and modern maintenance facilities. These changes are most likely to result from a change in policy—especially tax reform. Improved transportation would also require significant foreign exchange resources.

As the transportation and logistics industries modernize in Ethiopia, alternatives to bagged grain transport will need to be considered. These alternatives include bulk grain truck trailers and rail wagons and handling equipment, complemented by commercial storage silos located in urban areas, regional centers, and within dry port facilities.

### **A3.1.2. Berbera Port**

Berbera Port is a small port on the south shore of the Gulf of Aden, 240 km southeast of Djibouti, serving Somaliland and the eastern portions of Ethiopia.

Berbera was the first capital and port of entry for British Somaliland. The port was modernized in 1969 and extended by Russia and America during the cold war era. The port and its



surrounding area suffered extensive damage during the Somali civil war in the late 1980s and early 1990s. In the early 1990s, the new Somaliland Government took ownership and management of the port. See section 5.4.1 for further details on piracy threats for the region.

Currently, Berbera Port has an annual port cargo capacity of 1.2 million MT. In 2008, the port handled 680,096 MT and in 2009 imports reached 799,435 MT, according to Berbera Port Authority statistics.<sup>19</sup> The port handled 10,789 container traffic TEUs (twenty foot equivalent units) in 2008 and 9,309 TEUs in 2009.<sup>20</sup>



Source: Google Maps

WFP imported 98,000 MT of grain through Berbera during 2009, on non-US flag carriers. Each ship carried about 25,000 MT.

According to multiple sources in the Somaliland press, the MV Philadelphia, carrying 21,800 MT of USAID/FFP-funded grain for WFP distribution in Ethiopia, docked at Berbera Port on April 30, 2009. This was the first United States civilian flag carrier to dock in Berbera since 1999.

Berbera is a major livestock export point for the region. The Berbera Ports General Manager informed the Bellmon Team that, in addition to its cargo capacity, the port could handle up to 2.5 million head of livestock per year. In 2009, over 1.6 million head of livestock were exported from Berbera to Gulf States, mainly Saudi Arabia. Half of these animals were exported in November to meet the demand of Hajj celebrations. Since the port is very busy during Hajj, importers of food aid should plan their operations accordingly.

The biggest drawback of Berbera Port is its limited capacity. According to CRS, it takes about a month to unload a vessel carrying 25,000 MT at Berbera Port.

Despite its rudimentary infrastructure, Berbera Port is more efficient than would be expected. Still, the port is in need of investment in infrastructure; with better infrastructure, the port could handle larger quantities and operate more efficiently. Suggestions include 200 MT/hr quay-side grain handling equipment, a 20,000 MT flat silo, and six new bagging machines, along with short-term management and training.

Bollore Africa Logistics (BAL) has been considering investment in Berbera Port and the Berbera-Addis Ababa transport corridor for over a year, and discussions continue. BAL is part of the Bollore Group, a private French company with a history of investments in Africa. The company would like to see investors such as the World Bank or the UN commit to road

<sup>19</sup> Dekedd 2009

<sup>20</sup> Dekedd 2009

improvements to support BAL's possible future investment. The cost needed to modernize the road from Port Berbera to the Ethiopian border is estimated at €100 million to €200 million (US\$127 million to US\$254, at a rate of €1 = US\$1.27).<sup>21</sup>

**Facilities.** Berbera Port can handle up to four bulk grain ships of 25,000 MT or less at the same time. Off-loading and grain discharge facilities are rudimentary, which requires ships to use their own equipment to off-load. There are no quayside vacuators or silo facilities for direct discharge. The port has a portable hopper which feeds three bagging machines. Maximum bagging output is 1,200 MT per day. More than one bulk grain ship arriving at Berbera would require ships' own bagging machines.

The last WFP shipment discharged at Berbera Port was 20,000 MT. Cargo was bagged and loaded directly off the ship, and transported 480 km to the Ethiopian dry port of Shinile (Dira Dawa) in one month.

Water depth at the bay entrance is 30 meters. The port has more than 600 meters of quayside area, with quayside draft between nine and twelve meters. Four ships of 25,000 MT capacity can berth simultaneously. In 2009, Berbera Port serviced 494 vessels (307 ships and 187 dhows).

The quayside area includes terminals for containers and general cargo, office buildings, and warehouses.

**Services.** Services at the Berbera Port include:<sup>22</sup>

- Navigation aids
- Communication stand-by 24 hours by radio operators on channel 16
- Pilots available 24 hours
- Constant port security and 24-hour gangway watchmen
- Fire safety measures: crew with portable pumps, water-pumping station, tugboat with firefighting system
- Mobile cranes, forklifts, tractor heads, and trailers
- Fresh water supplied by mobile tankers
- Fuel supplied by mobile tankers from oil terminal
- Workshop for minor repairs to vessels and equipment

It is less expensive to pay docking fees (US\$2.00 per meter per day) and load for direct dispatch inland than to use Berbera storage facilities and handle multiple times. In interviews, one company owner said, "Berbera is more efficient and cheaper than Djibouti."<sup>23</sup>

Labor costs in Berbera for grain bag handling are US\$0.50 per 50 kg bag per time handled, or US\$10.00 per MT for initial loading only. At this rate, the WFP shipment of 20,000 MT cost US\$200,000 to dock, dispatch, and handle.

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<sup>21</sup> WorldCargo News, December 2009 Edition

<sup>22</sup> Berbera Port Authority homepage, accessed April 2010.

[http://www.berberaport.info/index.php?option=com\\_content&task=view&id=21&Itemid=26](http://www.berberaport.info/index.php?option=com_content&task=view&id=21&Itemid=26).

<sup>23</sup> Djama Omar, owner of Omaar Group of Companies: [www.ominco.com](http://www.ominco.com)



US-Civilian Flag Ship MV Philadelphia docked at Berbera Port, Source: Halganews

Storage. Berbera Port has limited storage capacity. Port warehouse capacity is about 6,000 MT. The port also has two grain silos of 5,000 MT each; both remain unused. Uncovered quayside space and container stacking space is much larger at nearly 40,000 square meters.

Private sector warehouses in Berbera are new and have good capacity.

- Omaar International warehouse capacity: 52,000 MT
- Indo Dheero warehouse capacity: more than 25,000 MT
- WFP warehouse capacity: 12,500 MT (25 Wiikhall and Ruubhall portable storage warehouses, each of which stores 500 MT)

Most private warehouse capacity in Berbera is for company self-use, but with advance notice, these facilities can be rented. Overall, when solely considering the use of Berbera Port, capacity and transport are more commonly constraints to import operations than storage.

Transportation. Almost all food aid from Berbera Port is loaded at quayside directly onto trucks. Trucks typically carry 30 MT each, and have a double rear axle with fixed cargo bodies. They deliver to either Jijiga (316 km from Berbera) or Dire Dawa (480 km from Berbera).



Berbera Port Source: SPC

The Berbera corridor road is in fair condition, considering its age, from Berbera, through Hargeysa, to Nabadeed. From Nabadeed, the road's condition deteriorates across the 30 km to the Tog Wajaale border. The last 30 km of the road on the Ethiopian side of the border, from

Jijiga to Tog Wajaale, is also in poor condition.<sup>24</sup> Though transport from Berbera to storage hubs may be faster than Djibouti because of traffic conditions, the roads are poorer and less safe.<sup>25</sup>

During heavy rains, parts of the Berbera corridor road may be impassable for one to two days. This is most likely during the rainy season, from April through May. Heavy rains in the mid-1980s destroyed all seven of the bridges between Berbera and Hargeysa. Currently, all dry river crossings from Berbera to Nabadeed, 30 km north of Tog Wajaale, have excellent concrete drifts (dry river fords, level with the depth of the sand) with good approaches facilitating easy vehicle entry and exit.

Despite an agreement between Somaliland and Ethiopia to equally share the Berbera corridor, anecdotal evidence shows that Somaliland trucks typically dominate the route.<sup>26</sup> Furthermore, Somaliland border points could be somewhat dangerous. In 2008, the border at Togochole closed after a bomb attack in Hargeisa.<sup>27</sup> Also, interviewees noted that Somaliland drivers are sometimes engaged in contraband activities.

Delivery charges from Berbera to Jijiga are US\$50.00 per MT and US\$80.00 per MT to Dire Dawa. This translates to US\$0.16 to 0.17 per MT, per km.

### **A3.1.3. Port Sudan**

Port Sudan is a natural, medium-sized port located on a peninsula on the Red Sea's western coast. The port handles most of Sudan's external trade.<sup>28</sup>

The British established the port during the early 20th century to serve the railway running from the Nile River to the Red Sea. Currently, the Government of Sudan owns the port. Sea Ports Corporation (SPC), under the Ministry of Transport, manages it.<sup>29</sup>

An average of 1,220 ships uses Port Sudan each year.<sup>30</sup> It has a capacity of eight million MT of bulk cargo<sup>31</sup> per year and can handle 700,000 TEU (twenty foot equivalent units) each year.<sup>32</sup> The port is divided into three areas: North, South, and Green Harbor.

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<sup>24</sup> Interview with Tog Wajaale authorities, April 2010.

<sup>25</sup> WFP, 2009. "Logistics Augmentation for Somali region operations"

<sup>26</sup> Interview with WFP representatives and local transporters, April 2010.

<sup>27</sup> ICRC (International Federation of Red Cross and Red Crescent Societies), 2009. 2008 Ethiopia Food Crisis Logistics Planning.

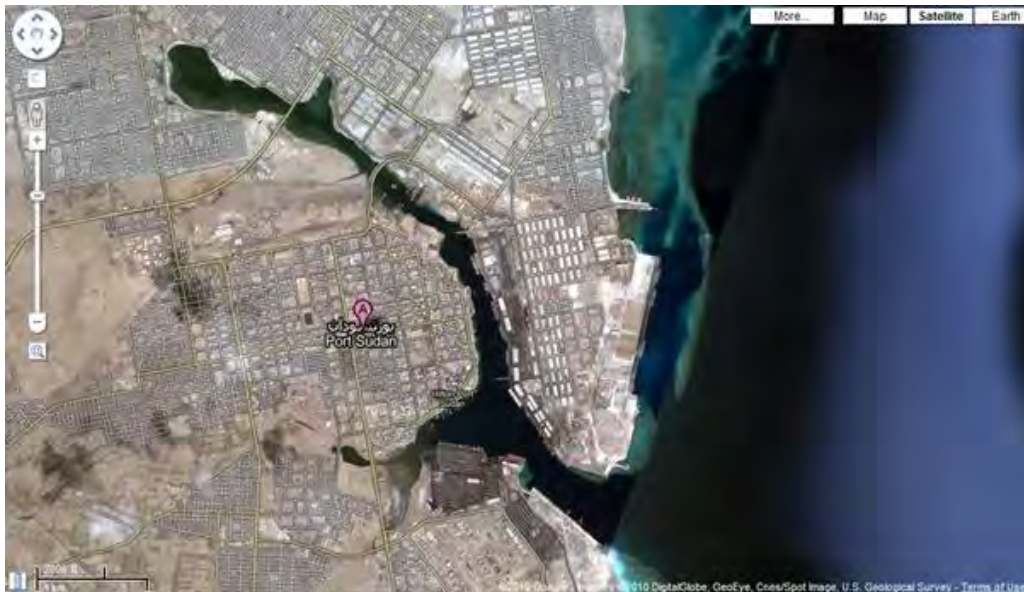
<sup>28</sup> World Port Source, 2010.

<sup>29</sup> World Port Source, 2010.

<sup>30</sup> Abdelrahim, 2009. Page 19

<sup>31</sup> Bulk cargo generally refers to grain and fertilizer. General cargo is almost everything else that is not containerized.

<sup>32</sup> UNJLC, 2004. Page 2.



Source: Googlemaps

North Port. The North Port has an annual throughput of five million MT which consists of bulk cargo, bulk edible oil, bulk molasses, and vehicles.<sup>33</sup> It has 15 berths, with drafts ranging from eight to 15 meters and totaling 1,663 meters in length. The North Port includes<sup>34</sup>:

- Five cement silos with a total storage capacity of 90,000 MT
- One grain silo with 50,000 MT capacity
- Edible oil tanks with 60,000 MT capacity
- Molasses storage tanks with 100,000 MT capacity
- Mobile cranes with 20-60 MT capacity each
- Harbor cranes with 65 MT capacity each
- Tractors, trailers, forklifts, trucks, and quay cranes



<sup>33</sup> Mansour, 2008

<sup>34</sup> Mansour, 2008.



*The North Port of Port Sudan, looking east. Source: SPC*

South Port. The South Port handles containers, oil products, and bulk grain. It was recently updated with equipment and berth extensions.<sup>35</sup> South Port operational facilities include:

- Four berths totaling 733 meters with an alongside depth of 10.7 to 12.6 meters<sup>36</sup> (three container berths and one grain berth)
- One additional dedicated RO/RO berth<sup>37</sup>
- Berth 15 can discharge directly from the hold to the silo. It handles only bulk grains, is 198.6 meters long and has an alongside depth of 10.7 meters with proximate 50,000 MT capacity grain silo<sup>38</sup>
- Annual capacity of 400,000 TEUs<sup>39</sup>
- The terminal is equipped with:<sup>40</sup>
- Four ship-to-shore gantry cranes
- Two mobile harbor cranes
- Eleven rubber tired gantries
- Container handling equipment including reach stackers, forklifts, trailers, tractors



*The South Port. Source: SPC*

The Green Harbor. The Green Harbor is located on the east (seaward) side of the Port Sudan main quays. It handles dry bulk (fertilizer and grains), seeds, and containers.<sup>41</sup> The Green Harbor is the latest addition to Port Sudan and includes:<sup>42</sup>

- Four berths with a total length of 1,200 meters and alongside depth of 14.2 meters
- Accommodation for ships up to 50,000 MT capacity
- Open storage area of 650,000 square meters

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<sup>35</sup> WFP LCA, 2009. Page 48.

<sup>36</sup> World Port Source, 2010.

<sup>37</sup> World Port Source, 2010.

<sup>38</sup> World Port Source, 2010.

<sup>39</sup> Mansour, 2008.

<sup>40</sup> Mansour, 2008

<sup>41</sup> WFP LCA, 2009. Page 48.

<sup>42</sup> Mansour, 2008

**WFP Operations in Port Sudan.** Port Sudan is the point of entry for the WFP operation in Darfur, which is currently the largest WFP operation in the world. WFP handled over 80,000 MT of food aid destined for Ethiopia from May 2009 to March 2010.<sup>43</sup> According to WFP representatives in Ethiopia, SPC may allow Ethiopian authorities to reserve port space in the future.

Port Sudan handled over 1,500 WFP containers during 2009. WFP works closely with port authorities; for example, the port authority donated a 100,000 square meter open container terminal space dedicated to WFP usage.

WFP has a favored working relationship with SAYGA, a division of the DAL Group of Companies and the largest private sector importer of grains in Sudan. SAYGA handles WFP bulk grain imports and also uses its silo to discharge WFP grain at negotiated rates, depending on ship cargo size.

**Storage.** With a strong private sector logistics and freight industry, Port Sudan offers adequate storage capacity and facilities. Storage facilities in the port are adequate and modern. The North Port has 27 warehouses with a total of 57,000 MT of covered storage. The warehouses can handle up to five million MT of bulk cargo per year. The North Port has 120 privately-owned warehouses. SAYGA owns its own bulk grain terminal and storage silos within the port area. Its silo capacity is 110,000 MT. It also has a just-off port facility that can store a further 35,000 MT.<sup>44</sup> Another 100,000 MT in-port silo has nearly completed construction and has been leased by SAYGA. WFP has rented private warehouse capacity of 200,000 MT in Port Sudan. WFP also stated that, on average, approximately 40,000 MT are available for storage at Port Sudan, through Emirates and Red Sea State Investment Company. This sum can vary throughout the year, depending on food aid and other humanitarian commodities shipped. Further, WFP reported that “[Port Sudan] warehouses can be rented from private or government companies; condition is reasonably good and they are clean and there is no problem of labor.” The Sudan Ports Corporation also mentioned that they are planning to dedicate space at Suakin Port (60 kms. south of Port Sudan) for Ethiopian cargo.

Usually, transporters avoid storage costs and transship bagged grain from truck to truck instead of offloading into warehouses. If storage outside of Ethiopia is needed during transport from Port Sudan, Gedaref is an option. Gedaref is a major sorghum-producing area and has adequate warehouse storage. From Gedaref, cargo must be transshipped to smaller trucks before entering Ethiopia.

**Transportation.** Cargo is shipped from Port Sudan to Gedaref on Sudanese trucks with capacities up to 80 MT. Grain cargo is then transshipped to trucks with capacities up to 40 MT because, due to road conditions, trucks of more than 40 MT capacities are not allowed to travel inside Ethiopia.

In-land transport of food aid from Sudan is more expensive than from Djibouti; from Sudan to Kombolcha, transport costs about US\$194.23 per MT, as compared Djibouti’s price of US\$39 per MT to Kombolcha. For transport to Mekele, transport from Port Sudan costs about US\$202.05 per MT, whereas transport from Djibouti costs about US\$68 per MT.

WFP delivered cargo from Port Sudan to the Ethiopian cities of Gondar and Woreta at the following costs:<sup>45</sup>

- Port Sudan to Wereta (1232km): transport costs US\$122/MT

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<sup>43</sup> Naubuga, S., WFP, 2010.

<sup>44</sup> DAL Group 2008

<sup>45</sup> Naubuga, S., WFP, 2010.

- Port Sudan to Gonder (1117km): transport costs US\$113.30/MT

Customs and procedures may slow operations and add to costs, especially during the beginning phases of transport.

Cargo travelling from Port Sudan to Ethiopia is subject to a 15 percent VAT from Sudanese authorities. This tax may be claimed back, but the process for doing so is unclear.<sup>46</sup> All grain handled at Gedaref is subject to the Gedaref state tax which can be waived for cargo in transit to Ethiopia.

Trucks moving cargo through Sudan to Ethiopia are under customs control and must travel in convoys. This condition may be eased if arrangements are made with Sudanese Customs for control and inspection at transshipment points.<sup>47</sup>

Food in transit from Sudan to Ethiopia is subject to documentation such as Health Certificates, Plant Protection Inspection<sup>48</sup>, and Sudan Standards and Metrology Organization (SSMO) Inspection.

Crew members travelling between Sudan and Ethiopia are required to have visas, which can be problematic since many truck crew members do not hold passports. However, this condition can be eased with communication in advance.<sup>49</sup> For example, WFP provides a list of truck registration numbers and crew names to the Ethiopian Embassy in Khartoum. The Embassy then notifies immigration authorities to allow these crew members entry at the Ethiopia border.

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<sup>46</sup> Naubuga, S., WFP, 2010.

<sup>47</sup> Naubuga, S., WFP, 2010.

<sup>48</sup> WFP reports that food aid arriving at Port Sudan and destined for Ethiopia through Gedaref/Gallabet border crossing does not need to provide non-GMO certification; however food aid destined for use internally in Sudan does need to provide non-GMO certification.

<sup>49</sup> Naubuga, S., WFP, 2010.



## Annex 4. Contacts

Name (Last)	Name (First)	Organization	Title
Abaraka	Mohammed	T.M. Food	Chief Accountant
Abduletif	Nurredin	LemLem	Owner
Alemayehu	Girmay	Addis Mojo edible oil Factory	Marketing and Customer Development Director
Aleme	Gemeda	MEWIT	General Manager
Amha	Woldaye	AEMFI	Executive Director
Amha	Wolday	Association of Ethiopian Micro Finance Institutions	Executive Director
Asenafi	Getenesh	Agricultural Inputs Supply Enterprise	General Manager
Assefa	Henok	Precise Consult	Managing Partner
Ayele	Gazahegn	Fintrac Inc.	Senior Capacity Building Program Manager
Bekele	Kassahun	Accos	General Manager
Birkia	Intisar	WFP	Procurement Officer
Brankkaert	Eric	WFP	Head of Unit, Vulnerability Analysis and Mapping (VAM) WFP/CO Ethiopia
Cahill	Stephen	WFP	Logistics Manager
Cherkol	Abebe	Addis Ababa Chamber of Commerce & Sectoral Associations	Policy Officer
Cullis	Adrian	FAO	Disaster Risk Management Coordinator
Dessalegn	Gebreemeskel	AgriDev	Owner
Desta	Getachew	MULAT	Sales Manager
Eshetu	Konjit	USAID	Title II Resource Manager
GebreWold	Berhane	Romanat PLC	Manager
Gebru	Tafesse	ESE	General Manager
Geneti	Elias	Agroprom Investments	President
Getachew	Tesfaye	CARE	Program Manager
Graham	John	USAID	Senior Policy Advisor
Haile	Berhane	EGTE	General Manager
Hailu	Sirak	EFSRA	Director General
Hailu	Berhane	EGTE	General Manager
Hobson	Emma	USAID	Food Security Program Coordinator
Hochlander	Scott	USAID	Chief, Office of Assets and Livelihoods in Transition (ALT)
Joannes	Pascal	ATA	Director, Wheat, Maize and Barley
Kashidi	Omondi	ATA	Consultant
Kassa	Saba	WFP	Senior Logistics Assistant