

SPECIAL REPORT

FAO/WFP CROP AND FOOD SECURITY ASSESSMENT MISSION TO ETHIOPIA

(Phase 1)

21 January 2009



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, ROME



WORLD FOOD PROGRAMME, ROME

This report has been prepared by Mario Zappacosta and Ian Robinson under the responsibility of the FAO Secretariat with information from official and other sources. Since conditions may change rapidly, please contact the undersigned for further information if required.

*Henri Josserand
Chief, GIEWS, FAO
Fax: 0039-06-5705-4495
E-mail: giews1@fao.org*

Please note that this Special Report is available on the Internet as part of the FAO World Wide Web (www.fao.org) at the following URL address: <http://www.fao.org/giews/>

The Special Alerts/Reports can also be received automatically by E-mail as soon as they are published, by subscribing to the GIEWS/Alerts report ListServ. To do so, please send an E-mail to the FAO-Mail-Server at the following address: mailserv@mailserv.fao.org, leaving the subject blank, with the following message:

subscribe GIEWSAlertsWorld-L

To be deleted from the list, send the message:

unsubscribe GIEWSAlertsWorld-L

Please note that it is now possible to subscribe to regional lists to only receive Special Reports/Alerts by region: Africa, Asia, Europe or Latin America (GIEWSAlertsAfrica-L, GIEWSAlertsAsia-L, GIEWSAlertsEurope-L and GIEWSAlertsLA-L). These lists can be subscribed to in the same way as the worldwide list.

TABLE OF CONTENTS

Page

Abbreviations and Acronyms	4
Mission Highlights	5
1. <u>OVERVIEW</u>.....	5
2. <u>SOCIO-ECONOMIC CONTEXT</u>.....	6
2.1 Macro-economic situation	6
2.2 Inflation and its determinants	8
2.3 Poverty and population.....	10
2.4 Recent developments in food security policy.....	11
3. <u>FOOD PRODUCTION IN 2008</u>	13
3.1 General	13
3.2 Rainfall 2008	14
3.3 Area planted.....	15
3.4 Factors affecting yield	18
3.4.1 Seeds	18
3.4.2 Fertilizers and chemicals.....	19
3.4.3 Pests and diseases	21
3.5 Other crops	22
3.6 Livestock	23
3.7 Cereal and pulse production estimates	25
3.8 <i>Belg</i> harvest	28
4. <u>GRAIN SUPPLY/DEMAND SITUATION</u>.....	28
4.1 Main characteristics of grain markets	28
4.2 Food prices	30
4.3 National grain supply/demand balance in 2009	32
 <u>Annexes</u>	
Annex 1 Rainfall data.....	34
Annex 2 Crop production situation by region	37

Abbreviations and Acronyms

ADLI	Agricultural Development Led Industrialization
AISE	Agricultural Input Supply Enterprise
AMC	Agricultural Marketing Corporation
BoARD	Bureaux of Agriculture and Rural Development
CBPP	Contagious Bovine Pleuro Pneumonia
CFSAM	Crop and Food Security Assessment Mission
CPI	Consumer Price Index
CSA	Central Statistics Authority
DAs	Development Agents
ECX	Ethiopian Commodity Exchange
EFSR	Emergency Food Security Reserve
EGTE	Ethiopian Grain Trade Enterprise
ETB	Ethiopian Birr
f.o.b.	Free on board
JRC	Joint Research Centre of the European Commission
FAO	Food and Agriculture Organization of the United Nations
FEWSNet	Famine Early Warning Systems Network
FSCB	Food Security Coordination Bureau
FMD	Foot and Mouth Disease
FSP	Food Security Programme
GDP	Gross Domestic Production
GoE	Government of Ethiopia
HICE	Household Income, Consumption and Expenditure Survey
IFPRI	
IMF	International Monetary Fund
LSD	Lumpy Skin Disease
MoA	Ministry of Agriculture
MoARD	Ministry of Agriculture and Rural Development
NAISA	National Agricultural Input Suppliers' Association
NGOs	Non-Governmental Organizations
NMA	National Meteorological Agency
PASDEP	Plan for Accelerated and Sustained Development to End Poverty
PET	Pictorial Evaluation Tool
PSNP	Productive Safety Net Programme
SNNPR	Southern Nationalities and Peoples Region
USD	United States Dollar
VAT	Value-Added Tax
USAID	United States Agency for International Development
WFP	World Food Programme

Mission Highlights

- Despite poor secondary season *belg* rains, the 2008 *meher* crop has recovered strongly from earlier expectations due to abundant rainfall in major producing areas which continued through October, benefiting late sown crops.
- In 2008, encouraging progress was made by the the Ministry of Agriculture and Rural Development (MoARD) and the Central Statistics Authority (CSA) in reconciling the long standing differences in crop area estimates through the EC-funded, FAO project “Support to Food Security Information System”. Accordingly, the Mission used, for the first time, pre-harvest planted area estimates generated by the annual sample survey of the Central Statistics Authority (CSA).
- Cereal and pulse production from the *meher* season is forecast at 17.44 million tonnes, about 10 percent above the previous year’s post-harvest estimates. This is the fifth consecutive good *meher* harvest.
- Increased use of fertilizer and improved seeds, low pressure from pests and diseases as well as the expansion in cultivated area have also contributed to the favourable outturn.
- Throughout the country, grain prices reached record levels in August-September 2008 and began stabilizing or even decreasing with the arrival of the new crop, but remain still at well above average levels.
- Using a conservative forecast for 2009 *belg* season production, total domestic availability of cereals and pulses in 2009 is estimated at 18.25 million tonnes.
- With an estimated total cereal and pulse utilization of about 18.57 million tonnes, an import requirement of about 316 000 tonnes is forecast for 2009.

1. OVERVIEW

An FAO/WFP Crop and Food Security Assessment Mission visited Ethiopia from 16 November to 12 December 2008 to estimate the 2008 main *meher* season cereal and pulse production; review the 2008 secondary *belg* season harvests; forecast the 2009 *belg* season production; and assess the overall food supply situation for the 2009 marketing year (January/December). Accompanied by experts from the Ministry of Agriculture and Rural Development, the Central Statistics Authority (CSA) and by observers from USAID/FEWSNet and the Joint Research Centre of the European Commission (EC-JRC), the Mission mobilised seven teams and visited, over an 18-day period, 63 zones and special *woredas* (districts) covering all the grain producing regions and the marginal areas.

As a result of the positive actions of the EC-funded FAO Project “Support to Food Security Information System” (GCP/ETH/071/EC), whose objectives include, inter alia, reconciling the long-standing differences in area estimates between different crop assessments, the Mission obtained, for the first time in several years of FAO crop assessments in Ethiopia, pre-harvest planted area estimates from the annual CSA sample survey.¹ In a departure from the previous approach that based the CFSAM work on Regional BoARD data, the CSA area data have formed the basis for the 2008 CFSAM calculations. Yield estimates for all major food crops were obtained from *woreda*, zonal and regional agricultural bureaux, which were cross-checked against information from farmers, traders, NGOs during the Missions independent interviews/case studies during the field trips; and remote sensing data from early warning systems. Ethiopian National Meteorological data from 90 stations were compared with qualitative statements from the case studies to confirm reported rainfall patterns. Within the visited zones and special *woredas*, 254 key informant interviews were conducted, including 100 with farm families to be considered as rapid case studies with associated crop inspections including spot-check crop-cuts. Market visits, livestock body condition scoring and continuous transect observation recording of crops and their conditions using the Pictorial Evaluation Tool (PET) to standardise procedures, were conducted over about 22 500 km travelled by the teams. This information provided the background with which teams audited performance data received and, where considered necessary, yield forecasts were adjusted to take into consideration the latest and broader information collected by the teams.

Before leaving Ethiopia, the Mission were given CSA pre-harvest yield estimates determined by CSA staff from interview data in September/October against which to compare and contrast the Mission’s later November/December findings.

The overall agricultural performance of the 2008 *meher* season is judged to be slightly better in the western zones and slightly worse in the eastern zones resulting in a harvest of cereals and pulses 10 percent greater than last year’s CSA production estimate. The sustained performance is considered by the Mission to be due

¹ CSA was still processing the forecast data during the Mission and final figures may be different than reported here.

to the direct effects of well-distributed *meher* rainfall on crops, higher financial returns to grain growers prompting increased investment in timely farming operations and a sustained level of input use in spite of increased costs; the timely availability of fertilizers and the effective control of migratory pests such as desert locusts and army worm. Inputs did not, however, meet the ever-increasing demand especially for improved seeds and herbicides from the commercially-orientated smallholder farmers in the surplus producing zones.

Overall, the Mission estimates total 2008 *meher* cereal and pulse production from the peasant farmer sub-sector at about 17.09 million tonnes, some 10 percent above 2007 production estimated by CSA. It is the fifth consecutive good *meher* harvest. When production of commercial sub-sector is added, the 2008 national *meher* production of cereals and pulses is estimated at 17.44 million tonnes from 10.563 million ha. With a *belg* harvest in July/August 2009 put by the Mission at an average figure of 600 000 tonnes, total domestic availability of cereal and pulses for 2009 marketing year (January/December) is estimated slightly above 18 million tonnes.

As in 2006 and 2007 reports, the cereal and pulse balance sheet is provided for marketing year 2009 with a breakdown by main cereals. Using recently released data from the 2007 Population and Housing Census by CSA (and extrapolated to 2009) to estimate food utilization, the overall cereal deficit is estimated at about 316 000 tonnes which is expected to be covered by commercial and food aid imports during 2009.

Prices of grains in Ethiopian markets have been characterized by a steady upward trend since 2005. This trend has been explained by a combination of economic factors affecting effective grain demand and supply and supporting the inflationary pressure induced by rising oil prices affecting all commodity markets. Cereal prices in main markets have reached record levels between August and September 2008, well above the international import parity price, with severe consequences for most vulnerable households especially in urban areas. Currently, with the arrival of supplies from the newly harvested crops, especially maize and wheat, prices are gradually decreasing, but they still remain very high.

Results from the *meher* food security assessment carried out in Nov/Dec (by Government/WFP led mission) are expected to shed light on the implications of the outturn of the 2008 cropping season on vulnerable groups in the country.

In conclusion, in order to understand better the grain supply and demand situation in the country, the Mission suggests the following specific activities: (1) evaluation of estimated levels of crop yields and use of modern inputs; (2) revision of the assessment methodology of the *belg* harvest and analysis of the estimates with regard to the historical trend/average; (3) assessment of the flow and magnitude of crop and livestock cross-border trade.

2. SOCIO-ECONOMIC CONTEXT

2.1 Macro-economic situation

Ethiopian economy has experienced a broad-based and steady growth of real GDP over the past five fiscal years. After a decline of 2.1 percent in 2002/03 as a result of a severe drought that affected agricultural production, real GDP has showed a strong positive performance, totalling a cumulative growth of more than 67 percent. The National Bank of Ethiopia estimates real GDP growth in 2007/08 at 11.6 percent. The main determinant of this sustained economic growth is the expansion of agricultural production due to favourable weather conditions, with significant contribution of manufacturing and services as well as the booming of construction in several urban areas.

Table 1. Ethiopia: Macro-Economic Indicators

	2005/06	2006/07	2007/08
Real Sector & Prices (% change over previous year)			
Real GDP	11.5	11.5	11.6
Agricultural Value Added	10.9	9.4	7.5
Non-Agricultural Value Added	12.5	13.3	15.4
All Services	13.3	14.3	17.0
Consumer Price Index	10.6	15.8	18.4
Government Finance (% change over previous year)			
Domestic Revenue (including grants)	15.5	26.3	35.1
Tax Revenue	14.2	22.6	37.1
External Grants	-18.2	103.2	30.7
Total expenditure	18.3	21.0	19.6
Overall Balance (including grants) (as % of GDP)	4.6	3.6	2.9
External Sector (% change over previous year)			
Exports	18.1	18.5	23.7
Imports	26.4	11.6	32.9
Average Exchange Rate ETB/USD	8.68	8.79	9.24
Reserve in months of imports	2.5	2.1	1.6
Total Merchandise Exports (USD million)	1 000	1 185	1 466
Total Merchandise Imports (USD million)	4 593	5 126	6 811
Total Trade Balance (USD million)	-3 592	-3 941	-5 345
Overall Balance of Payments (USD million)	-208	85.2	-263.3

Source: Ministry of Finance and Economic Development; National Bank of Ethiopia.

Nominal domestic revenue in 2007/08 (including grants) remains low as a percentage of GDP with only 17.8 percent, but it has increased by 35 percent if compared to previous fiscal year. It reflects some improvements in the national system of tax collection and administration and the rise in donor funding that passed from ETB 8.5 million in 2006/07 to about ETB 11 million in 2007/08. In mid-2008, the Government has decided to merge the Federal Inland Revenue Authority, the Ethiopian Custom Authority and the Ministry of Revenue to form a single, unified revenue agency (the Ethiopian Revenue and Custom Authority, RCuA) whose mission is to boost tax collection. In addition, recent legislative tax reforms aim to improve the Value-Added Tax (VAT) regime by collecting VAT directly from buyers instead of from sellers. Since VAT accounts for about 30 percent on tax receipts and governmental agencies are important buyers in many markets, this change may have a significant impact on future tax revenue.

Total expenditure in 2007/08 has shown a slight decline if compared to previous fiscal year and its focus is still mainly on poverty-reducing programmes which include agriculture, food security, health, education and road construction. Fiscal deficit is estimated at 4.4 percent of GDP and its financing relies especially on donor funding, being domestic borrowing reduced from 2.4 to 1.5 percent of GDP following IMF recommendations. In early October 2008, the Government has eliminated fuel subsidies by fully adjusting the domestic price to import parity level. This measure will save about USD 200-250 million per year that are expected to be used to subsidize food consumption (through additional food imports) and whose benefits are considered to be less regressive than fuel subsidies. In conclusion, the overall balance of Government finance in 2007/08 (including external grants) shows a budget deficit of 2.9 percent of GDP, the lower in last four years.

With regard to the external sector, total export earnings have registered substantial growth in recent years, owing to both increases in volume and revival in the prices of major exports in the international market. In 2007/08, total value of exports grew by 23.7 percent, driven by high international prices of coffee and a robust growth in non-traditional exports such as pulses, flowers and leather products. The remarkable increase in international price of oilseeds is more than compensating the substantial reduction (-35.3 percent) in their exported volumes. Imports also surged in 2007/08, driven by high oil prices and reflecting the rise in private and public investment (especially in machinery and transport capital goods) and the increasing consumption demand following the economic growth. By the end of the 2007/08 fiscal year, the trade deficit reached the record level of USD 5.35 billion, with an increase of about 36 percent if compared to previous year and thus exports were able to finance less than 22 percent of imports. In the coming years, the plan of exporting electricity (produced by new hydroelectric dams) in neighbouring countries may represent a real option to increase exports and alleviate the trade deficit.

Table 2. Ethiopia: Major Exported Commodities (value in USD millions; volume in '000 tonnes)

Commodities	2005/06	2006/07	2007/08	Change over last year (%)
Coffee				
Value	354.3	424.2	524.2	+23.6
Volume	147.7	176.4	170.7	-3.2
Oilseeds				
Value	211.4	187.4	219.0	+16.9
Volume	265.7	235.0	152.1	-35.3
Chat				
Value	89.1	92.8	108.2	+16.6
Volume	22.3	22.7	22.4	-1.1
Leather & leather products				
Value	75.0	89.6	99.2	+10.7
Volume	15.4	15.8	14.9	-5.4
Pulses				
Value	37.0	70.3	144.5	+105.5
Volume	110.4	158.8	233.0	+46.8
Gold				
Value	64.7	97.0	78.8	-18.8
Volume	5.0	5.6	3.8	-32.1
Other exports	168.9	223.8	291.9	+30.4
Total exports	1 000.4	1 185.1	1 465.8	+23.7

Source: National Bank of Ethiopia and Ethiopian Customs Authority.

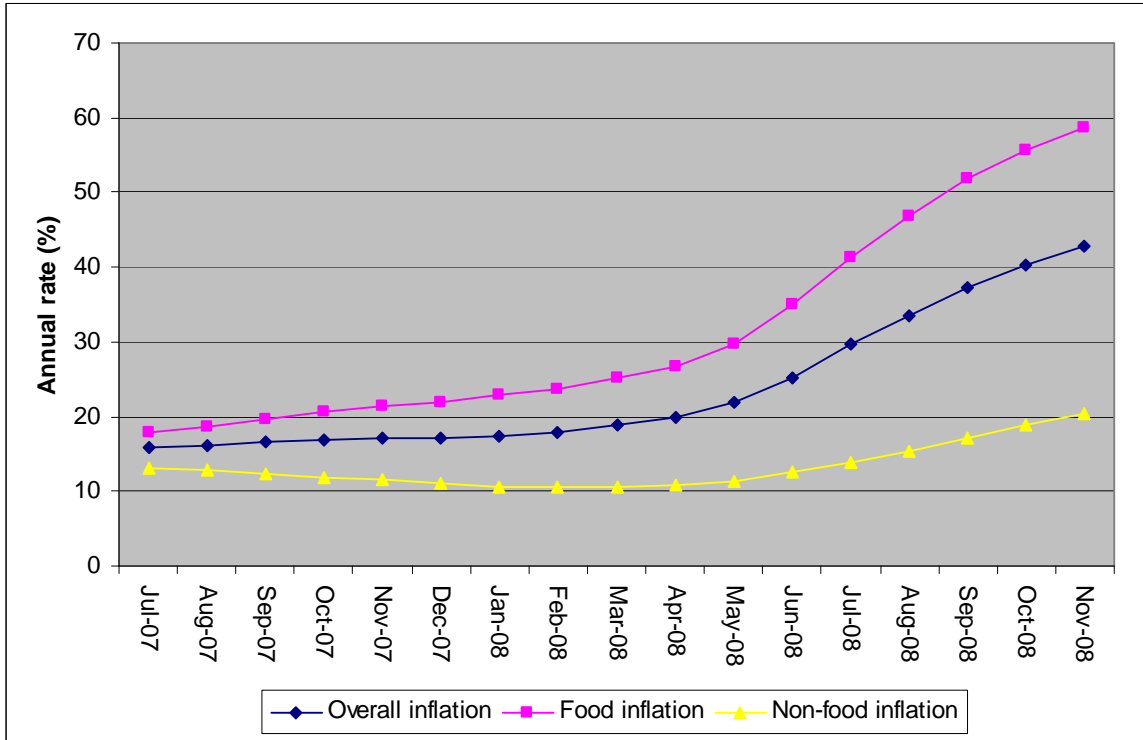
In 2008, the official exchange rate of national currency experienced a significant depreciation. The average official exchange rate of the ETB against the USD in the inter bank foreign exchange market has in fact depreciated by about 6.9 percent to stand at USD 1=ETB 9.57 in 2008 and USD 1=ETB 8.95 in 2007. This situation is mainly driven by the tight situation of foreign-exchange reserves, depleted by the increasing import bill of some important commodities such as oil and metals, which can now finance only about 6-7 weeks of next year's import, representing the lower cover level attained in the recent past. Some relief on foreign reserves is expected to take place in 2009 due to the disbursement of new grants and concessional loans by donor community and to recent governmental directives to encourage remittances from abroad (such as incentives to open foreign currency accounts and stimulating competition among banks to reduce commission rates in money transfers).

2.2 Inflation and its determinants

For a long time, Ethiopia has been a country with low inflation rates in sub-Saharan-Africa. In the past, this has been the result of several factors, such as a strong currency due to prudent monetary and fiscal policies (1960-1973), the general price control (1974-1992) or the implementation of economic reform and stabilization programmes (1992-2004). With about 57 percent of the overall Consumer Price Index (CPI) being represented by food prices, peaks in overall inflation rates were traditionally correlated with a decline in agricultural production, usually as a consequence of a drought.

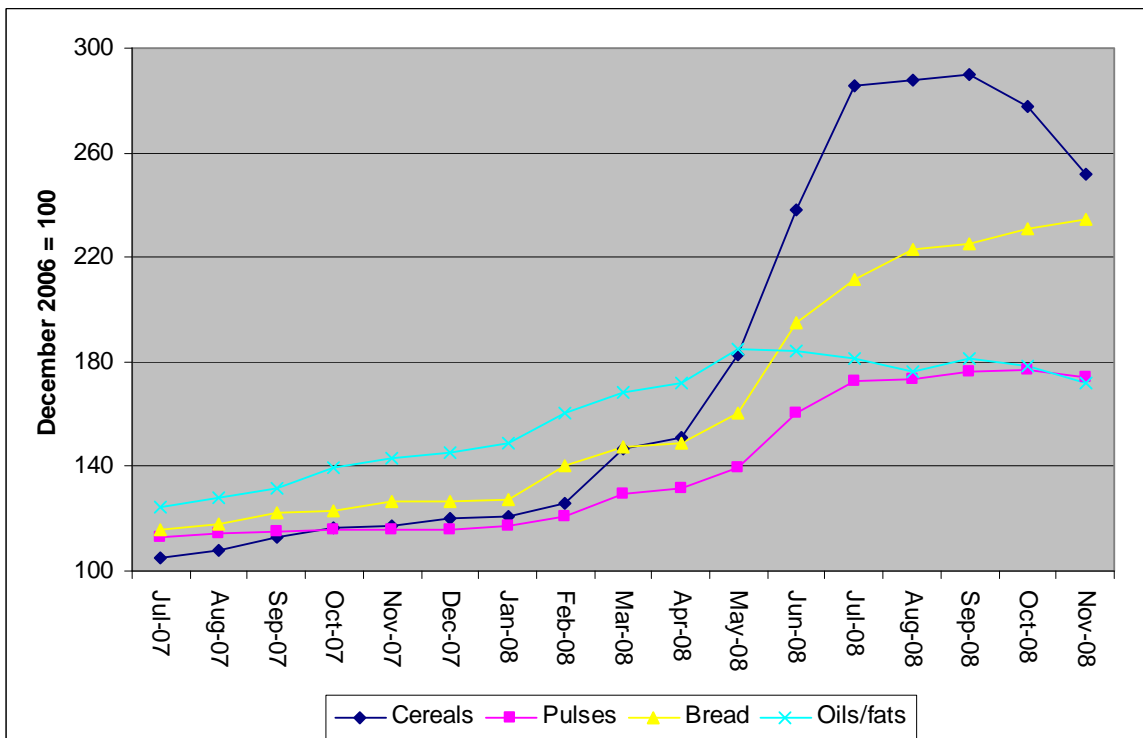
However, since the end of 2004, coinciding with the first bumper harvest of the last five consecutive ones (and well before the soaring of international food prices), consumer prices in Ethiopia started to steadily climb, reaching in 2007/08 (July-June) the average inflation rate of 18.4 percent (based on 12-month moving average). As reported in Figure 1, annual inflation rate stood at historical peak of 42.8 percent in November 2008, about 25 percentage points above the corresponding annual average rate of November 2007. Similarly, food inflation rate in November 2008 stood at record 58.7 percent, with an increase of 37.4 percentage points if compared to the same month in 2007.

Figure 1. Ethiopia: Inflation Trend



From March to July 2008, the cereal price index (whose weight is about 23 percent of CPI) has more than doubled, in coincidence with the partial failure of the *belg* season. Starting in August 2008, cereal prices started to stabilize, especially in the regions with the highest share in the CPI such as Addis Ababa, Amhara, Oromia and SNNP, and then to decline in October with the arrival on main markets of the *meher* production (see Figure 2).

Figure 2. Ethiopia: Consumer Price Index of Food



The increase in food inflation rate is in general considered as the result of several factors that have an impact on the effective demand and supply in the country. The steady expansion of all economic sectors from 2003/04 to the present, fuelled by increasing pro-poor investments and private consumption (instead of governmental consumption as in the 1990s), may be a key factor in explaining growth in aggregate demand. According to the latest 2004/05 Household Income, Consumption and Expenditure (HICE) Survey by the CSA, total per-capita expenditure has increased by 20 percent between 2000 and 2005. This increase is reported particularly in rural areas, where purchasing power of some households has increased due to the injections of cash into the local economy through the PSNP and the budgetary support at *woreda* level (salary payments of public officials). In addition, higher food prices have often increased cash disposal of net producer households, increasing their demand for marketed food and non-food commodities.

On the supply side, despite the good harvests obtained in the last several years, the real marketed food production may have not increased as expected or, at least, their sales may have taken place in a more distributed way along the year, without being concentrated at harvest time. Supported by improved market information systems (especially due to the growing use of cell phones), road infrastructures and storage facilities, farmers are gradually changing their trade practices, being able to hold some stocks in anticipation of better market opportunities. In addition, the growing access to credit and micro-credit services, with the possibility to spread out loan repayments over a longer period of time, is contributing to reduce the financial pressure in the early part of the season with a consequent reduction of distress sales of crops between January and March. As reported in Table 3, the Commercial Bank of Ethiopia, the largest source of agricultural credit in the country, disbursed almost ETB 1 billion of agricultural input loans against guarantees provided by the regional governments of Oromia, Amhara and Tigray, compared to ETB 560 million in previous year. This expanding trend is confirmed by the fact that the same Bank has already approved some ETB 2.2 billion have been approved for the year 2008/09 (that started in July 2008) and 90 percent of them have already been disbursed.

Table 3. Ethiopia: Agricultural Input Loans

Year	Approved (000 ETB)	Disbursed (000 ETB)	Disbursed (%)	Outstanding balance (000 ETB)
2004/05	982 787	780 217	79.4	57 631
2005/06	1 387 019	1 051 882	76.0	43 856
2006/07	540 032	561 226	103.9	65 011
2007/08	1 167 379	969 719	83.1	123 006
2008/09	2 199 985	2 024 451	92.0	1 043 633

Source: Commercial Bank of Ethiopia.

However, inflation is not only determined by structural changes in domestic demand and supply, but also by rising world price of oil and imported intermediate goods (such as cement and construction materials) as well as by an expansionary monetary policy, driven by a significant growth in money supply needed to meet the surge in credit demand for investment financing. The shift from food aid to cash transfers, the role of cooperatives by improving farmers' bargaining power, mounting remittances, foreign direct investments and funds for NGOs are other important factors determining inflation. Although additional research is needed, recent studies have shown that price transmission from international to domestic prices is very small as a consequence of the limited amount of imported food.

In order to stabilize food prices and improve the purchasing power of most affected population, the Government has implemented the following main measures: (1) 300 000 tonnes of wheat has been imported and distributed to urban poor at subsidized price; (2) value added tax, turnover tax and surtaxes have been removed on selected food items; (3) the daily wage rate (to calculate cash transfers for public works in the framework of the Productive Safety Net Program) has been increased from ETB 6 to ETB 10 (and to ETB 10 starting from January 2009); (4) ban on exports of main cereals, introduced in 2007, has been maintained; (5) minimum reserve requirement on commercial banks from 10 to 15 percent of net deposits has been raised; (6) the minimum interest rate on time and saving deposits has been increased.

2.3 Poverty and population

Ethiopia is one of the poorest countries in the world. According to the 2007/08 Human Development Report of the United Nations Development Programme (based on 2005 data), Ethiopia is ranked 169th out of 177 countries in the human development index, with a GDP per capita adjusted with the Purchasing Power Parity of only US 1 055 (compared to almost USD 2 000 average for sub-Saharan countries). According to the latest Household Income, Consumption and Expenditure (HICE) Survey by the Central Statistical Authority

(CSA), the incidence of national poverty declined from 44.2 percent in 1999/00 to 38.7 percent in 2004/05. In particular, despite the historical constraints to development due to land shortage and low labour productivity, some reduction in poverty levels took place in rural areas as a consequence of the steady increase in Government's pro-poor expenditures in support of food security. At the same time, urban poverty has showed only a marginal decline especially due to the limited capacity of the infant manufacturing sector to absorb the increasing number of economically active population in towns as well as the negative impact on household budget of increasing prices of food commodities.

Regarding non-income poverty indicators, gains in welfare have been significant during the last ten years when Ethiopia began decentralizing basic service delivery responsibilities, first to regions and then more recently to local governments. According to the 2006/07 annual progress report of the Plan for Accelerated and Sustained Development to End Poverty (PASDEP), the number of children in primary school increased from 8.1 million in 2001/02 to 14 million in 2006/07 taking the gross enrolment ratio from 61.6 percent to 91.6 percent. In the same period, access to health services has moved from 52 to 72 percent as well as infant mortality has considerably declined. The percentage of underweight children under age 5 has also dropped from 45 percent in 2000 to 38 percent in 2005. Access to clean water supply has increased from 23 percent to 46.4 percent in rural areas and from 74 percent to 82.0 percent in urban areas between 2001/02 and the end of 2006/07. Road infrastructures have improved substantially: the length of total road network passed from 37 000 km in 2004/05 to 42 400 km in 2006/07 and the average time to reach all weather roads decreased from 5.7 to 4.5 hours in the same period.

Rapid population growth remains a major barrier to poverty reduction. The addition of about 2 million persons per year puts tremendous strains on Ethiopia's environment, the economy and the ability to deliver proper services. According to the recently released 2007 Population and Housing Census, Ethiopia's population has been estimated at 73.9 million in May 2007. Ethiopian population is still overwhelmingly rural, with 16.2 percent living in towns and only Addis Ababa, the capital, accounting for 2.7 million people (about 3.7 percent of the total population). Applying the official overall annual population growth rate of 2.7 percent, total population for mid-year 2009 has been estimated by the Mission at 78.14 million.

2.4 Recent developments in food security policy

Since the early 1990s, in order to pursue agricultural growth, the Government has adopted the Agricultural Development Led Industrialization (ADLI) policy that primarily focused on the intensification of production systems. After the initial approaches of market liberalization and public investments to promote the adoption of new technologies (as improved seeds and fertilizers), the current agricultural policy is still based on the ADLI framework but, within the PASDEP, it shows a shift in strategy toward a more market-oriented agriculture, either at national than international level, and the promotion of private investments. As reported in the PASDEP, the main instruments to achieve these objectives are: (i) the construction of farm-to-market roads; (ii) the development of agricultural credit markets, (iii) the improvement of specialized extension services; (iv) the promotion of specialized export crops (such as spices, cut flowers, fruits and vegetables); (v) the increase of irrigated area through multi-purpose dams; (vi) the adoption of measures to improve land tenure security; (vii) the introduction of reforms to improve the availability of fertilizer and seeds.

The Government of Ethiopia has developed a federal Food Security Programme (FSP) within the framework of the wider PASDEP with the aim to ensure food security for 5 million chronically insecure people and for 10 million who are negatively affected by food shortages in drought years. The FSP rests on three pillars:

- (i) the Productive Safety Nets Programme;
- (ii) the Voluntary Resettlement Programme;
- (iii) the promotion of off-farm income generating activities.

Related efforts include an increased focus on nutrition and putting in place flood preparedness and early warning systems. (i) increasing food availability through domestic production, (ii) ensuring access to food for food-deficit households and (iii) strengthening emergency response capacity. It has two underlying principles: to help farmers to use their own resources to overcome food insecurity, both through agricultural improvements and of off-farm income sources, and a shift away from reliance on foreign food aid.

In January 2005, in close collaboration with a pool of donor partners, the GoE has launched the Productive Safety Net Programme (PSNP) as the main component of the Food Security Programme for assisting initially about 5 million chronically food-insecure people in rural areas. The PSNP represented a significant transformation of national food security policy, moving away from responding to chronic hunger through short-term solutions such as emergency appeals and food aid delivery toward a more articulated development-oriented plan to address the underlying causes of household food insecurity. PSNP's

objectives are the reduction of household vulnerability, the improvement of household and community resilience to shocks and breaking the cycle of dependence on food aid. Under the leadership of the federal Food Security Coordination Bureau (FSCB), the first “transition” phase of the PSNP has been completed in December 2006, during which period the necessary institutional structures, implementation capacity, financing modalities and financial management systems were put in place. The second “consolidation” phase started in the first quarter of 2007 and will last until the end of 2009.

PSNP’s key goal is to enable chronically food insecure household to acquire sufficient assets and income in order to “graduate” out of food insecurity. The programme is designed to provide cash or food transfers to chronic food insecure families, either ‘for work’ (through labour-intensive public works in building roads, soil and water conservation and other infrastructures) or ‘for free’ (through direct support to labour-poor, elderly or otherwise incapacitated households), on a regular and predictable basis, with financial and technical support on a multi-annual basis. About 34 000 public works per year are completed by the PSNP, with positive effects on households’ access to social services and markets as well as on the environment. The objective of providing cash transfers rather than food intends to help households to meet immediate consumption needs while protecting their assets. In this way, the provision of cash intends to increase flexibility over consumption decisions, avoiding assets depletion, and to stimulate the development of local economies and rural markets. However, since the beginning of the Programme, the purchasing power of cash transfers has been steadily eroded due to escalating food prices, leading to a mounting beneficiary preference for food instead of cash. In fact, the proportion of cash transfer decreased from 74 percent in 2005 to 48 percent in 2008. In 2008, the ability of the PSNP to respond to the growing demand of food transfers was constrained by the limited availability of food in domestic markets as well as by the low level of stocks of the Emergency Food Security Reserve (EFSR) due to delays in replenishment by borrowing institutions.

The coverage of the PSNP has gradually increased over time: the number of beneficiaries passed from 5 million in 2005 to 7.35 million at the present (more than 1.4 million households), operating in 282 *woredas* in 7 regions (Tigray, Amhara, Oromiya, SNNPR, Afar, Harar and Dire Dawa). A pastoral pilot programme has been recently started in 18 *woredas* with the aim to adapt the Programme for chronically food insecure pastoral areas. In addition, the demand for transitory needs arising from localised shocks in production, usually covered by a contingency budget initially set at about 20 percent, was particularly high in 2008 when additional transfers were granted to 4.43 million beneficiaries affected by the failure of the *belg* season and the high food prices through the Risk Financing component of the APLII and additional resources provided by donors.

Up to October 2008, according to preliminary results of the PSNP Mid-Term Review only a limited number of households (about 18 000) have “graduated” from food security in a sustainable manner. In fact, the Programme has been often able to improve market mechanisms, in particular through consumption smoothing, but assets creation is still quite low. Therefore, a third phase for the period 2010-2014 is needed and it is under negotiation between the GoE and the donor community. As reported, the main strategic issues to be addressed in the next phase are:

- (i) To improve coordination between food security and emergency response at institutional level.
- (ii) To establish financial mechanisms to meet transitory needs.
- (iii) To enhance synergies between PSNP and other food security programmes to achieve graduation.
- (iv) To increase the proportion of cash transfers.
- (v) To address the needs of the urban poor, whose access to food has been severely affected by soaring prices.

In addition to the PSNP, the Government has designed a series of complementary actions financed by the federal budget component of the FSP (about USD 230 million per year) through a grant provided to Regions. These actions aim in particular to improve access to new land (via the Voluntary Resettlement Program) and to provide household income generating packages (often through micro-credit). The Voluntary Resettlement Programme works in four Regions and, since 2003, it has moved about 193 000 households from farming marginal lands in chronically food insecure areas to new, more productive lands. Despite some isolated cases of reverse migration, it is reported that about 180 000 resettled households have become self-sufficient and the major part of the programme has been completed in some regions. Regarding FSP’s household packages and micro-finance, they target the same families that are beneficiaries of the PSNP in order to finance productive investments and boost opportunities to graduate out of food insecurity. A growing concern is that current average size of FSP’s micro-loans may be too large (between USD 230 and USD 575 on average) and interest rates too high relative to the households’ income, increasing their exposure to risk.

3. FOOD PRODUCTION IN 2008

3.1 General

In Ethiopia, it is estimated that 12.9 million^{1/} ha are presently being farmed to produce cereals, pulses, oil-seeds and root, stem, tuber and tree crops in one of the most diverse sets of agro-ecologies in the world. Only some 200 000 ha are irrigated, therefore the nation's annual harvests depend on the quality and quantity of the variable annual rains. Consequently, production at the national level varies dramatically from year-to-year. This is particularly the case in the marginal areas located predominantly in the north and east of the country and in low-lying valleys and rain-shadows throughout the main production zones of the central highland plateau. The crops are grown during two seasons; the minor season, *belg*, planted from early February onwards and harvested from late March up to and including August; and the major season, *meher*, planting both during and after the *belg* season and harvested from September up to and including the following February.

Crop diversity follows the complicated mosaic of agro-ecologies that are derived from a combination of the usual rainfall for the locality, soil types ranging from vertisols to sand; and altitudes ranging from more than 3 000 meters to less than 600 meters above sea level.

The main cereal staples are wheat, barley, teff, maize, sorghum and finger millet and they are grown in varying proportions according to the parameters noted above conditioned by the traditional culture and prevailing market conditions. In terms of area sown a recognisable pattern viz teff > maize > wheat > sorghum > barley with finger millet the least sown of the major crops at 40 percent and 17 percent of the area of barley and teff respectively, is usually apparent. In terms of sheer quantity of consumable carbohydrate, maize and wheat are more important crops than teff. However, teff is the preferred cereal for the production of the basic staple food injera and as such commands a far higher market price than all other cereals. Also being a tiny grass seed, it has far better keeping qualities under local conditions than the more familiar cereal grains and may therefore be stored for longer than other cereals with far fewer losses making it a very important cash crop for most middle highland and lowland farmers.

Carbohydrate sources other than cereals include the stem of enset or false-banana (*Enset ventricosum*), cassava, sweet-potatoes and potatoes all of which are found in either the middle altitude or highland areas of the southern and central regions of the country.

Cash crops include oilseeds, sugar-cane, coffee, tea, chat, eucalyptus, citrus, mangoes and spices. The tree crops are grown in forests and plantations and on-farm as hedgerows, woodlots and orchards throughout the country located in the middle altitude and highland farms. Of these by far the most important is the ubiquitous eucalyptus which serves as the basis commodity for the construction of rural houses and furniture and provides a sustainable flow of fuel wood for both domestic and rural agro-industrial use.

In the western, eastern and southern lowlands and fore-mentioned valley bottoms and escarpments, indigenous grasses and acacia browse support both settled and transhumant livestock. Of particular importance to the national economy are the agro-pastoralist and pastoralist herds and flocks in the Regions of Afar and Somali. Similar pastoralist systems are also found in the southern zones of Bale and Borena, Oromia Region, in South Omo Zone, SNNPR and in the western lowland forest-savannahs that stretch from Gambella, via the region of Benshangul-Gumuz and western Amhara to Tigray.

National livestock production from such pastoral areas is augmented by the settled agro-pastoralism of peasant farmers throughout the central plateaux where common grasslands, comprising indigenous grasses and clovers, provide intensively grazed pasture, which, coupled with browse and crop residues provide the feed for the livestock in mixed farming systems producing sheep, goat and beef and dairy cow products for sale and home use. The sedentary livestock also include the ubiquitous oxen that provide the draught power for major peasant farming operations^{2/} viz ploughing, secondary cultivation, and threshing and some transportation of goods and commodities.

^{1/} CSA 2008 figures.

^{2/} Camel and equines are used for transport and dry-land farm operations; horses are used for farm operations in Awi and North Wollo.

3.2 Rainfall 2008

Rainfall in Ethiopia occurs in two distinct seasons:

- The *belg*^{1/} minor rains that usually begin in February and end in April-May supporting both short cycle crops that will be harvested at the end of the rains and longer cycle crops that will be harvested up to September; and
- the *meher*^{2/} main rains supporting crops planted in or before the *meher* season^{3/} which usually start in June-July and end in September-October. Such crops are harvested from September to the following March.

Regarding *belg* rains, in some ten zones in the south-central and northern parts of the country, they are regular enough in most years to support *belg* harvests which provide contributions to the household food economies equivalent to or greater than the *meher* harvests. In a further twenty zones, *belg* harvests sometimes occur. Elsewhere, the *belg* rains offer the opportunity for land preparation and planting of late-maturing varieties of maize, sorghum and finger-millet, as well as stimulating new growth in the pasture and browse after the dry season thereby providing a much needed “early-bite”. The melding of *belg* and *meher* rains often generates one long season without clear-cut breaks, which although good for perennial crops and the long-maturing cereal varieties, is less than ideal for the *belg* sown straw crops.

In 2008, the *belg* rains were universally poor. Rain was delayed by 1-2 months in the normal *belg* growing areas of Oromiya, SNNPR, and Amhara and in both Harari and Dire Dawa. Even longer delays are noted in Arsi, East Shewa and North West Shewa. Further, despite a timely start, the subsequent *belg* rain in Tigray virtually no *belg* crops were reported to have been grown in 2008. The effects of the poor *belg* have been previously reported by MoARD Early Warning and Response Department and production estimates from CSA are summarised in this report. Given that preparation and planting of the long-cycle maize and sorghum crops normally begins during the *belg* season, the poor late rains meant that normal activities were delayed in most areas giving rise to fears of large-scale transfer of planted land area from the more productive maize and sorghum crop crops to the less productive short-cycle cereals or pulses normally planted from June/July onwards during the *meher* rains.^{4/}

The Mission was provided with comprehensive rainfall data from the National Meteorological Agency (NMA) from 90 weather stations which were compared with the qualitative statements from 264 independent semi-structured interviews with key informants in 63 entry points (zones and special *woredas*) conducted by the seven Mission teams dispatched throughout the country. The variable nature of the rainfall inherent in the semi-arid areas of Ethiopia means that in any zone and in any year there are always communities, particularly in the lowlands, that experience less than satisfactory rainfall.

The qualitative returns suggest that in 42/63 Mission entry-points (zones and special *woredas*) located across the country from the length of the border with Sudan to western and central locations in the eastern zones of Amhara and Tigray bordering Afar; and with the exception of the eastern zones of Oromiya bordering Somali, the *meher* rains were considered to be as “good” or “normal” that is to say the rains conformed to the expected pattern, they began on time, they were heavy in July and August, were reasonably evenly distributed and finished in late September or early October. In 8/63 entry points in two clusters connecting

- East Tigray, south Central Tigray, parts of South Tigray and Weghamra and
- West Hararghe, East Hararghe, Zone 3, Afar and Shinele, Somali

the *meher* rains are noted as distinctly unfavourable or “bad” being late, erratic and ending early. Regarding the former cluster, lowlands adjacent to the eastern escarpments depend on spate run-off for the *meher* season crop. Spate flows were reduced on the Raya Azebo and Alamata plains and in Afar Zone 2 on the plain behind Al Abba with concomitant reductions in area planted and yield obtained.

In the remaining 13 entry points, loosely following the rift valley, the *meher* rains were either a little late or erratic or the expected season finished early but did not exhibit all three characteristics reports of localised damage due to hail and location specific flooding/water logging in such areas (e.g. Siltie, Hadiya, Alaba) notwithstanding, no extreme events of any significance are noted.

^{1/} Including *gu* (Somali Region) and *sugum* (Afar Region).

^{2/} In Somali the *deyr* rains, starting in October, may be seen as follow-on to the *meher* rains elsewhere.

^{3/} Long cycle crops *viz* maize, sorghums and finger millet are usually planted earlier in April and May.

^{4/} Crop area returns from the CSA and Zonal BoARD data show that this did not occur (Section 3.3).

Typical data from selected zones exhibiting favourable to unfavourable *meher* rains are presented in Annex 1 in a series of figures of dekadal summaries comparing this year's quantity and distribution with the 20 year average. All figures demonstrate the features as reported to Mission teams. In addition, the figures all show the poor *belg* and all identify the extension of rains into November and December, which with regard to the latter in the context of a late start to the season (particularly the late planting of sorghum, already commented on by European Commission JRC) may be seen as being highly advantageous.^{1/}

Consequently, the Mission noted that positive *meher* rainfall effects at the national level are:

- To encourage an increase in maize planting and production at previous levels, despite the poor *belg*
- To sustain sorghum planting and production, albeit later than usual at previous levels.
- To support the planting and production of short-cycle cereals and pulses.
- The continuation/restart of *meher* rains in October and early November sustained all late planted crops and encouraged late, opportunistic planting of short-cycle pulse crops such as chick peas and grass peas and niche cereals such as sassa barley and semerete wheat.
- On the debit side, the continuation of late rains is expected to have increased seed drop of teff in crops ready to be harvested at the time of the rain; and may have reduced wheat grain quality in unharvested wheat crops in some of the lower altitude wheat growing areas.

Regarding the effect of rainfall on pasture and browse, the good *meher* rain stimulated growth and the heavy and persistent *meher* sustained the development of forage into December the year in most parts of the country. This is particularly evident in the escarpments of the western zones; the southern pastures of Borena, South Omo and the southern zones of Somali where good pastures are reported. Afar grazing areas, that had, for the most part, poor *meher* rain, have benefited from unseasonal rains that began in October and November.^{2/}

3.3 Area planted

Agricultural data in Ethiopia is available from two sources, (i) data emanating from the Central Statistics Authority (CSA) under their official mandate to provide comprehensive statistical data on agriculture through the organisation and implementation of sample surveys; and (ii) data collected at grassroots level at ploughing, sowing and harvesting time from the whole farming community by the Development Agents (DAs) of the Bureaux of Agriculture and Rural Development (BoARD) at farmer level and processed through a hierarchical series of steps to zonal and regional levels. The two data sets differ significantly with regard to area^{3/} and, more recently, with regard to yield per unit area (productivity).

Hitherto, it has been the latter data set that formed the basis of the CFSAMs as such data are available at the time of the Mission at all entry points, presented to the Mission in their original form and are seen as the quantitative manifestation of the qualitative discussions the Mission holds with the local production agronomists, plant protection, extension and input/marketing specialists at zonal or *woreda* agricultural bureaux visited. However, two years ago, the FAO Project GCP/ETH/071/EC was initiated to provide support to the food security information system in Ethiopia. The project, funded by the EC, is being undertaken by FAO in close collaboration with the Central Statistical Agency (CSA), the Ministry of Agriculture and Rural Development (MoARD) and the National Meteorological Agency (NMA) with a view to resolving the causes of the differences between data sets noted above. With regard to data collection and use, the objectives of the project are:

- (i) To develop a more comprehensive and accurate set of data on food security.
- (ii) To improve access to data and increase analytical capacity by:
 - a) standardizing crop acreage definition methodology including introduction of remote sensing tools,
 - b) strengthening the Marketing Information System and
 - c) improving agro-meteorology data management and crop yield forecasting.

In a long awaited departure from the previous norms, following an agreement reached by all parties due to the progress made by the FAO Project GCP/ETH/071/EC, CSA pre-harvest area estimates of peasant

^{1/} European Commission JRC Bulletin Vol 4 2008; Mission comments on effect of late rains on yields are given in Section 3.4.

^{2/} Information regarding the pastoralist areas and pastoralism was provided to the Mission by the FAO Emergency Unit (Livestock), Addis Ababa.

^{3/} A concern noted regularly in CFSAMs since 1994.

farmers^{1/} were made available to the Mission teams on the day of departure to the field and pre-harvest yield estimates were provided to the Mission before leaving the country for use in conjunction with the zonal estimates collected from the field entry-points.^{2/} As is the established practice, areas sown were discussed at each entry point with the zonal, *woreda* specialists, this time with a view to obtaining qualitative information on the situation rather than figures, in other words the CSA data are the quantitative statement of area used by the Mission for establishing production estimates. By the same token, the time-series used for comparison purpose is also the CSA time-series not the MoARD/BoARD time-series used in previous reports.

Regarding the peasant farmers using the preharvest CSA estimates the Mission estimates that the national area planted to cereals and pulses during the 2008 *meher* season is 10.43 million hectares comprising 8.99 million ha of cereals and 1.43 million ha of pulses, which is 2.2 percent higher than last year's CSA estimate. Table 4 provides a summary of changes in area sown in 2007/08 compared to 2006/07 by crop for Ethiopia and for the main production regions.

Table 4. Ethiopia: Changes in Area Planted with Main Crops between 2007 and 2008 *Meher* Seasons for Peasant Holdings (000 ha)

Regions	Teff	Barley	Wheat	Maize	Sorghum	F Millet	Cereals	Pulses	Total
Amhara	15	-13	16	37	33	4	92	-99	-7
Oromiya	-14	-10	67	79	-13	-2	107	12	119
SNNPR	-34	5	-11	76	0	0	36	10	46
Tigray	13	-15	8	14	-2	1	19	-8	11
Ethiopia^{1/}	-17	-33	81	210	19	0	260	-61	199
% change	-1	-3	6	12	1	0	3	-4	

Source: CSA 2007 vs. 2008.

1/ Includes all minor regions.

Cereal adjustments noted by the Mission from Table 4 include:

- A 260 000 ha increase in *meher* planting (254 000 ha of cereals in the main production regions) comprising:
 - o a reduced planting of teff (-1 percent);
 - o increased *meher* planting of maize (+12 percent) and sorghum (+1 percent), the former mostly in Oromiya, SNNPR and Amhara, and the latter only in Amhara;
 - o increased wheat planting in Oromiya and Amhara in the latter possibly at the expense of pulses;^{3/}
 - o barley planting appears to have been reduced by 3 percent, possibly in favour of wheat due to the better prices;
 - o finger millet planting has not changed.

Area under pulses appears to have fallen nationally by 61 000 ha and is noted to be -4 percent of last year's CSA area despite increases in area noted in Oromiya and SNNPR. This is due to returns from Amhara which suggest a 99 000 ha drop in area sown; however, late-sown pulses may not have been captured in the survey.

Apart from crop substitution implied from the pluses and minuses in Table 5, the increase in cereals and pulses area of 2 percent noted over *meher* 2007 may be explained by:

- A move from *belg* to *meher* cropping (MoARD National *belg* 2008 Report identifies a 50 percent reduction in *belg* planted area).
- An increased use of fallow land in Oromia and SNNPR Regions.
- Expansion into sloping lands generally and into forest and grazing lands, particularly into the uncultivated areas of the western lowlands.

From similar CSA data it appears that area sown to oilseeds on peasant farms in Amhara has apparently increased by 75 000 ha, a pattern also seen in Oromiya at 50 000 ha and in Tigray at 26 000 ha.

^{1/} A detailed paper on the process used by CSA is available from FAO Project GCP/ETH/071/EC, Addis Ababa. These data do not include non-peasant farmers.

^{2/} But after the debriefings of the Mission's findings based on the *qualitative* information obtained from the field (*i.e.* Zonal Agric Bureaux, farmers, traders and NGOs).

^{3/} The late/very late opportunistic planting of pulses may not have been captured in the CSA survey.

Regarding other factors affecting area cultivated nationally, seed supply per se was not a constraint noted by the Mission on *mehar* planting. No widespread replanting was noted as being necessary with the exception three localities badly affected by army worm (see below). Seed rates were reported to have been on a par with the higher rates noted last year across the country and have, in general, been confirmed by an analysis conducted by FAO Project GCP/ETH/071/EC on CSA data.^{1/} As in previous years, more than 95 percent of seeds sown came from farmer carried-over stocks. Returns from the National Agricultural Input Suppliers' Association (NAISA) show that in 2008 improved seed sales rose by 20 percent to 25 000 tonnes^{2/} from last year's final estimate of 20 000 tonnes, similar to the level used in 2007. In addition, a further 17 000 tonnes is noted to have been sold through the Farmer Seed Multiplication and Production Scheme suggesting that 42 000 tonnes may have been available for peasant farmer use. Nevertheless, according to all key informants including farmers and zonal agricultural staff in all the progressive teff, wheat and maize farming areas, the supply of certified seed is not enough. The high price of grain in local markets reduced the differential between the open-pollinated improved seeds and local landraces to virtually nothing. Even the prices of the maize hybrids were considered to be on a par with ordinary maize seed in the markets at the beginning of the season. It appears, therefore, that as a result of the high price of ordinary cereals many farmers decided to restock on the open-pollinated varieties for wheat and teff^{3/} and to try the hybrid maize seeds for the first time but most were unsuccessful due to lack of material.

Given the sustained higher levels of cultivation achieved every year since 2003^{4/}, there do not appear to be any widespread constraints on ploughing capability. As single oxen ownership is the norm rather than the exception, timely and routine cultivation depends to a large extent on oxen sharing. In such a way, the small-seed cereal areas (teff and, in some cases, finger millet) may be ploughed up to 6, 7 or even 8 times although 4-5 is closer to the norm and other cereals ploughed 2-3 times followed by sowing by broadcasting. Cultivation practices were noted to have followed the basic pattern reported regularly with no apparent reduction in frequencies except for isolated trials on "minimum tillage". In this regard, broad spectrum weed killers (e.g. Round-Up) are sprayed prior to planting in line furrows made with the *maresha*.^{5/} Initial trials of this technique are noted in Baku, East Wellega. Round Up is also being used by commercial farmers in Kellem Wellega. Regarding more conventional development, contracted tractor ploughing seems to be at a similar level as last year but with hire-rates a lot higher ranging from ETB 300-600/ha depending on pressure and relationships. This compares unfavourably with oxen-pair hiring rates of up to ETB 30/day in the same areas but will clearly get the job done more quickly. Despite the poor *belg* no apparent constraints were noted on ploughing capability due to oxen strength, indeed less *belg* planting may have meant more grazing area for the oxen in the normally high-pressure grazing areas during the spring. However, in the lowland forested areas the debilitating effects of trypanosomiasis on draught animals are again reported to be of concern in SNNPR and western Oromiya zones.

In these localities, where timeliness of cultivation, sowing and weeding is of paramount importance for the production of a satisfactory series of crops to achieve food security and the small size of farms precludes the effective use of the normal four-wheeled tractors, the Mission noted once again that there is still no apparent interest in testing the introduction of the diesel engine, two-wheeled, walking-tractor as an alternative power sources to oxen.^{6/}

^{1/} Except for maize which tends to be planted in holes in rows (i.e. line plating) or in holes at intervals of one pace (3-4 seeds per hole), seeds are broadcast and seed use is recognised as being generally higher than the BoARD recommended rates. Notwithstanding the number of samples in the CSA survey, seed use data needs interpretation of both definitions and measures used by farmers. CSA 2008 national average seed rates of teff- 53kg/ha; wheat-190 kg/ha; barley- 180 kg/ha; maize- 45 kg/ha; sorghum- 24kg/ha. These rates are much higher than those reported to consecutive Missions over the past 10 years by local woreda specialists and farmers for local seeds, particularly for teff and maize. Consequently, for the time being the Mission will use seed rates previously identified in conjunction with MoARD/ BoARD specialists and farmers for the balance calculations until such disparities are clarified region-by-region in joint discussions under the aegis of the FAO Project GCP/ETH/071/EC with BoARD Regional specialists.

^{2/} The figures are for directly purchased seed only and do not include uncertified, improved seed carried- over on farms from last year or purchased through farmer-to-farmer transactions.

^{3/} Open pollinated varieties, albeit released at low levels each year are re-usable and recycled through informal/traditional farmer to farmer exchanges. They are likely to have had far greater effect than the initial low level of release implies, which suggests that the genetic base is likely to have improved dramatically through releases connected to programmes such as Sasakwa 2000 and the subsequent MoARD Extension package programme.

^{4/} CSA data shows 26 percent increase in area between 2003 and 2007.

^{5/} Traditional, single-tine, shallow-depth chisel plough.

^{6/} The simple Chinese model is cheap and could be introduced in pilot areas on a leasing scheme that involves a maintenance contract and enables client purchase after 3-5 years. This year's *belg* failure exposed the dangers of communities dependent on a series of 2 or 3 relay crops on very small parcels of land (e.g. 0.3 ha). Any intervention that can speed up good preparation and management of the succession of crops must surely be worth piloting.

Only the mechanised sector located in the western lowlands is in a position to change radically the areas under productive management. Unfortunately, large-scale, mechanised farms (investors/commercial cereal and oilseed enterprises) in the western lowlands of Tigray, Amhara, Benshangul and Oromiya have adopted, seemingly without question, the low-input approaches of their Sudanese neighbours whereby fields of either sorghum or sesame are sown during a single land-preparation-sowing pass. Thereafter, the resulting fields may or may not be weeded, depending on labour availability and cost, and the farmers harvest the resulting crop relying on the extension of land, rather than good agricultural practices, to make their profit. Perpetrators of this system include large-scale investors with hundreds of hectares and resettlers hiring tractors from such investors to plough their own 1-2 ha. They are both noted by the Mission to be undertaking a form of mechanised, shifting agriculture leading to the abandonment of large areas of fallow land as they leave their original allocations and move to more fertile areas. Such short term individual gain that is derived from such activities is likely to be carried by the community in the form of the long-term cost of the environmental damage.

To understand the full extent of planting each year, the Mission also includes areas of commercial framers and investors. As CSA data were not yet available for 2007/08 *meher* season, the Mission has estimated such contributions using Zonal Bureaux data and data collected from the farms themselves.

3.4 Factors affecting yield

Mission teams received early (preharvest) yield estimates from zonal BoARD entry-points as well as from CSA. Both sets of data are based on inquiry rather than measurement. The BoARD set connects to the continuous field experience of *kebele* and *woreda* staff and the CSA estimates to an annual sample survey. The Mission, in reviewing both, finds that in a reversal positions adopted up to 3-4 years ago BoARD are much higher than CSA estimates in most entry points. Following a rapid analysis of the qualitative assessments of factors affecting yields from the seven mission teams obtained from several sources (mainly key informants in BoARD offices, NGOs, farmers as well as taking into account transect records, field observations, crop-cutting measurements and changing conditions regarding the weather and late pest and disease challenges), the Mission was able to discuss the CSA preharvest estimates in depth with the CSA senior officers. General rainfall adequacy and timely cultivation have already been confirmed in the previous section, the remaining factors affecting crop performance input supply, (seeds, fertilizers and chemical), pest and disease profiles and basic crop husbandry during the growing season and at harvesting are reviewed below.

3.4.1 Seeds

In the 2008 *meher* season, at least 95 percent of all seeds used were local seeds carried over from the previous harvest either by the farmers themselves, following the traditional on-farm selection process whereby the farmer identifies next year's seed stock while it is still maturing in the field and gives it special protection, or by buying from preferred seed stock kept by other farmers in the same locality. In the surplus producing areas such seeds for sale are mostly open-pollinated releases from Government seed agencies that have become stabilised over the last two decades and have acquired local identities reflecting their provenance. In recent years, organised farmer multiplication of more recent releases, followed by farmer-to-farmer exchanges, has augmented the quantity of improved seeds distributed, particularly wheat. The volume exchanged in 2008 in this more formal sub-sector of farmer-to-farmer exchanges is estimated at some 17 000 tonnes, providing 2 percent of the estimated sown area's cereal seed requirements. The informal sub-sector is unquantifiable but is likely to be much larger as recognised "good" seeds are shared within and between farming families on a regular basis. In the more marginal areas, as well as such established improved seeds, traditional local landraces such as black wheat and two-row barley are also in evidence and are exchanged or sold between farm families in a highly specialised market.

The remaining 3 percent of seeds used, amounting to the 25 000 tonnes, are certified seeds directly purchased from registered suppliers. Of these improved seeds sold 8 400 tonnes are maize, 13 600 tonnes are wheat, 650 tonnes are sorghum, 640 tonnes are teff and the remaining 1 700 tonnes of seeds were mostly pulses. The volume of improved maize seed sales is similar to last year and accounts for 16.6 percent of the maize sown (CSA 2007/08 show 19.5 percent). Certified wheat seed sales are 46 percent greater than last year's directly purchased volume but still only account for 5.9 percent of area planted (CSA 2007/08 showed 2.9 percent), which increases to 10.7 percent when the official farmer multiplication scheme supply of 11 600 tonnes is added. As these are all open-pollinated varieties, and the Mission believes that farmers regularly renew their own stock with the product of the formal and informal multiplication schemes. This, they believe, allows the continuing use of their own on-farm, carryover seeds for another cycle of 3-4 years. In such a way the Mission expects that the reach of open-pollinated seed releases is far greater than the

figures reveal. Consequently, yield improvements^{1/} from year-to-year are to be expected provided other factors remain constant/more conducive to realising the potential of what may be a more rapidly changing seed population than anticipated.

Although the improved seed supply could not meet the increased local demand in the main production zones, local seeds were not noted to be in short supply, and sowing rates were noted to be as normal.²

3.4.2 Fertilizers and chemicals

The application of natural fertilizers, stubble and stover grazing and the application of chemical fertilizers are established practices among peasant farmers and are all noted to have occurred during this *meher* season. The application of natural fertilizers is reported by CSA to be increasing year-by-year and is now thought to occur on 1 million ha of cereals. Stubble/stover grazing is an unrecorded traditional practice and such is likely to be more widespread than dung or compost spreading, but the applications may not be as concentrated. Continuing the trend noted by the Mission last year, chemical fertilizer use during the *meher* 2008 season, as indicated by cash and credit sales, increased by around 4 percent to 404 000 tonnes from a supply of 487 000 tonnes, leaving 83 000 tonnes to be carried over at zonal distribution points until next year. Despite significant increases in base prices of DAP (diammonium phosphate) to approximately ETB 820-900/quintal (USD 860/tonne) and to approximately ETB 520-610/quintal (USD 570/tonne) for urea.

The pattern of amounts distributed during *meher* 2008 was as follows:

- Oromiya received 42.3 percent compared to 47 percent in 2007.
- Amhara received 36.8 percent compared to 32 percent in 2007.
- SNNPR received 9.8 percent compared to 7.4 percent in 2007.
- Tigray received 3.5 percent compared to 3.8 percent in 2007.
- The remaining 7.6 percent (10.3 percent in 2007) was sold to farmers in other regions.

In the four major cereal producing regions DAP sales went up or were stable in 13/16 zones in Oromiya, 6/9 zones in Amhara, 15/21 zones and special *woredas* in SNNPR and in 2/5 zones in Tigray. Urea sales also increased in the same locations but are still way below DAP sales in most locations except those growing chat at a high commercial level.

Ethiopia totally depends on imports to meet its annual fertilizer demand. The foreign exchange needed for fertilizer importation is financed through loans, donor assistant (grants) and Government treasury. Hence, precision in planning and fine-tuning of marketing activities are necessary to ensure timely imports and supplies. The fertilizer sector has been deregulated and opened for private competition since the mid 1990s. Following the issuance of the fertilizer policy, the pan-territorial fertilizer pricing system was eliminated and subsidies were removed. However, aware of the strategic role of the fertilizer sector in achieving self-sufficiency and alleviate poverty, the Government of Ethiopia is still involved in the sector by making credit available to farmers and encourage more fertilizer use. New Government's import guidelines have been recently issued in order to facilitate access to credit (especially on collateral requirements) and increase the number of private importers.

Despite the recent soaring international prices of inputs, fertilizer imports in 2008 have increased by about 60 percent. In particular, imports of urea have increased from 50 000 tonnes in 2006/07 to almost 160 000 tonnes in 2007/08, while imports of DAP passed from 226 400 to 282 600 tonnes in the same period. At aggregate level, total fertilizer availability is estimated at about 487 500 tonnes, comprising 442 000 tonnes of new imports and 45 500 tonnes of carryover stocks.

^{1/} Whatever the absolute levels, average yields of the common cereals noted by both CSA and BoARD methods are at least 2-3 times below modern systems.

² It is worth to note that in 2008 market price of cereals was much higher than the price of open-pollinated seeds provided by the governmental seed agency with the consequence that it was profitable for farmers to buy seeds and sell them in the market as grains or use them for consumption.

Table 5. Ethiopia: Fertilizer Availability in 2007/08 (tonnes)

	Opening Stocks			Imports			Total Supply		
	DAP	Urea	Total	DAP	Urea	Total	DAP	Urea	Total
AISE	15 100	1 180	16 280	62 504	57 251	119 755	77 604	58 431	136 035
Ambassel		700	700					700	700
Wondo	17	223	240				17	223	240
Sub-total	15 117	2 103	17 220	62 504	57 251	119 755	77 621	59 354	136 975
Galema Union				24 987		24 987	24 987		24 987
Wodera Union					28 750	28 750		28 750	28 750
Damota Wel. Union				28 510		28 510	28 510		28 510
Lome Adama Union	266	9 586	9 852		23 484	23 484	266	33 070	33 336
Yerer Union	1 081	30	1 111	24 400		24 400	25 481	30	25 511
Merkeb Union	88		88	28 546		28 546	28 634		28 634
Ambo Union	109	89	198	23 944		23 944	24 053	89	24 142
Hitosa Union				24 584		24 584	24 584		24 584
Becho Woliso Union	628	13	641	24 827		24 827	25 455	13	25 468
Lecha Union	2 078	39	2 117				2 078	39	2 117
Gozamen Union	71	12 902	12 973	27 818		27 818	27 889	12 902	40 791
Enderta Union	750	519	1 269	12 500	25 000	37 500	13 250	25 519	38 769
Biftu Selale Union					25 000	25 000		25 000	25 000
Sub-total	5 071	23 178	28 249	220 116	102 234	322 350	225 187	125 412	350 599
Total	20 188	25 281	45 469	282 620	159 485	442 105	302 808	184 766	487 574

Source: Agricultural Input and Marketing Department, Ministry of Agriculture and Rural Development.

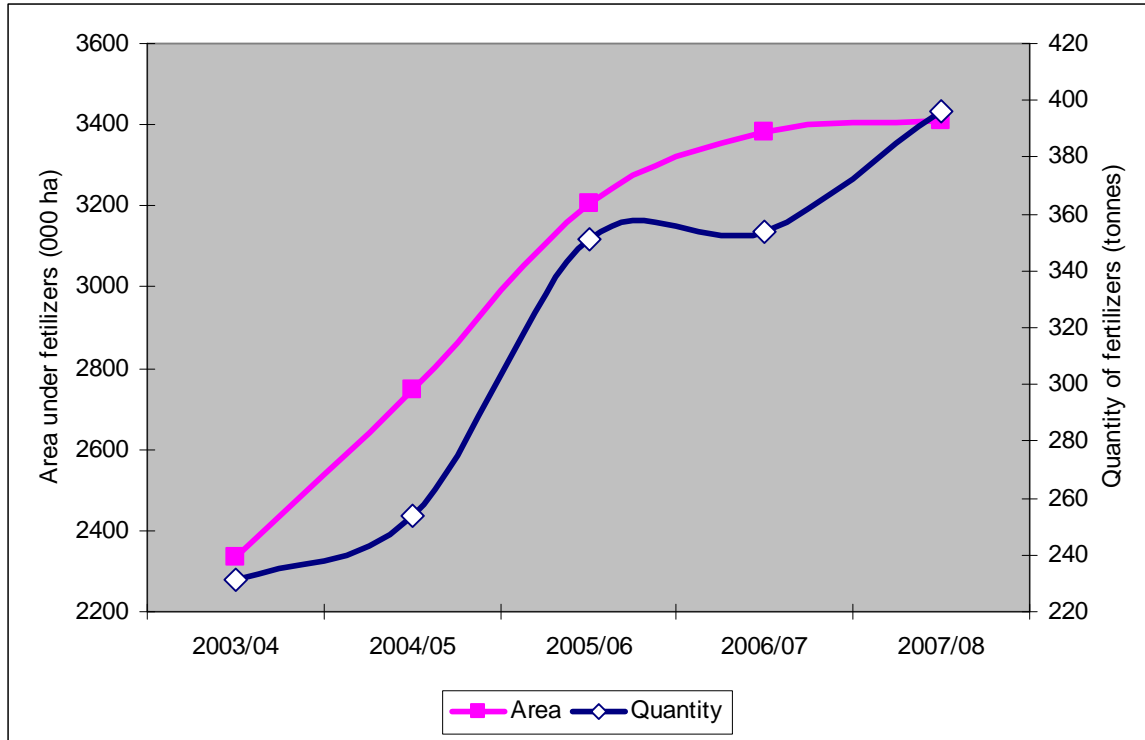
The state-owned Agricultural Input Supply Enterprise (AISE) and two private trading companies (Ambassel and Wondo) have been dominating the fertilizer sector over the last years. However, since 2005, an increasing number of primary cooperatives and unions operates on a regional basis, importing over 320 000 tonnes of fertilizers. Currently farmers' cooperative unions provide more than 70 percent of the national supply of DAP and urea.

CSA 2007 sample survey data and the preceding 6 year time-series, reviewed by the FAO Project GCP/ETH/071/EC and provided to the Mission, show a continuous increase in cereal area under fertilizers (DAP and urea) from 2.34 million ha in 2003/04 to 3.40 million ha in 2007/08 (see Figure 3). Further analyses of the same CSA data suggest that such applications were made on 51.4 percent of the cereal area being 56.3 percent of the maize; 69.1 percent of the wheat; 59.7 percent of the teff and 48.3 percent of the barley, reflecting a general 6 percent increase in fertilizers on cereal area over the 4 year period. At the same time the total quantity of chemical fertilizers used on cereals also increased from 231 000 tonnes in 2003/4 to 396 000 tonnes in 2007/08. As this is slightly higher than the amount distributed in 2007/08 (388 000 tonnes), the quantity was presumably augmented by the sale of left-over stocks from previous year. In any event, given the different processes of data collection involved, the two figures are remarkably close.

Area and supply data connect to an application rate of just over a quintal (100 kg) per ha each year during the period, which is far higher than the often quoted 36kg/ha level of fertilizer use and suggests that crop yields may be a lot higher on the fertilized fields than is currently estimated. In the face of this most interesting figure, the Mission feels that under the aegis of the FAO Project GCP/ETH/071/EC, the time-series of CSA field sample returns and actual field procedures (timing of sample, method of sampling, method of threshing/weighing) should be closely discussed with the MoARD/BoARD agronomists in each zone; and the CSA 2008 harvest sample returns (i.e. weighed samples results from the fields) cross-checked, zone-by-zone, region-by-region, against any similar returns or yield information from the Bureaux. This may

be seen as the first step in a chain of studies to determine the reasons why such low cereal yields are being reported or, are indeed being achieved.^{1/}

Figure 3. Ethiopia: Use of Chemical Fertilizers (2003/04-2007/08)



Source: CSA.

3.4.3 Pests and diseases

Regarding pests, two potentially devastating migratory pests, such as locusts and army worm, were identified and controlled by the timely action of MoARD/BoARD plant protection staff.

- From late 2007 to February 2008 a total of 26 000 ha were sprayed for desert locusts in seven locations in Somali; five locations in SNNPR, five locations in Oromiya; two locations in Tigray; and one location each in Amhara, Afar and Gambella. The controlling measures were successful as was confirmed by the Mission teams during field visits to the zonal agricultural bureaux, where no damage was reported.
- Army worm outbreaks were reported by MoARD to have occurred during the period from April to September and to have infested 623 000 ha. Mission teams identified outbreaks in 52/63 entry points (zones and special *woredas*). Field visits confirm that the infestations were controlled by a combination of spraying and heavy rains and the reported damage was very limited. The only significant replanting noted by the Mission was 3 750 ha replanted from teff to pulses Alaba.

The endemic non-migratory pests are noted to be present as usual but, for the most part, of little significance. The most troublesome noted were teff shoot fly, sorghum chafers (*packnoda*), Wollo bush crickets, and grasshoppers, stalk borers on stover crops and bollworms on nuq. In the forest areas, local birds and wild animals require farmers to establish routine pest scaring to avoid significant losses. The Mission notes that in many areas sorghum crops are no longer being protected by bird-scarers as school enrolments have increased. Unprotected losses to local birds can be quite considerable and may be causing sorghum growers to revert to zingada dispersed head sorghum in some areas, instead of more productive compact headed or goose-necked varieties that are more susceptible to bird attacks.

Storage pests, especially weevils, are noted, as usual, to be a cause for concern throughout the country. Plenty of interest in the purchase of grain storage protection chemicals was noted by the CFSAM teams among farmers in Oromiya and SNNPR. Whereas Actellic and Phostoxin were regularly mentioned as being

^{1/} The Mission is not privy to any breakdown of cereal yields with/without fertilizer. During the CFSAMs field work, combine fleet owners in Arsi/Bale reported median yields of wheat and barley, both most probably with fertilizer, to be in the order of 3.5 tonnes per ha.

both available and used by the farmers storing grain, Malathion 50 percent is also apparently being mixed directly with stored grain by farmers in some localities, to kill the pests.

In the absence of any further information on storage losses on grains in Ethiopia during the past 12 months and given similar on-farm stores and few storage chemicals in use, annual grain storage losses during marketing year 2009 are expected to be similar to last year with levels around 5 percent for teff and finger millet, 10 percent for sorghum, 12.5 percent for wheat and barley and 25 percent for maize and beans.

The adverse effects of crop diseases were also noted to be mild. No significant reports of rust on wheat or smut on sorghum were noted by the Mission teams but it is unlikely that the diseases will be any less. The significant presence of sorghum smut was previously noted by Mission teams in the fields of South Wollo and South and West Tigray but was seen to be of very little concern to the farmers whose fields were infested. Local seed treatment carried out using cows' urine and garlic in some of the other localities visited was reported but it would seem that a seed dressing programme needs to be considered to prevent the further spread of the disease in the major sorghum growing areas.

Weed competition was again fierce as the good distribution of rain generally enhanced all plant growth. The Mission notes that the frequency of hand-weeding of most crops in all regions has been sustained, mostly through the use of family labour. The use of "shilshalo" or "gussia," the animal-powered, inter-row cultivation of maize and sorghum crops, is again noted in most peasant stover-crop growing areas.^{1/} According to BoARD data, Mission teams note that Coop Union sales of the wide-spectrum, broad-leaf herbicide 24 D has increased dramatically in 30 entry points comprising all the main cereal producing zones but is still unlikely to be used by more than 10 percent of the farmers. Further supplies are, allegedly, bought through private traders but the quantities of herbicides sold in the private sector are not available. Increased use of herbicides is connected to the availability and price of labour. Herbicides at around 60-64 B/litre are an attractive proposition with labour rates at 15-25 B/day/head at peasant farm level and gang-contract weeding commanding 360 B/ha (Kellem Wellega, small scale investor).

In conclusion, the Mission considers that the combination of the positive factors noted above and the reasonably well-distributed rainfall described previously has resulted in sustaining or increasing cereal yields per unit area noted by the CSA last year. However, with the exception of teff, pulses and finger millet, yields used in calculating 2008 production are below those used in the CFSAM estimates in 2007, when the baseline data were derived from Zonal BoARD preharvest estimates.

3.5 Other crops

Crops contributing to household food security vary from north to south and from east to west. Given the diverse nature and generally favourable conditions for plant growth of the southern half of the country, a greater range of other crops contribute to the household's economy. In SNNPR and the southern zones of Oromiya, crops other than cereals and pulses occupy usually 12 percent and 32 percent respectively of the planted area compared to 3 percent and 7 percent in Amhara and Tigray. Of these the importance of *enset*, which provides the main carbohydrate staple for some 8-9 million people and makes a substantial contribution to the diet of an additional 4 million people, is well understood. Annual roots and tubers in both the *belg* and *meher* seasons, mostly in the same agro-ecological zones as *enset*, also provide a substantial contribution to the household food economy

The poor *belg* rains radically affected the area planted to all annual crops including root crops. CSA preharvest estimates suggest a 31 000 ha reduction in roots and tubers area and a 14 000 ha reduction in *enset* area as indicated in Table 6. Whereas the fall in roots and tubers area in Oromiya and SNNPR may be the consequence of reduced planting or, indeed, crop substitution, the fall in *enset* area is probably explained by increased utilisation during the period normally covered by the *belg* harvest in keeping with the safety-net nature of the crop. The Mission teams in the area noted *enset* condition is to be good and the zonal agricultural bureaux provided no reasons to suppose that *enset* was being replaced by any other crop, consequently it is expected that the area will be replanted in due course of time.

In the north, oilseeds, particularly sesame and nuq, are important to both commercial producers and peasant farmers. Sesame price rises of 100 percent in 2006 and 2007 have provided a rich incentive to increase area sown as is reflected in Table 6. Oilseed planting has increased nationally by 25 percent. Yields of oilseeds are expected to be similar to last year with a national production from the small holder sector of some 570 000 tonnes of which most is sesame and nuq.

^{1/} A joint operation that thins the plant stands, creates rows, weeds and is regularly combined with urea top-dressing.

Table 6. Ethiopia: Main Regions Other Crop Area Change between 2007 and 2008 Meher (000s ha)

Region	Oilseeds	Roots	Enset	Coffee	Bananas	Sugarcane	Other permanent
Amhara	75	3	na	na	na	na	1
Oromiya	50	-7	3	-13	-4		-30
SNNPR	4	-27	-17	1	-5	-5	-28
Tigray	26	1	na	na	na	na	1
Ethiopia^{1/}	169	-31	-13	-12	-10	-7	-57
% change	25	-17					-5

Source: CSA preharvest estimates 2008.

^{1/} includes all minor regions.

Coffee production (June 2008-2009) is expected to be worse than last year. According to Zonal Agricultural Bureau specialists interviewed by Mission teams, the biennial cycle of production that the crop follows is unfavourable. In addition, extended precipitations in November have seriously damaged flowers in several growing areas. The expected decline in peasant forest and on-farm holdings is expected to be high; the sample large-scale plantation visited by the Mission in Bench-Maji considered that their management overcame such problems and expected yields similar to last year but were concerned about the global price decline and the probable double jeopardy facing small scale producers.

The performance of tea and sugarcane was monitored by the same Mission team visiting a private tea plantation in Sheka and the sugar cane plantation in HorroGudro. Production is noted to be increasing in both locations but as with the coffee plantation, supply of labour in the comparatively remote areas is noted as a problem. The Mission has no information on the production of chat.

3.6 Livestock

Ethiopia has one of the largest livestock inventories in Africa, including more than 45 million cattle, 47 million small ruminants, 1 million camels, 7 million equines and 42 million chickens (MoARD and CSA, 2007), with livestock ownership currently contributing to the livelihoods of an estimated 80 percent of the rural population.

In the arid and semi-arid extensive grazing areas in the Eastern, Western and Southern lowlands cattle, sheep, goats, and camels are managed in migratory pastoral production systems. In the highlands, livestock are kept under settled or transhumant systems utilising common pastures many of which have a high clover content, and crop residues. Such livestock includes some 11.5 million oxen providing draught power for the mixed farming system that prevails.

In the north-east and southern pastoralist areas, any tentative recovery from shocks over the past 6 years, commented on by the CFSAM last year, was set back dramatically early this year when poor rains are noted to have inhibited the growth of pasture and browse resulting in high cattle mortality in Borena, south Somali, Shinele and Afar. FAO emergency interventions included slaughter destocking with prices as low as ETB 100/goat which are still being accepted by herders despite high animal prices elsewhere in the country. Fortunately, the late rains noted in the agricultural areas have also re-invigorated the pastures in browse in most of the pastoralist areas concerned and no premature movement is noted; however, rainfall during the next few weeks will be critical for the continuing development of the forage. In a reversal of one of the more usual migrations in times of stress, animals are noted to have been moving from villages in north East Tigray to Afar Zone 2 to find better pasture.

In stark contrast to the problems facing the pastoralists in the east, throughout the central highlands and western pastoralist zones, good pasture and ready access to drinking water during the *meher* has resulted in enhanced livestock body condition. Body condition scores of 2-4, averaging 3 in most areas, predominate except where:

- Farm animals are traditionally dependent on arable by-products, therefore end-of-agricultural season body condition scores are usually 1-2 with the animals improving in the dry season.
- Community grasslands are being ploughed up for new entrants to farming, reducing the grazing available for the settled livestock.
- Hillside enclosures have been extended to a further round of hillsides, without opening for use the previously enclosed hillside areas.^{1/}

^{1/} Local authorities need to derive and define sustainable use packages for hillside grazing and browse, which, with the exception of introducing cut and carry schemes for poor quality pasture at the end of the growing season, they have signally failed so to do.

Disease outbreaks, noted as giving concern at zonal level, are limited to Lumpy Skin Disease (LSD) in South Wollo and Oromiya, Amhara; PPR in Raya Azebo which prompted ring-vaccinating; African horse sickness in Awi and in zones as far apart as West Haraghe, Sheka (SNNPR) and West Wellega; and CCPP in the special *woredas* Amaro, Konso, Durashe and Burji. Other endemic diseases also noted to be present in the country include pasteurellosis, anthrax, blackleg, CBPP, FMD and internal/external parasites. Trypanosomiasis is still routinely cited as a concern in western and southern lowlands, however, the condition is not reflected in the body condition scores noted in the transects driven by the CFSAM teams visiting the area that considered the median cattle body condition score to be 3-4 on a par with the good condition noted in other areas.

Regarding deaths of adults and young stock, animals die every year, it would not be surprising if adult mortalities in the extensive systems noted above are around 7 percent per annum, therefore, a zone with a population of 100 000 head of adult cattle might be expected to be losing 7 000 head per year from natural causes. Post-natal to weaning mortality may be as high as 30-40 percent in small ruminants due to poor post-natal management practices. Such figures and regular sales for slaughter explain the low animal population annual growth rates used by the BoARD specialists to estimate their current livestock populations (cattle 0.06 percent, goats 0.1 percent and sheep 0.4 percent). Unless the real mortality rates are understood, it is hard to evaluate claims made of livestock losses that occur due to specific events or challenges, viz claims that 400 head have in a particular *woreda* "died this year" supposedly due to an "illness" are meaningless unless put into the context of true annual mortality rates. It is unfortunate that no progress has been made on identifying indicator herds or indicator units of breeding females within herds, whose reproductive performance may be monitored throughout the year using simple farmer/herder run records in selected zones. Such records could then be analysed to produce regular sets of indicators such as birth rates (calving and lambing percentages), adult and post natal death rates, weaning percentages, calving intervals and other performance related indicators that might provide an insight into livestock production of examples of specific systems for the year in question.

Throughout the central highlands, livestock prices are firm. In most markets prices of oxen (fat and draught) reached a peak in April-May and have since fallen to levels some 50 percent higher than November 2007. Such increases are boosted by a combination of a) firm cereal prices, b) food-security based credit programmes designed to encourage the purchase of fattening stock, dairy stock, draught animals and chickens, c) public-works, safety-net programmes increasing family incomes in marginal areas, d) increased daily labour rates throughout the country. Elsewhere in areas bordering the pastoralist zones and in the zones themselves prices are noted to have fallen due to the knock-on effect of poor rains and in the most extreme cases food and water shortages. Further, the seemingly open-ended export of livestock to the Middle East appears to have been constrained by the establishment, in July 2008, of a mandatory quarantine centre in Somaliland that is precluding trader access and reducing the previously high level of trader interest in exportable live animals.

Regarding the use of feed grains, information is scarce. On the one hand, the modern poultry industry producing eggs and broilers is served by private feed mills generating some 80 000 tonnes of poultry feed per annum to accommodate an estimated 1.5 million layers and 1 600 tonnes of broiler meat produced annually. About 70 percent of the components of the rations are estimated to be home-grown cereals. Feed grain use in the traditional backyard poultry industry, on the other hand, is far less easily assessed. The backyard chicken population has recently been estimated by MoA at 56 million birds and by the CSA at 32 million birds (8 million households, 4 birds per household), assuming the lower figure and assuming that every household feeds only one menelik/wollo/tassa (0.7 kg) of home-produced cereals to the birds once a week, then the feed use is in the order of 291 000 tonnes per year. Mission observations suggest that both the grain ration and frequency of feeding are usually greater than assumed above with supplementary feeding happening every other day. In addition to chickens, rations including some cereals are also given in limited quantities to working equines, draught oxen at ploughing time, fattening stock for the elite markets and the 156 000 grade and pure bred dairy cows. Information on ruminant rations and frequency of feeding, outside the small modern sector, is scanty. However, whereas it is understood that the bulk of the supplementary rations for large ruminants rations comes from household waste and cereal by-products, brans, mill-sweepings, brewers' grains, and oil-seed cakes, at household level home-grown cereals are also fed directly to livestock as cut sheaves and as grain. Consequently, a further 100 000 tonnes per annum has been added by the Mission to animal feed use in the cereal balance sheet to cover such eventualities this coming year when grains will be more freely available.

No further information is available on the use of urea treatment of straw in Tigray reported by last year's CFSAM Mission, however, the technique is noted to be in use in SNNPR. So far, about 600 farmers have treated straw in underground pits with 4 percent solutions of urea. The technique, which is well-known and

has been scientifically proven for forty years, incorporates non-protein nitrogen (urea) in the diet to increase the protein content of the digestible ration, however, to have an effect on fattening animals, the energy component of the ration also needs to be raised.^{1/}

3.7 Cereal and pulse production estimates

As already discussed, area data used in the calculations of the 2008 *meher* cereal and pulse production estimates were provided by CSA for peasant holdings. In the absence of similar data for the commercial sub-sector, the Mission has used data collected by Mission teams and provided by zonal agricultural bureaux. Yield estimates have been derived by reconciling the CSA preharvest 2008 yield (productivity) estimates made in October with the findings of the Mission teams visiting the 63 zones and special *woredas* one month later in late November and December.

Regional totals of area and production, prepared by the Mission, are presented in Table 7. The table indicates a 2008 peasant *meher* cereal and pulses harvest of 17.1 million tonnes from 10.42 million hectares disaggregated by region and by crop. This is 10 percent greater than last year's CSA production estimate data from 2 percent greater area. Production of cereals is 15 percent greater than last year's CSA estimate from a 3 percent bigger area. Pulses return at 1.49 million tonnes from 1.42 million hectares, a harvest that is 20 percent lower from a 6 percent smaller area than last year's production estimate and about average for the last 4 years.

^{1/} NB Classical experiments on molasses and urea inclusion in ruminant diets by Preston and Willis et al (1965 *et sequitur*).

Table 7. Ethiopia: Area ('000 ha), Production ('000 tonnes) and Yield (tonnes/ha) of Cereals and Pulses in 2008 Meher Season for Peasant Holdings

Regions	Item	Teff	Barley	Wheat	Maize	Sorghum	Finger Millet	Other	Cereals	Total Pulses	Total cereals
Tigray	Area	191.8	99.4	112.0	77.9	168.0	79.5	-	729.8	71.8	801.1
	Yield	0.9	1.2	1.5	18	1.5	11	-	-	-	-
	Production	164.7	117.9	169.9	143.9	259.1	85.8	-	942.7	60.5	1 003.1
Afar	Area	2.7	-	-	12.5	2.0	-	-	17.2	0.5	17.7
	Yield	0.7	-	-	1.0	1.9	-	-	-	-	-
	Production	1.8	-	-	12.5	3.8	-	-	18.1	0.3	18.4
Amhara	Area	1 062.4	316.9	442.2	434.3	532.4	195.5	35.2	3 018.7	604.5	3 623.2
	Yield	1.2	1.5	1.9	2.7	1.8	1.5	1.17	-	-	-
	Production	1 256.6	482.7	848.2	1 173.9	957.6	284.1	61.4	5 064.6	665.0	5 729.5
Oromiya	Area	1 069.3	456.0	836.3	1 048.1	637.0	90.0	20.8	4 160.7	577.2	4738.0
	Yield	1.1	1.7	2.3	2.5	1.7	1.3	1.1	-	-	-
	Production	1 215.1	771.9	1 937.6	2 588.7	1 073.8	119.7	22.9	7 735.7	621.2	8 356.8
Somali ^{1/}	Area	-	1.7	3.0	37.0	34.0	-	-	75.7	1.0	76.7
	Yield	-	1.0	1.2	1.0	1.0	-	-	-	-	-
	Production	-	1.7	3.6	37.0	33.1	-	-	79.7	0.6	80.3
Beni-gmuz	Area	17.7	1.1	1.8	34.0	60.3	29.9	-	145.0	9.5	154.5
	Yield	0.8	1.0	1.1	2.1	1.6	1.2	-	-	-	-
	Production	13.7	1.1	1.9	69.9	98.7	35.9	-	221.7	7.6	229.3
SNNPR	Area	200.1	75.6	107.3	324.4	102.3	6.3	1.9	818.0	167.3	985.4
	Yield	0.9	1.4	1.7	2.4	1.7	1.2	1.1	-	-	-
	Production	187.3	108.1	178.2	780.3	169.5	7.7	2.2	1 443.5	177.2	1 620.7
Gambella ^{1/}	Area	-	-	-	6.8	3.0	-	-	9.8	0.1	9.9
	Yield	-	-	-	1.5	1.1	-	-	-	-	-
	Production	-	-	-	10.5	3.3	-	-	13.8	0.5	13.9
Harari	Area	-	-	0.1	2.4	5.9	-	-	8.5	-	8.5
	Yield	-	-	1.5	1.2	1.3	-	-	-	-	-
	Production	-	-	0.2	2.9	7.7	-	-	10.8	-	10.8
A. Ababa	Area	3.6	0.1	3.9	-	-	-	-	7.6	1.2	8.8
	Yield	1.4	1.6	2.3	-	-	-	-	-	-	-
	Production	5.2	0.2	9.2	-	-	-	-	14.5	1.3	15.8
Dire Dawa	Area	-	-	-	-	0.3	7.7	-	8.0	0.5	8.5
	Yield	-	-	-	-	1.2	1.1	-	-	-	-
	Production	-	-	-	-	0.4	8.5	-	8.9	0.4	9.3
TOTAL	Area	2 547.6	951.0	1 506.6	1 977.6	1 552.8	401.16	62.5	8 999.3	1 433.6	10 432.9
	Yield	1.1	1.6	2.1	2.4	1.7	1.3	1.5	-	-	-
	Production	2 844.6	1 483.8	3 148.9	4 829.8	2 619.4	533.2	94.2	15 554.1	1 534.1	17 082.3

^{1/} Incomplete.

Time series data for the past five years are provided in Table 8 for comparison purposes. They show that this year's production estimate for cereals and pulses is the highest that has been achieved to date. Its validity hinges on the accuracy of the area and yield estimates prepared by the BoARD staff and adjusted by the Mission as described earlier.

Table 8. Ethiopia: Cereals and Pulses Production from 2004 to 2008 Meher Seasons for Peasant Holdings

Year	Cereals		Pulses		Cereals and Pulses	
	Area (ha)	Production (tonnes)	Area (ha)	Production (tonnes)	Area (ha)	Production (tonnes)
2004	7 637 524	10 030 836	1 349 116	1 349 579	8 986 640	11 380 415
2005	8 081 401	11 624 271	1 292 170	1 271 247	9 373 571	12 895 518
2006	8 471 920	12 879 793	1 379 046	1 578 622	9 850 966	14 458 414
2007	8 730 001	13 716 991	1 517 662	1 782 739	10 247 663	15 499 730
2008	8 999 351	15 554 073	1 433 627	1 534 160	10 432 978	17 088 233

Source: CSA for years 2004 to 2007; Mission own calculation for 2008.

Production estimates for commercial farms in *meher* 2007/08 were provided to the Mission from CSA. The 2008 data for cereals, pulses and oilseeds were provided by zonal agricultural bureaux and by the commercial farms visited by the Mission teams. The 2008 data are, therefore, necessarily incomplete. Judging by last year's CSA data, the Mission expects a further 34 000 ha of maize and a further 19 000 ha of pulses that have not been recorded to have been planted commercially in Amhara, Oromiya and SNNPR Regions.

Table 9. Ethiopia: Commercial Farm Estimates for Cereals, Pulses and Oilseeds

	Commercial Farms 2007			Commercial Farms 2008		
	Area (ha)	Yield (t/ha)	Production (tonnes)	Area (ha)	Yield (t/ha)	Production (tonnes)
Total Grains	299 993		470 965	287 194		439 131
Cereals & Pulses	178 290		410 965	141 315		350 943
Total Cereals	158 031		380 965	139 984		349 456
Teff	4 577	1.7	7 613	109	0.8	89
Barley	614	1.9	1 150	1 481	1.7	2 549
Wheat	33 494	2.0	66 141	19 544	2.6	51 445
Maize	53 780	3.6	190 989	4 640	4.3	165 270
Sorghum	65 508	1.8	114 994	80 210	1.6	130 103
Finger Millet	58	1.3	78			
Oats						
Rice - Other						
Pulses	20 259	1.5	30 000	1 331	1.1	1 487
Oil Seeds	121 703	0.5	60 000	145 879	0.6	88 188

When the estimates for the two sub-sectors are combined, the resulting estimate of the 2008 national *meher* harvest is as follows:

- Cereals and Pulses: 17.435 million tonnes from 10.563 million ha.
- Cereals: 15.90 million tonnes from 9.129 million ha.
- Pulses: 1.535 million tonnes from 10.563 million ha.

It should be noted that, as in all previous years, maize yields used in this CFSAM year's estimates of the *meher* harvest include "maize eaten green" taken earlier in the year from *meher* harvested fields^{1/}. Excluding this important contribution to income/food security would be misleading with regard to the production achieved. Carrying forward the estimated total maize production, including the green cobs sold or consumed, to marketing year 2009 is justified in the same way as the inclusion of the 2008 *belg* harvest is justified in

^{1/} Cobs missing from the field, clearly consumed earlier in the year, include in the yield estimate *in absentia*.

that is to say that it is assumed that both green maize and *belg* harvests will be domestically available next year.

3.8 Belg harvest

The Mission was provided with the MoARD post-harvest assessment of the 2008 *belg* season and the CSA data for the 2007 *belg* season. The 2008 *belg* rains are universally recognized as having been extremely poor. MoARD estimates that 2.1 million tonnes of different crops were produced from 1.48 million hectares during the 2008 *belg* harvest compared to 4.1 million tonnes from 3.16 million hectares in 2007 identifying in the process a 50 percent reduction in area. CSA data are more circumspect but still record a 50.7 percent reduction in production as indicated in Table 10, although no reduction in area. The Mission is not in a position to audit or adjust the *belg* data, they are presented in the report "as found", but it is clear that this year's harvest was poor.

Table 10. Ethiopia: Harvest Belg Cereals and Pulses Production in 2007 and 2008

Crops	2007			2008			Difference (%)	
	Area (ha)	Yield (Q/ha)	Production (tonnes)	Area (ha)	Yield (Q/ha)	Production (tonnes)	Area	Production
Teff	111 232	8	84 348	69 004	4.7	32 574	-38.0	-61.4
Barley	237 241	16	373 124	141 803	7.9	112 193	-40.2	-69.9
Wheat	147 593	13	187 288	64 596	10.3	67 055	-56.2	-64.2
Maize	314 794	21	649 096	512 460	8	411 969	62.8	-36.5
Sorghum	60 113	14	81 896	61 246	4.2	25 967	1.9	-68.3
Millet	5 380	7	3 633	1 896			-64.8	
Oats	6 141	11	6 867	11 871	10.1	12 032	93.3	75.2
Rice	5 102	36	18 358					
Total cereals	887 596		1 404 610	862 876	7.7	661 790	-2.8	-52.9
Total pulses	137 857	8	112 834	187 575	4.6	86 818	36.1	-23.1
Cereals & Pulses	1 025 453		1 517 444	1 050 451		748 608	2.4	-50.7

The last two *belg* crops are estimated to have contributed between 1.4 and 2.9 million tonnes of cereals and pulses to domestic availability, however, five years ago the contribution was far less at an estimated 270 000 tonnes, consequently, when considering the balance, the Mission feels compelled to make a cautious forecast for the *belg* in 2009 at no more than 600 000 tonnes of cereals and pulses.

4. GRAIN SUPPLY/DEMAND SITUATION

4.1 Main characteristics of grain markets

Grain markets have been gradually liberalized since 1990, becoming more efficient and competitive. Restrictions on private inter-regional trade were lifted, officially fixed prices were eliminated and the requirement for farmers to deliver a significant proportion of their output at fixed prices to the parastatal Agricultural Marketing Corporation (AMC) was abolished. The role of AMC was first restricted to wholesale trade, primarily for regulatory purposes and stabilization of markets, and then it was restructured to create the Ethiopian Grain Trade Enterprise (EGTE) in 1992 with the aim to stabilise retail grain prices in the country via local purchasing of surplus.

The current structure of grain markets in Ethiopia is quite complicated and varies according to the different commodities, usually characterized by a long supply chain, local mechanisms for price discovery and brokerage and the irregular existence of informal credit systems. In general, the number of market players is considerable, including assemblers, brokers, wholesalers, retailers, agro-processors, parastatal reserve agencies, exporters, cooperatives and unions. As about 75 percent of farmers live more than a one-half day's walk from the nearest all-weather road, the role played by a large number of rural assemblers is crucial. They mostly work at primary markets collecting and transporting the grain using pack animal and small trucks for sale in secondary or urban markets. For maize, rural assemblers are estimated to handle about half of the marketed volume from the smallholders. Their sales outlets are mainly the relatively larger wholesalers and, in lesser extent, the rural/urban retailers and consumers. Wholesalers are generally licensed grain traders who receive grain from rural assemblers, but also directly from small farmers and state/commercial farms. They usually sell their grains to private trading companies, to wholesalers in urban areas or directly to urban retailers. Wholesalers play a key role in the grain marketing system because they

represent the largest storage capacity of the country. In their stores, the bulk of the grain is usually held between January and October, while assemblers and retailers tend to not hold stocks and the larger merchants prefer to remain liquid, buying from wholesalers as and when they need to meet a contract.^{1/} Most grain traders operate through specialized brokers, mainly located in Addis Ababa that functions as the main national clearing market and where large volumes of grains from surplus areas transit towards terminal markets in deficit areas.^{2/} Brokers are normally specialized by route where mediate between grain traders and wholesalers, food processing industries and private companies and tend to coordinate all the activities (buying, selling, transporting and pricing).

Access to markets, especially for dispersed and remote rural communities, is often limited by poorly developed transport infrastructures. Normally, farmers have to sell their surplus grain production in markets that are 5 to 20 km away from their villages. As a result, transport costs are a significant element in the determination of the final market price and they represent the major share of the price differential existing between surplus and deficit markets. However, the situation is gradually improving due to the substantial public investments in road construction that have characterized the development agenda in the last few years. According to the PASDEP 2006/07 Annual Progress Report, the road network has expanded from 37 000 km in 2004/05 to 42 400 km in 2006/07, with improvements also in road quality. In the same period, the average time needed to reach an all-weather road decreased from 5.7 to 4.5 hours.

Beyond infrastructural issues, market access is also determined by the availability of reliable and timely information. The CSA collects food prices for the preparation of the Consumer Price Indices and recently the historic monthly consumer price data base (covering all major commodities in over 200 markets) has been posted on CSA website and regularly updated. At the same time, EGTE collects and publishes wholesale prices of main cereals, pulses and oilseeds for about 20 markets. However, the rapid and growing diffusion of mobile phones is the most remarkable change in price information management system.^{3/} It is contributing to develop new market strategies, with more possibility of spatial arbitrage by searching in different markets to compare prices and reducing use (and costs) of intermediaries.

An important change in the functioning of Ethiopian agricultural markets is taking place with the launch of the Ethiopian Commodity Exchange (ECX) on March 2008. Drawing inspiration on Chicago's original board of trade, the ECX intends to create a new market place where all market actors (from farmers to traders to processors to exporters to consumers) can take advantage of more transparent market information as well as the possibility to hedge against price risks through standardized contracts for immediate or future delivery. The ECX guarantees the characteristics of the traded commodities through warehouse receipts issued by a 6 ECX-run warehouses network in surplus areas, where produce will be independently weighted, graded and certified. The goal is to provide a reliable system for handling, grading and storing commodities, matching offers and bids for commodity transactions, that allows farmers to better negotiate prices and to gain a market premium according to the quality of their product. ECX intends to create trust and transparency through aggressive market data dissemination to all market actors, through clearly defined rules of trading, warehousing, payments and delivery, and through an internal dispute settlement mechanism. The establishment of Electronic Price Display Boards located in public sites in Addis Ababa and other major markets in the country, coupled with extensive media coverage, provides market players with updated, independent and real time access to price information. ECX trading started with four commodities, namely maize (white and mixed), wheat (soft and hard), haricot beans (white pea and red kidney) and sesame seeds (Humera, Gondar and Wollega). Coffee trading recently started at the beginning of December 2008. The ECX trading system works as a physical Trading Floor located in Addis Ababa, where all interested sellers and buyers verbally negotiate simultaneously during trading hours. Over the next five years, ECX has the ambitious commitment to establish 5 000 Information Kiosks at village level, networked into a national system, where farmers can receive up to date information on market prices, production trends, global commodity outlook, weather forecasts, as well as cropping technologies, fertilizer and seed prices, and other key information.

The Government's marketing strategy aims also to scale-up the role of cooperatives, strengthening smallholder farmers' bargaining power and improving market efficiency by reducing the number of actors in the marketing chain. In 2007/08, the number of primary cooperatives has increased to 23 160 from 22 200 the year before, with about 4.6 million members, mainly in urban areas in order to tackle problems related to

^{1/} Other important storage facilities are held by the Ethiopian Grain Trade Enterprise (EGTE), whose excess capacity is rented to private companies and relief agencies, the Ethiopian Food Security Reserve (EFSR), with a national network of about 65 warehouses in seven branches with a storage capacity of about 400 000 tonnes, and the major relief agencies, mainly the World Food Programme (WFP).

^{2/} Nazareth and Dessie are other markets that perform similar functions, but with reduced volumes.

^{3/} Between 2005/06 and 2006/07, the number of mobile subscribers had a growth rate of about 40 percent.

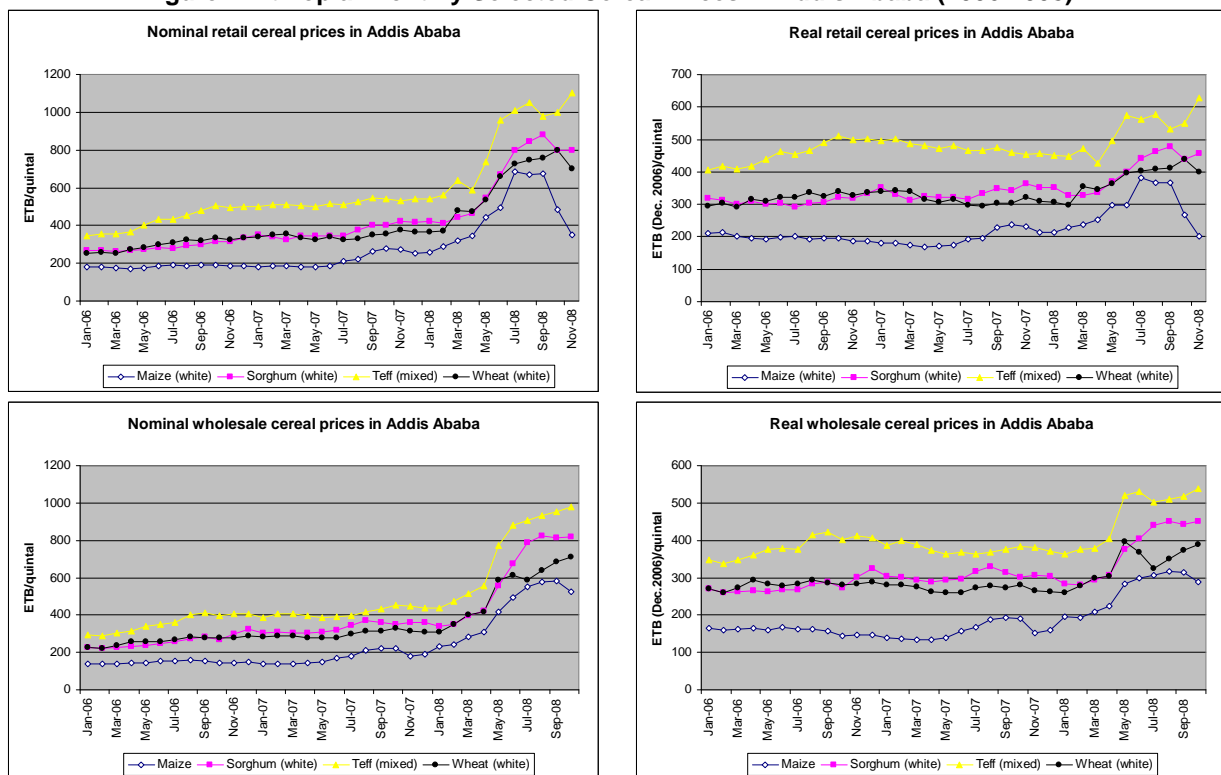
food inflation through provision of credit for consumption. It is estimated that cooperatives buy approximately some 5-10 percent of domestic cereal production and their own storage capacity throughout the country is gradually increasing.

4.2 Food prices

In Ethiopia, prices of major cereals are characterized by large seasonal fluctuations. From September, generally prices start to decline as the *meher* harvest proceeds from north to south of the country. The bulk of the annual sales of farmers take place between December and February as farmers need cash to fulfil their tax and loans obligations contracted along the season and to purchase other food and non-food commodities. Prices reach their lowest level between November and December for maize, in January for wheat and in March for teff. Then prices start rising again and reach their peak in August, during the lean season, as stocks are gradually depleting and the new *meher* harvest is approaching. In general, seasonality is higher in the case of maize due to technical difficulties of storing the product for long time as a consequence of high moisture content and insect damage.

By the end of 2004, coinciding with the first of the last five bumper harvests and well before the generalized rise in international food prices, nominal prices of grains in Ethiopian markets have been characterized by a steady upward trend. Since then, seasonal fluctuations have also diminished, suggesting significant changes in farmers' marketing strategies. As reported in Figure 4, cereal prices in Addis Ababa market (in nominal terms) have reached record levels between August and September 2008. In particular, between April and August 2008, nominal retail prices increased by almost 60 percent in the case of wheat, some 80 percent for teff and sorghum and more than 90 percent for maize.

Figure 4. Ethiopia: Monthly Selected Cereal Prices in Addis Ababa (2006-2008)



Source: CSA for retail prices and CPI as deflator; EGTE for wholesale prices.

Since October 2008, with the arrival on markets of the first quantities of the recently harvested maize crop, the price of maize has reversed its trend for the first time in almost a year and the retail price in November went down to about ETB 350/quintal, almost half of the record price registered in July-August. Regarding wheat price, the supply of 150 000 tonnes borrowed from the EFSR and 300 000 tonnes imported by the Government which is distributed at subsidized prices to low-income households in several urban areas have resulted in temporary dip during June/July 2008. In real terms, using the general CPI (December 2006 = 100) as deflator, the level of wholesale price of wheat dropped by about 18 percent in June and July from its peak in May. However, this was reversed from August and wheat prices began rising. Since August, nominal wholesale price of sorghum has not shown any relevant increase, but it remained high at record levels of

about ETB 800/quintal. At the same time, the price of teff continued its increasing trend above ETB 1 000/quintal. Some reduction is expected to take place as soon as the new crop reaches the markets.

In Ethiopia, wheat and maize prices have usually remained within a relatively large import and export parity band. This situation is essentially due to the high costs of transport and handling (in particular, poor road conditions and long distance from ports) and indicates that private commercial trade is usually not profitable. Since April 2008, however, domestic wholesale prices of wheat and maize have started to be above import parity prices,^{1/} indicating that local prices did not follow the downward trend in international prices that began in March, but continued to steadily rise (see Figures 5 and 6). It means that, from April 2008 to the present, private imports of wheat and maize would have been profitable had there not been constraints such as the low availability of foreign currency or the lack of bank credit for import of grain. In the case of wheat, government intervention to stabilize the market in June/July 2008 brought the domestic price down to about ETB 600/quintal from a record level of ETB 730/quintal, but even at that level the price was still well above the import parity price of ETB 430/quintal. It is also interesting to note that, by the end of 2007 to March 2008, the domestic wholesale price of wheat has been below the export parity price, showing that, despite the high wheat demand in the country, exporting wheat would have been profitable.

Figure 5. Ethiopia: Domestic, Import and Export Parity Prices for White Wheat in Addis Ababa Market

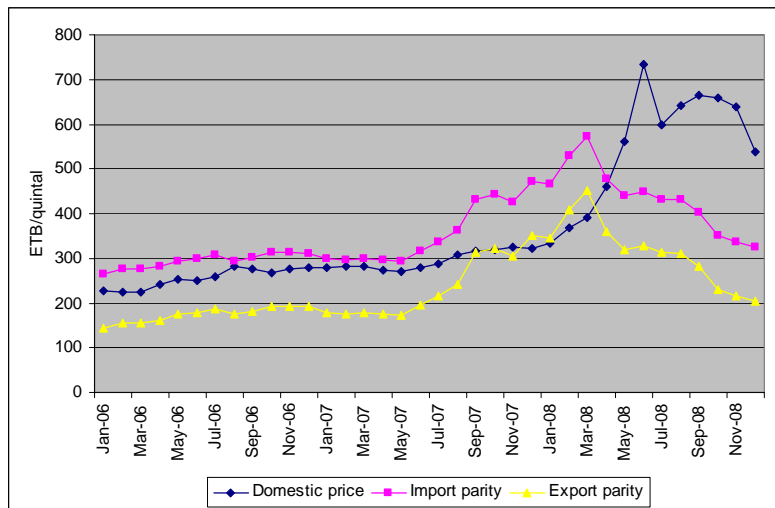
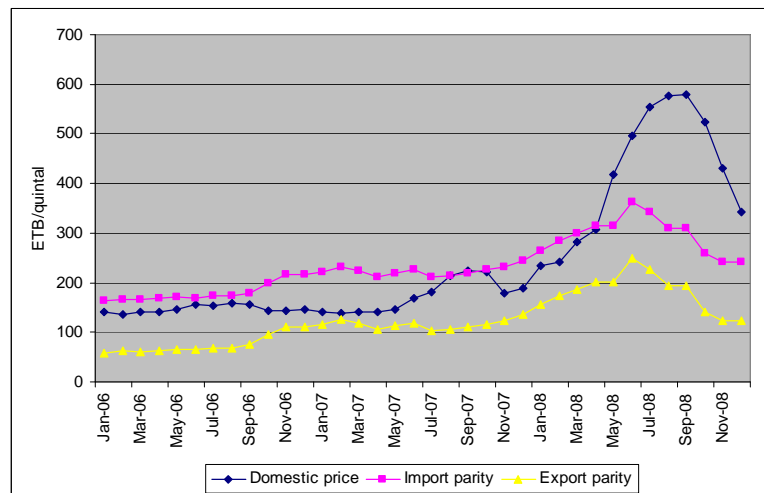


Figure 6. Ethiopia: Domestic, Import and Export Parity Prices for White Maize in Addis Ababa Market



^{1/} Import parity is estimated by IFPRI as f.o.b. US Gulf (US N.2 hard red winter wheat and US N.2 yellow maize) plus USD 25/tonne as freight to Djibouti port plus USD 60/tonne as transport and marketing costs to wholesale market in Addis Ababa.

4.3 National grain supply/demand balance in 2009

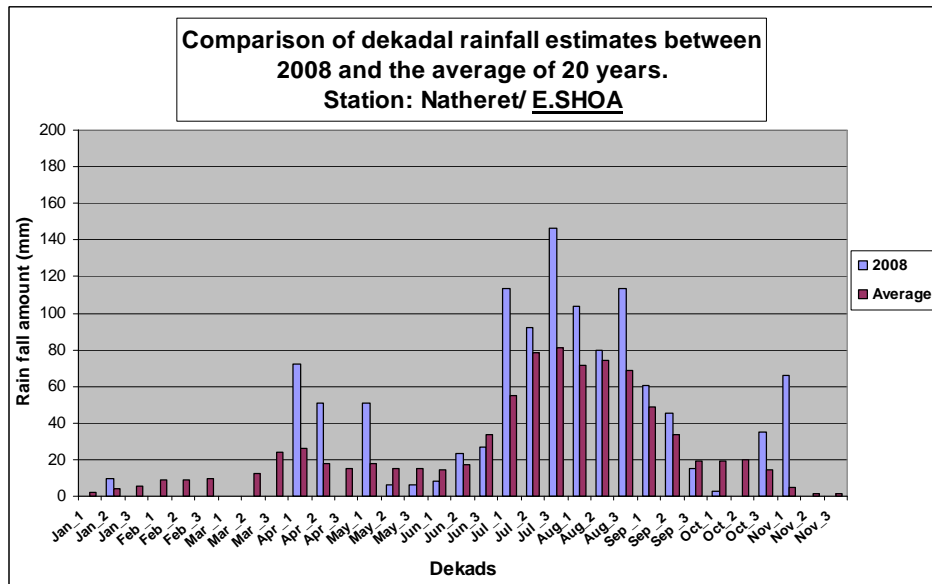
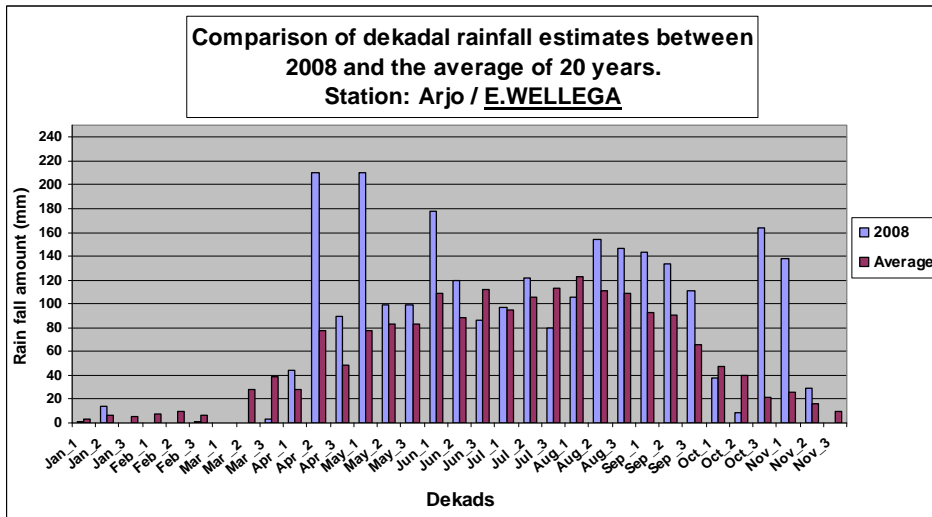
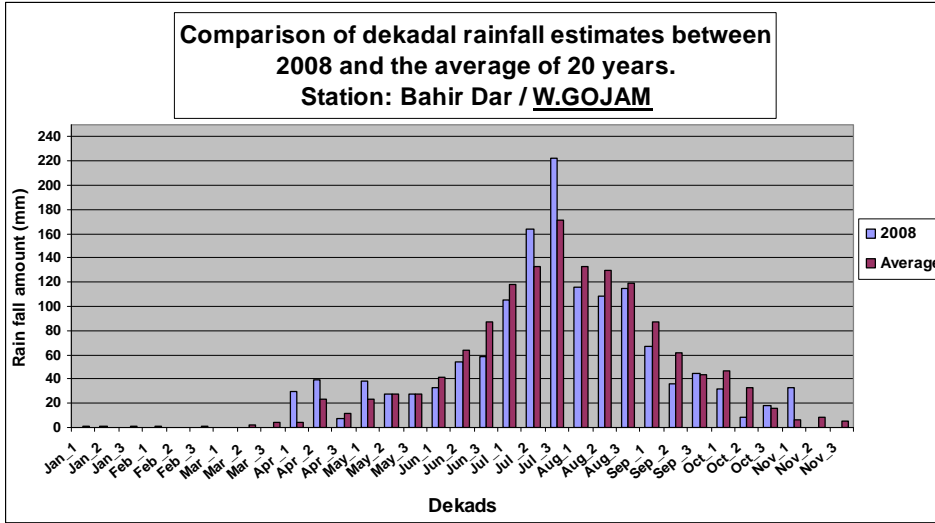
As in 2006 and 2007 CFSAM reports, the Mission presents a disaggregated version of the national grain supply/demand balance, considering separately teff, wheat, barley, maize, sorghum, finger miller, other cereals and pulses. The 2009 national grain balance (January-December marketing year) is summarized in Table 11 and is based on Mission's production estimate for the 2008 *meher* crop and forecast of the 2009 *Belg* crop and the latest information on consumption, trade flows and stocks availability.

- Total cereal and pulse production is estimated at 18 million tonnes, including 17.4 million tonnes from the main 2008 *meher* crop and a provisional forecast of 600 000 tonnes for the 2009 *belg* crop. As these estimates are based on a field assessment carried out mainly during the month of December 2008, final production figures, once all *meher* season crops will be harvested by the end of January 2009, may vary.
- Opening stocks of grains for 2009 marketing year (January/December) are estimated at about 214 000 tonnes. These include about 59 000 tonnes held by the Emergency Food Security Reserve (EFSR), about 20 000 tonnes in WFP's warehouses. Based on Mission findings, but still in need of a more detailed analysis, stocks in households in the surplus producing areas and commercial traders are estimated at approximately 135 000 tonnes.
- Feed use is forecast at 400 000 tonnes, largely for the poultry industry, dairy industry and equines.
- Seeds requirements are estimated almost at 700 000 tonnes on the basis of recommended seed rate in Ethiopia and a planted area of 10.8 million ha of cereals and pulses in 2008/09 (including forecast of 2009 *belg*). The following seed rates have been used: 140 kg/ha for wheat, 110 kg/ha for barley, 35 kg/ha for teff, 30 kg/ha for maize, 80 kg/ha for finger millet, 14 kg/ha for sorghum, 100 kg/ha for pulses and 80 kg/ha for other crops.
- Post harvest losses and other uses are estimated at 2.6 million tonnes, with rates ranging from 5 percent for teff and finger millet to as high as 25 percent for maize and pulses. Total losses averaged about 14.4 percent of the total production.
- Commercial and informal exports are tentatively estimated at 165 000 tonnes, including 115 000 of pulses, 30 000 of sorghum and 20 000 of teff. There is lack of a systematic registration of cross border trade and these figures need to be used with caution.
- Food use is estimated at 14.5 million tonnes, using a 2009 mid-year population of 78.14 million persons and a per capita average consumption at 185 kg of cereals and pulses. This per capita value represents a 4 percent increase over the CSA estimates for 2000 per-capita consumption (as published in 1999/2000 Household Income Consumption Expenditure Survey). Per-capita consumption comprises 47 kg of maize, 38.5 kg of wheat, 33.5 kg of teff, 31 kg of sorghum, 14 kg of barley, 6 kg of millet, 14 kg of pulses and 1.2 kg of other cereal crops.
- Closing stocks are forecast at about 270 000 tonnes, a 25 percent increase on the estimated opening stocks to take account of the average expectation of the 2009 *belg* season crop, well above the 2008 *belg* production that has been affected by dry weather conditions.
- The cereal import requirement in 2009 is estimated at about 316 000 tonnes. This amount is expected to be covered through commercial and food aid imports.

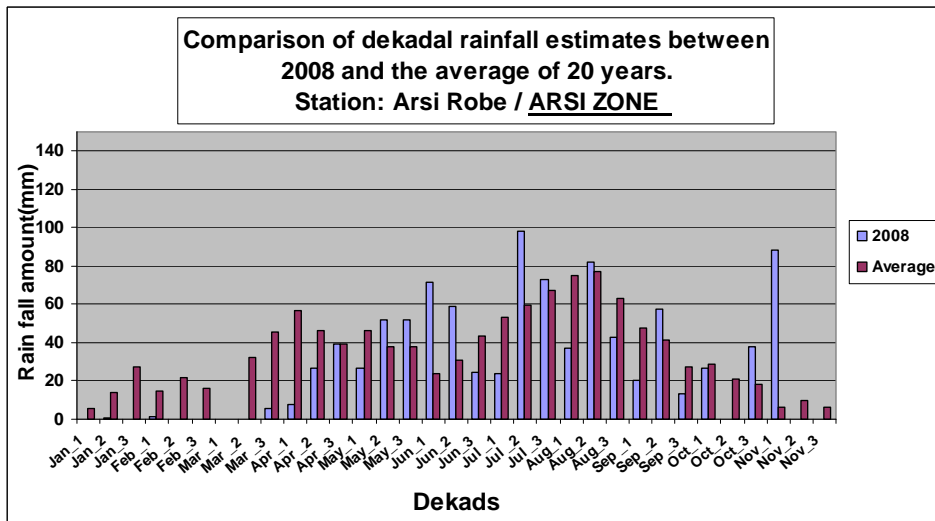
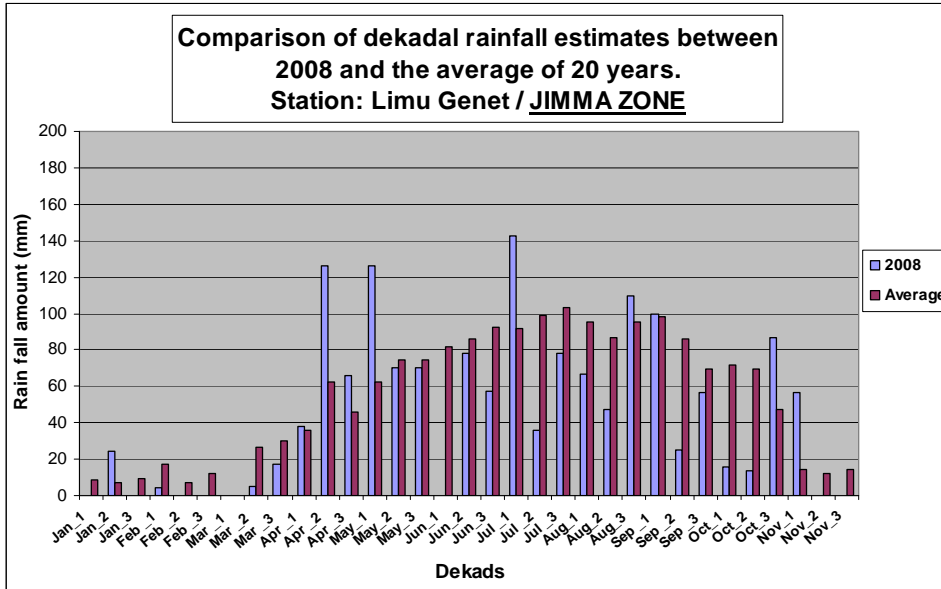
Table 11. Ethiopia: Grain Supply/Demand Balance, 2009 (tonnes)

	Teff	Wheat	Barley	Maize	Sorghum	Finger Millet	Others	Total cereals	Pulses	Cereals & Pulses
Domestic availability	2 896 689	3 290 345	1 636 349	5 335 070	2 800 503	536 200	121 200	16 616 356	1 636 587	18 252 943
Opening stocks	22 000	25 000	30 000	40 000	30 000	0	12 000	159 000	55 000	214 000
Total production	2 874 689	3 265 345	1 606 349	5 295 070	2 770 503	536 200	109 200	16 457 356	1 581 587	18 038 943
<i>Meher</i>	2 844 689	3 200 345	1 486 349	4 995 070	2 749 503	533 200	94 200	15 903 356	1 535 587	17 438 943
<i>Belg</i>	30 000	65 000	120 000	300 000	21 000	3 000	15 000	554 000	46 000	600 000
Total utilization	2 896 689	3 607 073	1 636 349	5 335 070	2 800 503	536 200	121 200	16 933 084	1 636 587	18 569 671
Food use	2617 670	2 969 298	1 133 021	3 789 761	2 266 043	468 836	93 767	13 338 397	1 093 952	14 432 349
Seed use	90 570	220 934	113 355	64 566	23 086	32 365	5 800	550 675	149 190	699 865
Feed use	0	0	150 000	100 000	150 000	0	0	400 000	0	400 000
Losses and other uses	143 734	391 841	192 762	1 323 768	277 050	26 810	10 920	2 366 886	237 238	2 604 124
Exports	20 000	0	0	0	30 000	0	0	50 000	115 000	165 000
Closing stocks	24 715	25 000	47 211	56 975	54 324	8 189	10 713	227 126	41 207	268 333
Import requirement	0	316 728	0	0	0	0	0	316 728	0	316 728

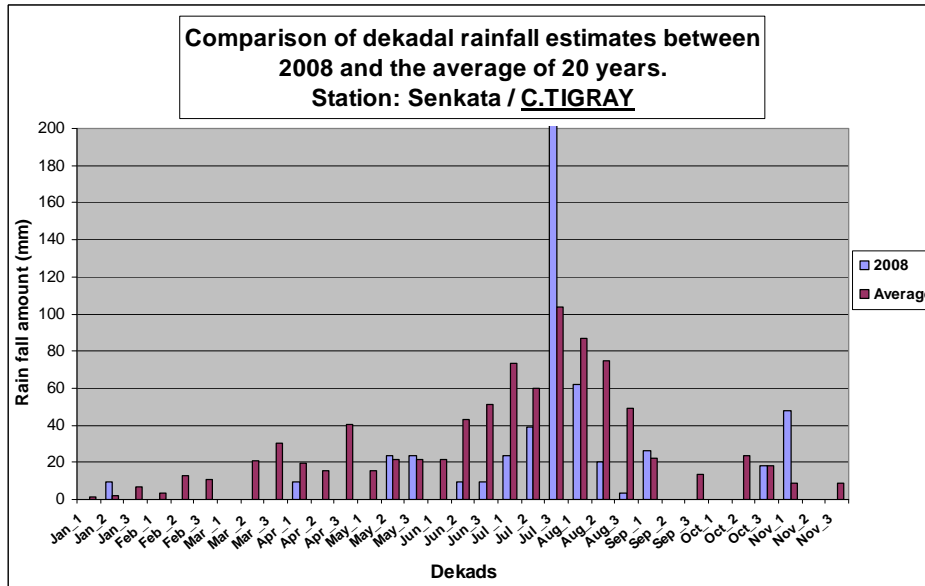
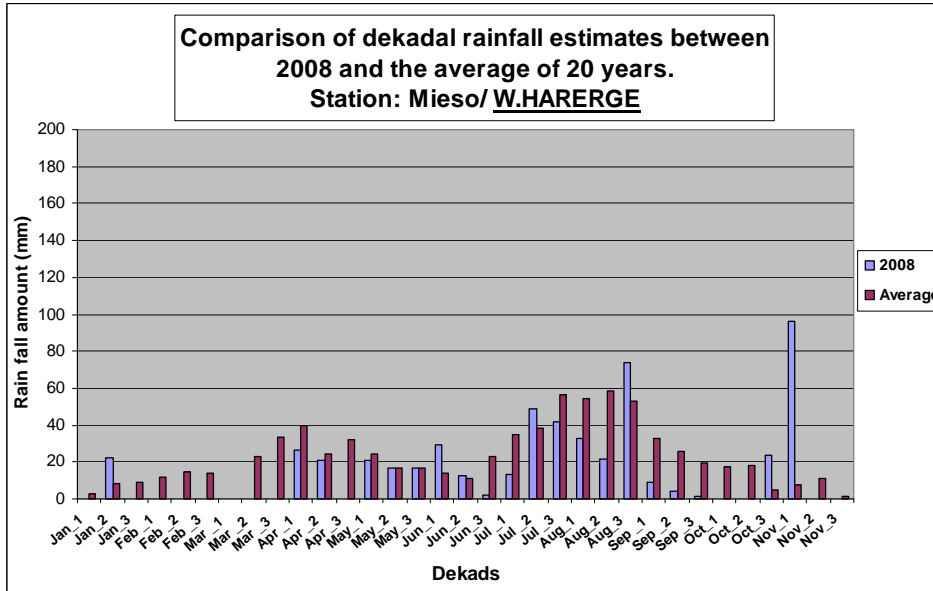
Annex 1
Rainfall data – NMA Rainfall Data 2008 Exhibiting Favourable Meher



NMA Rainfall Data 2008 Erratic Meher



NMA Rainfall Data 2008 Unfavourable Meher



Annex 2 Crop Production Situation by Region

Oromiya

Oromiya, comprising 14 administrative zones, is the largest region in the country extending in a “T” shaped landmass from near the Sudanese border in the west, across central Ethiopia near the eastern border with Somalia and southwards to the border with Kenya. It includes the most productive highland plateaux as well as drought-prone valley bottoms and lowland plains and usually produces some 54 percent of the nation’s cereals and pulses. In six of the southern zones a bimodal rainfall pattern is readily identifiable, usually providing a prolonged growing season and a wide range of cropping options. In the densely populated, high rainfall zones, the small size of peasant land holdings necessitates production of two or three crops annually from the same land if household needs are to be met. This places the farm families in a vulnerable position as the loss of a crop in a series cannot be compensated by increasing the area of the next crop in the sequence and increases the importance of the timeliness of operations at field level.

Such circumstances prevailed in the extreme this year. In more specific terms, according to CSA post harvest estimates, Oromiya *belg* production was approximately 500 000 tonnes of cereals and pulses, a figure similar to the MoARD Early Warning Response Unit’s harvest estimate for all *belg* crops. By comparison, the 2007 CSA cereals and pulses estimate was approximately 800 000 tonnes quantifying the extent of the problem noted above. The failure of the *belg* broke the production chain necessary to provide food security in all non-enset producing households. At the same time, the 2007/08 *meher* had not generated enough surplus on the tiny farms to see the families through the enlarged hungry-gap.^{1/} The increased prices exacerbated the situation creating a crisis in the non-enset growing localities.^{2/}

By contrast, the 2008 *meher* season was far more favourable. 10/14 zones report a good *meher* season characterised by the rainfall pattern in East Shewa and East Wellega provided in Annex 1. Jimma and Arsi exhibit a more erratic *meher* rainfall pattern but still favourable but East and West Hararghe form part of a disadvantaged cluster of zones noted above in 3.2. In both zones the *meher* rains were poor. Localised floods and water-logging are noted have prompted some replanting in East Shewa in September to chick peas and grass peas. In general, the late rains are noted to have been advantageous given a tendency to plant later. This is particularly true of the sorghums in West Wellega and all later planted crops in Illubabor.

In the 12/14 better rainfall zones planting of both cereals and pulses is noted to have increased, as shown in Table 12, with a decline in teff, barley and sorghum area in favour of wheat and maize as farmers move to the cereals of greater production under the favourable rainfall conditions. At the same time oilseeds are also noted to have increased by 50 000 ha and permanent crops area fallen by 30 000 ha, the former increase possibly encouraged by prices of ETB 2 000/quintal in mid-season.

Table 12. Ethiopia: Main Regions Cereals and Pulses Crop Area Change '000s ha 2008/09 Meher

Region	Teff	Barley	Wheat	Maize	Sorghum	F Millet	Cereals	Pulses	Balance
Ethiopia ^{1/}	-17	-33	81	210	19	0	260	-61	199
Oromiya	-14	-10	67	79	-13	-2	107	12	119

Source: CSA 2007 vs. 2008.

1/ Includes regions.

Regarding seed supply, demand for improved seeds of all descriptions far exceeded supply due to the low price differential in the markets between local seeds and improved seeds. The greatest volume of formal farmer multiplied seed exchanges is noted to have taken place in Oromiya Region, where 11 700 tonnes were exchanged of which 8 600 tonnes were improved wheat seeds. Regarding the local seeds, carryover seeds remain the most important planting material in the Region and this includes in informal farmer- to-farmer seed exchanges which sustain the quality of home-grown seed for wheat growing in the specialist areas of East Shoa, Bale and Arsi. Elsewhere, sufficient farmer-saved seeds are available on-farm and in local markets to meet the demands.

Fertilizer purchases for *meher* crops fell slightly to 172 000 tonnes around 42.3 percent of the national sales compared to 47 percent in 2007. Given that the fertilizer purchased for *belg* crops in Oromiya is unlikely to

^{1/} The same set of circumstances prevailed in *belg* dependent areas of SNNPR. The events of the past 10 months confirm the structural vulnerability of the small farms and point to the need to extend enset growing to the current non-enset areas; or to encourage the formation of larger more viable units that can with stand the shocks of a crop failure.

^{2/} Depending on the length of cycle in the enset orchards (turnover from 3 to 8 yrs), one single enset tree will provide the staple for an hh for 1 week to 1 month. HH rarely have more than 0.1 ha planted at 2m centres= 250 trees.

have been used to the fullest extent due to the poor rains, a reduction of official sales may not be indicative of a reduction in use. It is noted that a parallel market of cheaper fertilizer recently opened in the region that suggests that levels of use were at least sustained. In any event, Mission teams report that DAP formal sales went up or were stable in 13/16 zones in Oromiya, despite price increases up to ETB +900/quintal^{1/} in the main production zones, reflecting the perceived importance of DAP over urea by both the farmers and local specialists particularly as a basal dressing for the improved varieties of teff, wheat and maize.

Regarding pests and diseases, serious outbreaks of army worm are noted in 11/14 zones (not in Arsi, Bale or Guji) including all the other main cereal producing zones of the country. The outbreaks were controlled by timely spraying campaigns organised by the Federal MoARD with the Regional BoARD and by the occurrence of heavy rains. Earlier in the year desert locaust outbreaks were also controlled by spraying in 5 locations (Bale, Misrak, Merab Hararghe, Arsi and Merab Abaya). No other pest attacks are noted. Non-migratory pests are, however, ubiquitous but, are not noted to have been treated rarely treated. Mild infestations of the regular non-migratory insect pests including sorghum chafer (noted as serious in Shashemene), stalk-borer, shoot-fly, boll-worm, grasshoppers, termites (noted as serious in West Wellega) and aphids were reported to have occurred. Vertebrate pests including wart-hogs and monkeys required the usual attention of the farmers wishing to protect their fields, particularly in the lead-in to harvest and, in this regard non-migratory birds are probably the most debilitating pest in that they demand continuous attention from the farm-families for weeks, if their effect is to be minimised.

The good rains also supported weed growth and the Mission noted increased use of 2-4 D chemical spraying in all major surplus producing zones. The chemicals are purchased privately from traders so the quantities sold are not known, however it would seem that broad-leaf weeds are being sprayed to reduce the labour costs of hand-weeding that have risen to ETB 15-25/labourer/day (plus food) in such areas. The effect of spraying is noted particularly in the wheat fields of Arsi where official sales, not including private sales has gone up 40 percent to 28 000 litres.

Given the foregoing, the current Oromiya *meher* crop is estimated to have resulted in 7.74 million tonnes of cereals and 0.62 million tonnes of pulses, due to sustained/higher yields from a 2.5 percent increase in area compared to CSA 2007. The cereal estimates comprise 2.59 million tonnes of maize, 1.94 million tonnes of wheat, 1.22 million tonnes of teff 1.07 million tonnes of sorghum, and 0.78 million tonnes of barley. Regarding the minor cereals finger millet, rice and oats the combined harvest is estimated to be around 0.14 million tonnes.

Grain prices in Oromiya, which are presently around twice the price per quintal last year are below mid-year prices and are just beginning to fall again as the new harvest is presented for sale. They are expected to fall in the next two months except in the eastern zones. As was the case last year, local purchasing for distribution out of the region is recommended.

The condition of settled livestock in the western, central highland and even the eastern zones visited by the Mission team was recorded as good (cattle body condition scores 3-4) with no problems noted relating to pasture or water supply. Presently, livestock prices are higher than last year throughout such zones although peak prices are noted six months earlier especially for oxen. The condition of livestock in the eastern/south pastoralist areas or zones close to the main pastoralist (e.g. Borena) is apparently improving due to the good late rains following the poor rain induced condition loss earlier in the year. Prices are lower than last year due to fewer buyers and greater numbers of poorer quality stock for sale less good.

Amhara

Amhara Region, located in the north, north-west of the country includes the nation's highest mountain ranges, lowland riverine valleys and plains as well as agriculturally productive plateaux with well-established mixed farming systems. Comprising 10 administrative zones, the region usually produces around 33 percent of the national *meher* grain production. Following the national pattern of rainfall distribution and notwithstanding the within-zone vagaries of altitude, the western half of the region usually produces surplus grains from a substantial *meher* crop. The eastern half of the region has a less reliable *meher*, but contains zones where:

- The *belg* crop may offer a substantial contribution to local annual production depending on the year; and
- Lowland clay sorghum-producing plains which benefit considerably from run-off and retained water to produce significant surpluses that are sold to Afar, Tigray and Somali.

^{1/} By contrast, DAP prices in West and East Hararghe are noted to have remained at ETB 730/q.

Belg rains in the north eastern production zones of North Wollo, South Wollo, Oromiya and North Shoa (Amhara) were very poor. Combining CSA and MoARD returns suggests that 1/3 of the usual area was planted producing around 30 000 tonnes of which 86 percent were cereals compared to 175 000 tonnes in 2007.

Regarding the *meher* season, the start was timely and was followed by well-distributed rains that continued throughout the season until October in the 6 main production zones which prompted increased planting of 92 000 ha all types of cereals except barley as noted in Table 13. Planting of pulses shows a decline of 99 000 ha which accommodates the former increase. However, oilseed planting has increased by 75 000 ha suggesting an overall increase in field crop planting made possible due to the low level of *belg* planting. No reports of cultivating difficulties reached the Mission and no significant fallow areas were noted in what is a very intensively farmed region.

Table 13. Ethiopia: Main Regions Cereals and Pulses Crop Area Change '000s ha 2008/09 Meher

Region	Teff	Barley	Wheat	Maize	Sorghum	F Millet	Cereals	Pulses	Balance
Ethiopia ^{1/}	-17	-33	81	210	19	0	260	-61	199
Amhara	15	-13	16	37	33	4	92	-99	-7

Source: CSA 2007 vs. 2008.

1/ includes all minor regions.

Regarding seed availability, given last year's good season, no overall seed shortages were either anticipated or noted; however, the demand for improved maize seed seriously exceeded supply, which increased dramatically due to a very low difference in price between the cost of certified seed and the cost of ordinary grains, therefore the use of formal farmer multiplied seed increased by 77 percent and the use of certified seed increased in all the main producing zones except Awi due to unavailability of hybrid maize seed in that zone.

Other commercial input utilization in Amhara follows the pattern established in the last few years with fertilizer use increasing by 23 000 tonnes to 36.8 percent of the national distribution at 150 000 tonnes despite the price increases to . Closer examination shows that none was used in Weghamra and use of both DAP and urea fell in North Gondar (price increases to approximately ETB 860/quintal compared to 700-780 elsewhere in Amhara) and North Shewa. The situation in North Shewa may well have been affected by the transfer of fertiliser purchased for *belg* crop use to *meher* crop use due to a severe reduction in *belg* planting in the zone.

As in the other regions, migratory pest outbreaks were noted by Mission teams. An outbreak of desert locust in North Gondar was controlled in November 2007 by on-ground spraying. Serious army worm infestations were reported in Amhara zones except Weghamra. The threats were eliminated by on-ground spraying campaigns by the Federal MoARD/Regional BoARD and heavy rainfall. Non-migratory pests, as most years, include sorghum chafers in the eastern zones, Wollo bush crickets, stalk-borers, boll-worms, aphids, termites and grasshoppers but no infestations, apart for sorghum chafer in North Shewa no infestations were described as anything but mild.

Weed infestations are noted to be high with the use of herbicides again increasing, however, sorghum crops suffering from the presence of sorghum grasses need hand-weeding to eliminate the weed, which is much more of an economic problem in most sorghum growing areas, albeit going unnoticed during fleeting observation, than striga.

Overall good *meher* crop production is evident throughout the western zones of the Region. Sorghum crops in the low-lying fertile basins from Debre Sina through North Shoa, South Wollo and North Wollo to Kobo, including areas close to the eastern borders with Afar Zones such as Hara (North Wollo) are noted to be maturing later and possibly less productive than last year's very good crop. In the western zones of Awi, West and East Gojam very high levels of production are noted in Zonal Agricultural Bureaux estimates and were recorded in the transects driven throughout the localities. Early starts to the *meher* as noted in the typical rainfall Figure for such zones presented in Annex 1 encouraged planting of maize. In South Gondar, the good rain boosted water availability in the rice plains north of Bahr Dahr with concomitant increases in both area and yield for this minor crop.

The resulting Amhara Region cereal harvest is estimated at 5.064 million tonnes from 3.018 million ha, an area 4 percent larger than last year's CSA estimate. Pulses from an area 14 percent smaller, are expected to produce 665 000 tonnes. Teff contributes a greater proportion than last year at 1.26 million tonnes, the remaining crops are similarly ranked with maize providing 1.17 million tonnes, sorghum 0.97, wheat 0.848

million tonnes, barley 0.43 million tonnes and finger millet 0.28 million tonnes towards the cereal harvest. Oats and rice at 0.06 million tonnes respectively, make up the remainder of the crop.

Cereal prices noted during mission visits are still nearly twice as much as this time last year but are lower than 6 months ago and are expected to come down in the next couple of months as the new crop comes onto the market.

Livestock condition is universally good (cattle body condition scores 2-3-4) with pasture and water supplies currently satisfactory and crop residues plentiful. No disease outbreaks are noted and the regular round of vaccinating is being conducted for the endemic diseases. Livestock prices are much higher than this time last year. At the time of the Mission there had been no early migration of animals in or out of the region, although movement from Afar was expected in the usual round of transhumance next year.

Southern Nations Nationalities and Peoples' Region (SNNPR)

Presently formed from 13 zones and 7 special *woredas*, the SNNPR Region is the most culturally diverse region in Ethiopia. The cultural diversity is matched by a wide range of agro-ecologies encompassing everything from rainforests to deserts. Bi-modal rainfall patterns exist throughout the region offering opportunities to crop two or three times per year on the same piece of land. Very small land holdings, however, create a structural vulnerability to dry spells at crucial times in the production cycles, as increased planting later in the year cannot easily compensate for lost opportunities. Unfortunately, such problems arose with the failure of *belg* rains. Fortunately, the majority of the rural population in SNNPR grow and eat *enset*. This perennial carbohydrate source, also known as false banana, is very resistant to rainfall fluctuations and provides a carbohydrate-based food safety-net for most farm families in the highland and middle altitude communities. The ubiquitous presence of perennial cash crops including coffee, chat and eucalyptus confirm the overall natural resources wealth of SNNPR in all but the lowland localities, where pastoralism is the main agricultural enterprise.

As noted in the previous paragraph, *belg* rains failed and only an estimated 39 percent (MoARD, 2008) of the usual *belg* area was planted producing 200 000 tonnes of cereals and pulses (CSA, 2008) compared to 470 000 tonnes last year. Equally, *belg* harvests of potatoes and sweet potatoes, are noted to have been substantially reduced. Rainfall post-*belg* is reported to have been good throughout the region, if somewhat erratic mid-season in some localities along the sides of the rift valley. Given the encouragement of good, early *meher* rains the Mission notes in Table 14 a CSA estimated 36 000 ha increase in *meher* cereal area with maize area increasing at the expense of teff and wheat; and area to pulses has also increased by 10 000 ha been sustained at last year's higher level, suggesting the planting of unused *belg* land to good effect. In the *enset* producing high and middle altitude zones of the region, the crop area is said to have been reduced by 17 000 ha, probably due to increased use in absence of the cereal/root crop staples during the enlarged hungry-gap, at term which is somewhat misleading in *enset* areas.

Table 14. Ethiopia: Main Regions Cereals and Pulses Crop Area Change '000s ha 2008/09 Meher

Region	Teff	Barley	Wheat	Maize	Sorghum	F Millet	Cereals	Pulses	Balance
Ethiopia ^{1/}	-17	-33	81	210	19	0	260	-61	199
SNNPR	-34	5	-11	76	0	0	36	10	46

Source: CSA 2007 vs. 2008.

1/ Includes all minor regions.

Regarding inputs, local seeds provide most of the planting material for grains except for a firm market for hybrid maize, grown as cash crop in the maize belt south of Awassa. At the regional level, fertilizer use has increased by 38 percent to 40 000 tonnes, suggesting an enormous effort to increase sales to increase production to offset *belg* losses. At the same time the SNNPR Regional in the market share has been sustained at 9 percent. Fertilizer distribution increased in 15/21 zones and special *woredas* with DAP being 10 times more popular than urea because of the intense cropping pressures.

The migratory pests desert locusts and army worm are both noted as being present and as being controlled SNNPR. Desert locust outbreaks occurred in Konso, Wolaita, Derashe, Dilla and GamoGofa and were controlled by spraying from December 2007 to February 2008. Army worm outbreaks are noted by the Mission teams in all zones in SNNPR except Sidama and Gedeo. The outbreaks were controlled before significant damage was done in all CFSAM entry points except Alaba where 3750 ha of lost crops were replanted. All other pests are noted as mild, nevertheless non-migratory vertebrate pests from the forests require an inordinate amount of farm labour to protect the fields and so avoid substantial losses. Storage pests are noted to remain causes for concern with sales of storage chemicals increasing in Sheka, Keffa and Bench Maji.

The Mission anticipates a *meher* cereal and pulse harvest 1.62 million tonnes, comprising about 0.78 million tonnes of maize, 0.17 million tonnes of sorghum, 0.19 million tonnes of teff, 0.18 million tonnes of wheat, 0.11 million tonnes of barley and 0.18 million tonnes of pulses. Regarding other crops this *meher* season, areas of root crops and permanent crops are less than last year but planting of annual root crops may have been delayed as the cereals took precedence and so the areas may not have been fully recorded.

Livestock condition in the zones and special *woredas* visited by the Mission team was recorded, despite the problems reported each year due to trypanosomiasis as excellent (cattle body condition scores 3-4) with no problems noted relating to pasture or water supply. Presently, livestock prices are higher than last year throughout the region but peaked mid season and have started to fall in Sidama and Burji may be connected to increased presentations from Borena before the effects of the late rains.

Tigray

Tigray, the northernmost region of Ethiopia bordering Sudan and Eritrea, has a cultivated area of about 820 000 ha farmed by some 775 000 households and 406 investors, the latter are located in the western lowlands. Usually classified as a food-deficit area due to its semi-arid climate and high population density, the region has embarked on major environmental rehabilitation programmes over the past ten years. Presently, it is in the process of linking food security issues to watershed management with the objective of improving employment and income generation opportunities in the central and eastern zones. The food deficit status of the region masks the fact that in most years there is surplus crop production from well-organized, run-off based, peasant farming systems in the South Zone and from the fore-mentioned mechanized commercial enterprises in the western lowlands.^{1/}

Regarding rainfall, in the Southern Zone, the 6 *woredas* that usually produce a *belg* harvest received no *belg* rain so no *belg* crop is registered. This sorry state of affairs is also reported for most other zones especially East Tigray and south Central Tigray. However, whereas *meher* arrived, albeit late in West, North West and in the north Central and parts of South Tigray, the cluster of zones around East, north South and south Central Tigray, like neighbouring Weghamra, had unfavourable *meher* rains.

In the Eastern Zone, apart from not supporting good growth of the crops growing in situ, the poor rains meant a reduced series of run-off spates that reduced the productive floods that are used by the farmers on the Southern Zone fertile plains of Alamata and Raya-Azebo (Mehoni) reducing planting in both *woredas* and, reportedly in Zone 2, Afar.

Table 15. Ethiopia: Main Regions Cereals and Pulses Crop Area Change '000s ha 2008/09 Meher

Region	Teff	Barley	Wheat	Maize	Sorghum	F Millet	Cereals	Pulses	Balance
Ethiopia ^{1/}	-17	-33	81	210	19	0	260	-61	199
Tigray	13	-15	8	14	-2	1	19	-8	11

Source: CSA 2007 vs. 2008.

^{1/} Includes all minor regions.

CSA 2008 preharvest assessment of area identifies a 19 000 ha increase in cereal planting connecting to increased maize, teff and wheat areas.

Fertilizer use is the same as last year at approximately 14 500 tonnes. Tigray distributed 3.5 percent of the nation fertilizer compared to 3.8 percent in 2007. Improved seed exchanged through formal farmer to farmer schemes is around 500 tonnes of which the most effective dissemination connects to teff with a possible 5 000 ha at 25kg/ha sowing rate and wheat with 2 400 ha at 150kg/ha sowing rate. Therefore, cereal seed supply was almost entirely from farmer-saved local seed stocks, local markets or seed banks.

^{1/} Regarding the western lowlands, after several years of contiguous assessment it is now clear to the Mission that the current agricultural practices embraced by both the investors and the resettled highlanders in the Western Zone and to a certain extent in North Western Zone, that are directly copied from the Sudanese mechanised farms across the border, constitute an agricultural and environmental catastrophe for a region normally extremely conscious of good land management. If left to continue uncorrected these practices will denude the remaining forests, asset strip the land and return to the region ever-decreasing crop yields from a once- valuable resource. Both sets of farmers cited above are presently sustaining their production by changing the area under cultivation in the form of the *mechanised shifting system* practised by the land barons of Khartoum and Gedaref, not by sustaining yields through good farming practice. Even resettled farmers from the highlands are now noted to use one-pass-sow land preparation, no intra-field water management, no interrow hoeing (*gussia* or *shilshalo*), one or less hand-weeding passes and no sorghum bunching to protect heads- all common sorghum growing husbandry practices noted elsewhere in Tigray. It appears that a correcting initiative that encompasses the wealthy and influential investors as well as the settlers is urgently required.

Notwithstanding the low level of fertilizer use, and the fact that DAP is usually reserved for wheat and teff, backyard maize production is again noted by the Mission teams to have performed well throughout the central and north-western *woredas* reflecting (i) choice of location for planting to catch available run-off; (ii) selection of better water retaining soils; and (iii) higher organic content of the soils near to the homesteads.

Regarding pests and diseases, with the exception of a desert locust outbreaks controlled in Humera and Tseday in November 2007, no significant outbreaks of pests were noted. Sorghum smut is noted to be a serious problem in the western investor and settler areas and in the spate schemes in the Southern Zone. This seed-borne disease needs to be brought under control with seed dressing, before it threatens the other major sorghum growing areas.

Marketing opportunities to Sudan noted by the Mission in 2005, 2006, 2007 have been sustained. Farm gate prices of sesame were exceptionally high having increased by 100 percent in 4 months to ETB 2 000/quintal in the middle of the year. Trade routes for sesame The regional oilseed area has been sustained at approximately 200 000 ha as investors and settled farmers who switched from sorghum to oilseeds last year in the Western and North-Western Zones maintain their interest; and increased numbers of settled farmers in central Tigray are noted to have introduced the oilseeds sesame and safflower as junior intercrops in teff fields.

The Mission estimates that cereal and pulse production will be similar to last year with a harvest of 1.003 million tonnes. The cereal production estimate and comprises 164 000 tonnes of teff, 117 000 tonnes of wheat, 169 000 tonnes of hamfes and barley, 169 000 tonnes maize, 259 000 tonnes of sorghum and 85 000 tonnes of finger millet. The estimates pulses and oilseeds are 60 500 tonnes and 78 650 tonnes respectively.

Livestock condition in all the western zones is noted to be good. Cattle herds in south-east and eastern *woredas* now, however exhibiting poor body condition scores of 1 to 1.5 noted 3 years ago. In a reversal of usual roles, livestock are noted migrating from East Tigray (northern *woredas*) to Afar Zone 2, following the good late rains. Presently, livestock prices are low and have been falling due to few buyers and poor quality presentations.

Afar

Afar, an arid region located in the north-eastern part of Ethiopia has an agro-ecology characterised by low erratic rainfall and high temperatures, this year's rainfall has been similar to 2006, a good year, in amount and distribution, prompting planting and generally favouring the production of pasture and browse. Consequently, again greater areas have been farmed and the premature movement of transhumant herds, noted by the CFSAM in 2005, was not seen by Mission teams in Afar and in the areas bordering Amhara and Tigray.

Afar's harsh and dry climate prevents crop production except in areas:

- In Zone 2 where run-off from the eastern escarpment serves spate irrigation and facilitates production of sorghum and maize; and rainfall supports crops of teff and barley.
- In Zones 1, 3, 4 and 5 maize, sorghum, cotton and some pulses are grown under riverine irrigation schemes. Elsewhere on the escarpments minor crops of wheat and barley are grown.

Area information is collected from the Regional BoARD and from the Ab Alla *woreda* BoARD.

The reporting from the Region is very poor. The CSA data is incomplete data and less qualitative information has been gained by Mission teams, so it is impossible to provide an outline scenario for the season.

The Mission estimates that cereal and pulse production in the Region will be less last year with a harvest of 18,600 tonnes. The Mission is not in a position to comment regarding the pastoralist sector.

Somali

The Somali Region, predominantly a pastoralist, agro-pastoral area, is located in the semi-arid south-eastern corner of Ethiopia with a predominantly nomadic population of nearly 3.5 million. Only 15 percent live in urban centres and an estimated 90 percent of the population derive their livelihood from pastoralism and animal related activities. Rainfed cereal production is generally concentrated in villages and towns along the Wabi-Shabelle river complex and by settled farmers in the highlands and middle altitude areas in Jigjiga and Shinelle zones. Permanent irrigation schemes along the river complex facilitate the production of a variety of

annual crops along with some perennial crops including bananas, fruit trees and chat. The rains both in situ and in the upper reaches of the water catchment caused widespread flooding in the Wabi-Shabelle.

The Mission team visiting Jijjiga was unable to obtain any realistic information regarding any features of the agricultural season. Mission data from Somali Region are, therefore, woefully incomplete. General information suggests that fertilizer use in the region is minimal and restricted to demonstration plots. Improved seed use is non-existent as farmers use their own seeds carried over from year-to-year and no other agricultural inputs are available. Crop pests and diseases included desert locusts that were controlled in from September 2007 to January 2008 in Shinelle, Jijjiga, Fik, Korahe, Gode, Warder and Degahabur.

CSA data for the Region are incomplete, however, the Mission surmises that cereal and pulse production will be 80 000 tonnes from 77 000 ha. The cereal production estimate and comprises 2 000 tonnes of teff, 3 000 tonnes of barley, 37 000 tonnes maize, and 33 000 tonnes of sorghum plus minor crops. The estimate is incomplete.

Harari

Harari is a small region surrounding the city of Harar with some 12 000 ha of agricultural land. Apart from chat, the main products are usually sorghum and maize. The *meher* rains were good or as expected resulting in greater planting and sustained yields.

Local seeds were available in sufficient quantity to meet the seed requirement. Fertilizer use increased to 945 tonnes of urea and 535 tonnes of DAP, which is as well as on maize, is presumably used on the well-organised chat fields.

Production of cereals is estimated at 10 800 tonnes from 8 500 ha.

Livestock condition is noted by the Mission team to be good, with no disease outbreaks reported and moderate grazing but plentiful water available for the settled stock in the area. Animal and grain prices are firm and higher than last year due but lower than six months ago.

Dire-Dawa

Sorghum, maize and vegetables are the main crops grown around the city of Dire-Dawa. The *belg* rains began in April. *Meher* rains also began late and were poor. No improved seeds were used and local seeds were available for initial sowing. Maize planting was late DAP and urea use was less than 30 tonnes and army worm infestations are noted.

Area planted to cereals estimated by CSA as mostly sorghum, is placed at 8 000 ha producing 9 300 tonnes, which is similar to last year's estimate.

Livestock condition noted by Mission teams was good, but access to pasture is limited so livestock depend more on the arable by-products. Small ruminant prices are high and increasing, cattle prices peaked six months ago but are still higher than November 2007.

Addis Ababa

The area planted to cereals and pulses in Addis Ababa administration area is less than to last year at around 9 000 ha. The area includes the peri-urban planting of city dwellers and the adjacent farming community

Good rainfall, in *meher* was well-distributed in July and August and finished late. No union fertilizer sales are recorded in Addis Ababa, however sales may have been made in the private sector along with herbicides and pesticides but the figures are not available.

There were no significant pests and diseases, production is similar to last year at 14 700 tonnes of which teff and wheat provide an estimated 5 000 tonnes and 9 000 tonnes respectively.

Gambella

Gambella Region, located in south-west Ethiopia bordering Sudan, is a lowland area with regular rainfall and seasonal floods from permanent rivers that bisect the region providing the opportunity for at least two crop production cycles per year, one from rain and one from residual moisture.

The Region, which has experienced much movement of refugees from Sudan in the past decade, is inhabited by cattle pastoralists (Nuer), shifting cultivators (Anuak) and settlers from the central highlands. Currently internecine conflict and random acts of violence and insurgency are disrupting farming patterns and the other diverse livelihood systems fishing, hunting-gathering and negatively affecting cross-border trade seen to be as important as agriculture to the household food economies.

A Mission team visited Gambella for the second time in two consecutive years. Agricultural information is still scanty comprising only data from the regional BoARD that appears to be incomplete as no extensive crop assessments have been conducted. The team was unable to conduct field case studies, however, existing information from the BoARD shows that no improved seeds were provided, no fertilizer was distributed, and no agricultural chemicals are used in the region. Outbreaks of pests included desert locusts that were controlled by the Regional BoARD.

The Mission estimates that cereal and pulse production will be 13 900 tonnes from 9 900 ha. The cereal production estimate comprises 10 500 tonnes maize, and 3 300 tonnes of sorghum. The estimate is incomplete.

Data regarding livestock is equally unavailable with regard to numbers and production, and movement. Pastures are good and water supply is plentiful. Of the many endemic diseases, trypanosomiasis is noted as a cause for concern due to the shortage of curative drugs that are used to control the debilitating effect of the disease on draft and pack animals.

Benshangul Gumuz

Benshangul Gumuz Region, bordering the eastern clay plains of Sudan is a lightly populated, low-lying Region with a uni-modal rainfall, which supports crop and pastoralist livestock production. As was the case last year, rains were universally favourable, a timely start was followed by well-distributed rainfall that later than usual in November.

Given the good rains, generally, normal farming practices were observed. Donkey drawn ploughs have been introduced in Assosa and Kemashi Zones. Improved seeds are not available, but local seeds are in plentiful supply for all the major crops. Fertilizer use throughout the region is generally low as shifting cultivation is practised by both peasants and investors. Resettler crops in Assosa and neighbouring *woredas* (east) were noted to be producing exceptionally well without fertilizer use with the exception of an over farmed site close to Assosa Town which appears to be a) extremely atypical; b) used as the selected sample for most assessing teams to avoid crossing the bamboo forest or walking to other sites off-road.

DAP and urea use increased in Pawi and Metekel, a feature of the emerging mechanised farming system that requires careful consideration to avoid large-scale erosion of natural resources through unacceptable practices depending on area cultivated to make a profit, rather than good farming practice.

Regarding pest conditions, except for outbreaks of army worm that were controlled by the late rains, no major field pests or disease problems completed the favourable profile of growing conditions that have sustained the increase in regional cereal and pulse production noted last year.

The Mission estimates that 229 000 tonnes of cereals and pulses will be harvested, of which 99 000 tonnes are sorghum, 70 000 tonnes are maize, 36 000 tonnes are finger millet, 14 000 tonnes are teff and the remaining cereals wheat, barley and rice are estimated to have produced 1-2 000 tonnes each. The total pulse crop is expected to bring around 7 600 tonnes and oilseeds some 36 000 tonnes from a further 68 000 ha.

The western lowlands bordering Sudan are scenes of much livestock activity, trade and transhumant livestock move seasonally between zones and across borders, with and without legitimacy. Rains have generated pasture and sustained water points, and animal body condition is good. Ruminant prices are stable or rising in all markets.