S P E C I A L R E P O R T

FAO/WFP CROP AND FOOD SECURITY ASSESSMENT MISSION TO ETHIOPIA

(Phase 1)

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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

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Abbreviations and Acronyms

ADLI	Agricultural Development Led Industrialisation
AISE	Agricultural Input Supply Enterprise
AMC	Agricultural marketing Corporation
BoARD	Bureau of Agriculture and Rural Development
CAZS	Centre for Arid Zone Studies, University of Wales, Bangor, UK
CBE	Commercial Bank of Ethiopia
CIF	Cost Insurance and Freight
CSA	Central Statistics Authority
DPPC/A	Disaster Prevention and Preparedness Commission/Agency
EFSR	Emergency Food Security Reserve
EGTE	Ethiopian Grain Trade Enterprise
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FEWSNet	Famine Early Warning System Network
FOB	Free on Board
FSCB	Food Security Coordination Bureaux
FSS	Food Security Strategy
GDP	Gross Domestic Product
IFPR	International Food Policy Research Institute
MoARD	Ministry of Agriculture and Rural Development
MOFED	Ministry of Finance and Economic Development
NGO	Non Governmental Organization
ODA	Official Development Assistance
PASDEP	Plan for Accelerated and Sustainable Development to End Poverty
PET	Pictorial Evaluation Tool
PRSP	Poverty Reduction Strategy Paper
PSNP	Productive Safety Net Programme
REST	Relief Society of Tigray
SDPRD	Sustainable Development and Poverty Reduction Programme
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WFP	World Food Programme

Mission Highlights

- Cereal and pulse production from the 2007/08 *meher* season in Ethiopia is estimated at 21.5 million tonnes from 12.25 million ha, a 7 percent increase on 2006's post-harvest estimate. This represents the fourth consecutive bumper harvest.
- Generally well-distributed and timely rainfall, increased use of fertiliser and improved seeds, and very low pressure from pests and diseases, together with expansion in cultivated area, accounted for the bumper crops.
- Throughout the country, grain and livestock prices remain firm or rising, boosted by a combination of economic growth and effective demand, formal and informal trade, higher oil prices, local purchases by cooperatives and relief agencies, and expectations of further price hikes.
- Livestock and pasture conditions are generally good over most of the country and livestock prices are firm or increasing, boosted by increased domestic demand and improved export position to countries in the Middle East.

1. OVERVIEW

A Crop and Food Security Assessment Mission visited Ethiopia from 19 November to 12 December 2007 to estimate the 2007 main *meher* season cereal and pulse production; review the final post-harvest estimates of the 2006 main *meher* season and 2007 secondary *belg* season harvests; forecast the 2008 *belg* season production; and assess the overall food supply situation for the 2008 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 and the European Commission, 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. Unlike previous years, the Crop and Food Security Assessment Mission is carried out in three phases - Phase 1: Crop and overall food situation assessment in Nov/Dec (mainly FAO); Phase 2: Meher food security assessment in Nov/Dec (mainly Government/WFP); Phase 3: Synthesis and report writing during early February (joint FAO/WFP).

The Mission obtained planted area and yield data for all major food crops from *woreda,* zonal and regional agricultural bureaux, which were cross-checked against information from farmers, traders, NGOs and remote sensing data from early warning systems. The WFP/VAM Unit provided charts with dekadal rainfall at zonal level and maps of Water Requirements Satisfaction Index (WRSI) for all cereals.

Within the visited zones and special *woredas,* 280 key informant interviews were conducted, including 127 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 to standardise procedures, were conducted over about 23 000 km travelled by the teams. This information provided the background with which teams audited performance data received and, where considered necessary, BoARD yield forecasts were adjusted to take into consideration the latest and broader information collected by the teams.

The overall agricultural performance of the 2007 *meher* season is judged to be better than the previous year, due to improved yields from a slightly increased area in both the main production zones and marginal areas. The improved yields are considered by the Mission to be due to the direct effects of well-distributed rainfall on crops, higher financial returns to grain growers prompting increased investment in inputs and timely farming operations and, finally, the overall timely availability of fertilizers, improved seeds and credit. Such inputs did not, however, meet the ever-increasing demand for improved seeds, fertilizers and herbicides from the commercially orientated smallholder farmers in the surplus producing zones.

Overall, the Mission estimates total 2007 *meher* cereal and pulse production at about 21.5 million tonnes, some 7 percent above the previous year's post-harvest estimates. It is the fourth consecutive good harvest.

With a belg harvest in July/August 2008 anticipated by the Mission at 600 000 tonnes, total domestic availability of cereal and pulses for 2008 is estimated at 22 million tonnes which is expected to meet domestic requirements.

As in the previous 2006 Ethiopia CFSAM report, the cereal and pulse balance sheet is provided with a breakdown by main cereals. The balance incorporates CSA data for a) the population increase to mid-2008 and b) expected cereal use increases at national level.

The last four years have been characterized by a steady growth of the Ethiopian economy, with an average real GDP growth rate of 11.8 percent per year. As in 2006, the good performance of the agricultural sector coupled with the sustained effort by the government in poverty-targeted investments, especially in the sectors of road construction, education and agriculture, have supported a broad based expansion of the economy. Export earnings have also registered a substantial growth in recent years, owing to both increases in volume and revival in the prices of major exports in the international market. However, imports have also surged, leading to a record trade deficit of US$3.9 million, about 10 percent higher that previous year.

Since the end of 2004, prices of main cereals have followed a steady upward trend, without any significant post-harvest reduction, and have remained above the average level throughout 2007. This trend has been explained by a combination of economic factors influencing effective grain demand and supply as well as the rise in oil prices and the increasing supply of money. Nationwide good economic performance in 2006, fuelled by increasing pro-poor investments and private consumption, the injection of cash into the rural economy through the Productive Safety Net Program and the recent increase in salaries and pensions of public civil servants have boosted the demand for grains and livestock. At the same time, despite the good harvests obtained, volumes of grains available on markets may have not increased as expected or, at least, their sales may have been more evenly distributed over the year, instead of being concentrated at harvest time. Better financial capacity of farmers to retain and stock grains due to access to micro-credit, increased local purchases by governmental food security institutions, agricultural cooperatives and relief agencies, together with expanded domestic and external trade flows, seem to be the main factors behind a reduced market supply. Although the full impact on markets in 2007 of newly harvested crops is still not clear, the Mission registered some early signals of nominal price reduction for maize and, to a lesser extent, wheat, while teff's price seems still to be stable due to the fact that the majority of the product is still being harvested or threshed.

As in 2006, it seems that the overall food situation is highly favourable, with an increase in food availability and possible access for a large number of vulnerable groups. If grain prices decline at the beginning of 2008, urban consumers and rural net buyer households will benefit from the good harvest. At the aggregate level, the country is able to cover all its cereal requirements. Stocks are expected to increase and a relatively large quantity of grains could also be exported.

In conclusion, in order to understand better the grain supply and demand situation in the country, the Mission suggests undertaking in-depth studies in the following four issues: (1) an analysis of food effective demand in urban and rural areas following recent economic growth and structural changes; (2) an analysis of flows and magnitude of crop and livestock cross-border trade; (3) an analysis of markets and prices to assess the effect of bulk sales at the beginning of 2008 (possibly between March and April); (4) an assessment of the *belg* season harvest to cross-check national data that are gradually diverging from the historical trend/average.

2. SOCIO-ECONOMIC CONTEXT

2.1 Macro-economic situation

Ethiopian economy has experienced a strong and steady growth of real GDP over the past four fiscal years. After a decline of 3.5 percent in 2002/03 as a result of the poor performance of the agricultural sector due to a severe drought, real GDP has showed a strong positive performance, totalling a cumulative growth of more than 56 percent. The estimated real GDP growth in 2006/07 stood at 11.4 percent, with agriculture, industry and service sectors registering increases of 9.4, 11.0 and 13.5 percent, respectively. Favourable weather conditions coupled with expanding governmental programs in infrastructure, rural development and poverty alleviation as well as booming urban construction projects are the principal determinants of the sustained expansion of Ethiopian economy.

Table 1: Macro-economic indicators

	2004/05	2005/06	2006/07
Real Sector & Prices (% change over previous year)			
Real GDP	12.6	11.6	11.4
Agricultural Value Added	13.5	10.9	9.4
Non-Agricultural Value Added	11.8	12.2	13.2
All Services	12.8	13.4	13.5
Consumer Price Index	6.8	12.3	17.8
Government Finance (% change over previous year)			
Domestic Revenue (including grants)	12.4	15.5	26.3
Tax Revenue	13.7	14.2	22.6
External Grants	14.1	-18.1	103.2
Total expenditure	20.9	18.3	21.3
Overall Balance (including grants) (as % of GDP)	-4.4	-4.6	-3.6
External Sector (% change over previous year)			
Exports	41.2	18.1	18.5
Imports	40.4	26.4	11.6
Average Exchange Rate Birr/US$	8.65	8.68	8.79
Reserve in months of imports	3.5	2.5	2.2
Total Merchandize Exports (Mio. US$)	**847**	**1 000**	**1 185**
Total Merchandize Imports (Mio. US$)	**3 633**	**4 593**	**5 126**
Total Trade Balance (Mio. US$)	**-2 786**	**-3 593**	**-3 941**
Overall Balance of Payments (Mio. US$)	**-97**	**-350**	**85**

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

Compared to the previous fiscal year, total nominal government revenue in 2006/07 (including grants) has increased by 26 percent. It reflects an improved system of tax collection and administration as well as the rise in donor funding that passed from 3.7 Million Birr in 2005/06 to 7.6 Million Birr in 2006/07. At the same time, poverty-reducing expenditure (defined to include agriculture, food security, health, education and roads) grew about 18 percent in nominal terms, while defence spending has been cut significantly, reaching the record minimum of 2 percent of GDP. In conclusion, the overall balance (including grants) shows a budget deficit of 3.6 percent of GDP, the lower in last three 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 2006/07, total value of exports grew by 18.5 percent, driven by an expansion in volume and price of coffee and a robust growth in other exports such as pulses, flowers, gold and leather products. Export of oilseeds, on the other hand, after the peak reached in 2005/06 essentially due to record sales of sesame seeds to China, has shrunk by 11.6 percent in volume. Imports also surged in 2006/07, reflecting the rise in private and public investment (especially in machinery and transport capital goods) and the increasing demand in consumption following the economic growth, alongside the escalating world oil price. Reflecting the good performance of the agricultural sector, imports of food and live animals decreased by 17 percent. By the end of the 2006/07 fiscal year, the trade deficit reached the record level of US$3.9 million, with an increase of about 10 percent compared to the previous year and thus exports were able only to finance 23 percent of imports.

Table 2: Major exports commodities (value in US$ millions; volume in '000 tonnes)

Commodity	2004/05	2005/06	2006/07	2006/07 on 2005/06 (%)
Coffee				
Value	335.2	354.3	424.2	+19.7
Volume	161.1	147.7	176.4	+19.4
Oilseeds				
Value	125.0	211.4	187.4	-11.4
Volume	170.8	265.7	235.0	-11.6
Chat				
Value	100.2	89.1	92.8	+4.2
Volume	19.4	22.3	22.7	+1.8
Leather & leather products				
Value	67.6	75.0	89.6	+19.5
Volume	15.6	15.4	15.8	+2.6
Pulses				
Value	35.4	37.0	70.3	+90.0
Volume	121.7	110.4	158.8	+43.8
Gold				
Value	59.4	64.7	97.0	+49.9
Volume	6.0	5.0	5.6	+12.0
Other exports 1/	73.0	87.9	91.7	+4.3
TOTAL EXPORTS	**847.2**	**1 000.4**	**1 185.1**	**+18.5**

Source: National Bank of Ethiopia and Ethiopian Customs Authority.
1/ Includes textiles, essence oils and spices.

After two fiscal years of deficit, the overall balance of payments shows a surplus of US$85 million. In fact, net foreign direct investments have reached the record level of US$482 million in 2006/07 which, coupled with an increase in official long term loans (+73 percent), have determined a surplus in capital account of US$941 million, offsetting the deficit in current account balance.

At the end of 2006/07, the total external debt outstanding was US$2.3 billion, showing a 62.2 percent decline compared to previous fiscal year due to the substantial debt relief obtained from multilateral organizations and a decline in external loan disbursement. Multilateral creditors still account for more than half of the total outstanding debt, while the remaining 35 and 14 percent are owned by bilateral and other commercial creditors.

As in past years, reflecting the Government commitment to enhance the competitiveness of the export sector, the official exchange rate of the Birr continued to depreciate slightly. The average official exchange rate of the Birr against the US dollar in the inter bank foreign exchange market depreciated by 1.34 percent to stand at US$1=Birr 8.79 in 2006/07 and US$1=Birr 8.68 in 2005/06. In the average parallel market, the Birr has appreciated by 0.76 percent. The depreciation of the national currency reflects growing pressure on foreign-exchange reserves that, despite some 15 percent increase on previous year, can finance only about 10 weeks of next year's import, representing the lower cover level attained in the recent past.

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's-1973), the general price control (1974-1992) or the implementation of economic reform and stabilization programs (1992-2004). Due to the high weight of food prices in the construction of the overall Consumer Price Index, peaks in inflation rates were traditionally correlated with a decline in crop production, usually a consequence of limited rainfall. However, since the end of 2004/beginning of 2005, coinciding with the first of the 4 successive years of bumper harvests, consumer prices started to climb steadily, reaching the inflation rate of 17.8 percent in 2006/07, 5.5 percentage points above the previous year's level. It is then evident that current inflation is not caused by drought-induced shocks on agricultural output as in the past, but it may be considered as the result of several new determinants 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), is 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, the higher agricultural prices have increased cash disposal of crop producing households, increasing their demand for marketed food and non-food commodities. In urban areas, it is worth mentioning the effect on demand of an increase in salaries and pensions of some 300 000 civil servants granted by the Government in September and amounting to about 1.2 percent of GDP.

On the supply side, despite the good harvests obtained in the last three years, the real marketed food production may have not increased as expected or, at least, sales may have taken place in a more distributed manner throughout the year, without being concentrated, as was usual, during and just following the harvest period. The growing access to micro-credit services, with the possibility to spread out loan repayments over a longer period of time, reduces the financial pressure in the early part of the season with a consequent reduction in distress sales of crops between January and March. Farmers are then gradually changing their trade practices, being able to hold some stocks in anticipation of better future prices.

Regarding the export of grains, in addition to the small amounts reported through official channels (due to the ban imposed by the Government to limit further increases in domestic prices), a significant amount export is assumed to take place to the neighbouring countries of Kenya, Sudan and Somalia through informal trade. Due to high price differentials for teff between Ethiopia and Eritrea, it is indicated that some quantities of teff illegally enter Sudan or Djibouti to be traded to Eritrea. On the other hand, official exports of pulses has increased substantially in the last few years, from 77 800 tonnes in 2003/04 to 158 800 tonnes in 2006/07. Regarding livestock, a strong increase in official exports is reported, especially to the Middle East. According to data by the Ethiopian Custom Authority, exports of live animals that were only about 3 000 tonnes in 2003/04 reached 43 700 tonnes in 2006/06. In addition, although there are no data available, it is reported by several traders and market analysts interviewed by the Mission in pastoralist regions that a significant number of live animals informally cross borders towards Kenya, Somalia and, to a lesser extent, to Sudan and Djibouti.

Local purchases of grains by some institutions like the EGTE, the agricultural cooperatives and unions and the major relief agencies (or just the expectations regarding eventual purchases) may have some impact on prices in local market. Actually, although limited in quantity when compared to the total marketable grain production, local purchases had a positive impact on market competitiveness, often representing a viable alternative selling opportunity for farmers vis-à-vis the offers made by private traders and merchants.

In addition to structural changes in Ethiopian demand and supply, inflation is also in part determined by rising world prices oil and other imported goods as well as by monetary developments, driven by a significant growth in money supply needed to meet the surge in credit demand for investment financing. Mounting remittances, foreign direct investments and funds for NGOs are other important inflows determining the increase in money supply.

The introduction of a temporary ten percent surtax on luxury imported commodities (excluding basic commodities and investment goods) to raise funds for food subsidies, the distribution of wheat at subsidized prices from April 2007 at about 800 000 low income urban households, bans on exports of main cereals as well as on grains stockpiling and some monetary measures (such as the increase in interest rates from 3 to 4 percent and in minimum reserve requirements in commercial banks from 5 to 10 percent of net deposits) are the main actions of the Government aiming at stabilizing the price trend as well as improving the purchasing power of the most affected population.

2.3 Poverty and population

Ethiopia is one of the poorest countries in the world. According to the 2007 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 US$2 000 average for Sub-Saharan countries). According to the latest Household Income, Consumption and Expenditure 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 constraint 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 embryonic 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 2005/06 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 12.6 million in 2005/06 taking the gross enrolment ratio from 61.6 percent to 91.3 percent. In the same period, access to health services has moved from 52 to 72 percent and infant mortality has declined considerably. The percentage of underweight children has also dropped from 45 percent in 2000 to 37 percent in 2004. Access to clean water supply has increased from 23 percent to 41 percent in rural areas and from 74 percent to 80 percent in urban areas between 2001/02 and the end of 2005/06.

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 UN World Population Prospects 1950–2050, Ethiopia's population in 2004 was 75.6 million, making it Sub-Saharan Africa's second most populous country after Nigeria and it is expected to reach 97 million by 2015. Ethiopian population is still overwhelmingly rural, with 16.5 percent living in towns and only Addis Ababa, the capital, accounting for above 3 million people (almost 4 percent of the total population). Total population for mid-year 2008 has been estimated by the Mission at 79.24 million. This estimate is based on projections by the CSA for mid-2007 population and applying the official overall annual population growth rate of 2.77 percent.

2.4 Recent developments in food security policy

The Government of Ethiopia has developed a federal Food Security Programme (FSP) within the framework of the wider Plan for Accelerated and Sustained Development to End Poverty (PASDEP), the national strategic framework for the five-year period 2005-2010. The PASDEP represents the second phase of the Poverty Reduction Strategy Paper (PRSP) process begun under the Sustainable Development and Poverty Reduction Programme (SDPRP), which covered the period from 2000/01 to 2003/04. The FSP seeks 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 Programme rests on three pillars: (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: a reliance on helping farmers to use their own resources to overcome food insecurity, both through agricultural improvements and diversification 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 Government of Ethiopia 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 the Government's 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. The key goal is to enable chronically food insecure household to acquire sufficient assets and income in order to "graduate" out of food insecurity.

Through the PSNP scheme, the chronic food insecure families receive cash or food transfers, either 'for work' (through labour-intensive public works in building roads, water and other infrastructures) or 'for free' (through direct support to labour-poor, elderly or otherwise incapacitated households), on a regular and predictable basis for a period of five years, with financial and technical support on a multi-annual basis. The provision of 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. Together with complementary interventions, such as livelihoods' packages, cash transfers

intend to enable households to escape from chronic food insecurity, after which they will no longer receive any social assistance, except during emergencies.

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 are being put in place. During 2006, the PSNP was scaled up to reach 7.23 million people (more than 1.4 million households) and it operates in over 230 woredas in 7 regions (Tigray, Amhara, Oromiya, SNNPR, Afar, Harar and Dire Dawa). The second "consolidation" phase started in the first quarter of 2007 and will last until 2009. It aims at consolidating the results achieved in the first phase focusing on issues such as enhancing governance, environmental impact and financial sustainability of the programme.

The second phase of the PSNP continues the implementation of the main programme components and, for the first time, it includes activities to support drought risk financing. These activities provide timely resources for transient (and not chronic) food insecure households through a contingent grant which will provide resources for scaling up direct support and/or public works in response to localized or intermediate drought events with the aim of more effectively preventing household asset depletion and increasing levels of destitution.

Over the last 18 months, due to the escalating food prices and stagnant labour wages for public works, the proportion between food and cash transfers via PSNP has substantially shifted in favour of food, reversing the situation that was characterizing the beginning of 2006. The major activities undertaken as public works include soil and water conservation, water harvesting, small-scale irrigation, reforestation, rural infrastructure development, horticultural development and water supply schemes.

Financially, the first phase of the PSNP was very important in mobilizing substantial donor support for the second phase. Including USAID and WFP in-kind contributions, donors' financing increased from about US$333 million for the first phase to US$557 million for the second phase. However, despite this increase, additional US$195 million are still needed in order to fully achieve the objectives of PSNP second phase.

In addition to the PSNP, the Government has designed a series of complementary actions financed by the federal budget component of the FSP (about US$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 programme) and to provide household income generating packages (often through micro-credit). The voluntary resettlement program has already moved about 170 000 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 more than 130 000 resettled households have become self-supporting in 2006 and the major part of the program 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 US$230 and 575 on average) and interest rates too high relative to the households' income, increasing their exposure to risk.

2.5 Agricultural sector policies

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. In order to bring the best results, the selection of agricultural development instruments takes into consideration the high variability of Ethiopian agro-ecological zones.

2.5.1 Agricultural credit

The Commercial Bank of Ethiopia (CBE) is the largest source of agricultural credit in the country. Currently, more than 2.5 million farmers, accounting for 25 percent of total smallholder agriculture, obtain credit annually for the purchase of inputs, mainly fertilizer. The bulk of this credit is provided to farmers through unions and cooperatives with the intervention of the regional governments to underwrite the loans. During 2006/07, the CBE disbursed slightly less than a million Birr of agricultural input loans based on credit requests submitted by the regional governments of Oromia, Amhara, SNNP, Tigray and Addis Ababa. As it is reported in the Table 3 below, some 1.3 million Birr have already been approved for the year 2007/08 (that started in July 2007) and about one billion Birr has already been disbursed. The interest rate on these loans is 6.25 percent.

Table 3: Agricultural input loans

Year	Approved ('000 Birr)	Disbursed ('000 Birr)	Disbursed/Approved (percent)	Overdue ('000 Birr)
2001/02	617 161	455 656	73.8	-
2002/03	545 305	294 782	54.1	-
2003/04	780 148	376 532	48.3	-
2004/05	982 787	780 217	79.4	62 631
2005/06	1 704 714	1 189 784	69.8	478 609
2006/07	845 662	934 015	110.4	146 515
2007/08	1 291 130	1 012 501	78.4	1 312 259

Source: Commercial Bank of Ethiopia.

2.5.2 Fertilizer supply

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. However, due to the recent sharp increase in international prices, fertilizer imports have decreased by some 28 percent. In particular, imports of urea have dropped from 153 000 tonnes in 2005/06 to 50 000 tonnes in 2006/07. In fact, weighted average CIF import prices of urea at Djibouti port have increase by 32.2 percent if compared to 2006, while prices of DAP have increased only by about 14 percent. At aggregate level, total fertilizer availability amounted to about 433 000 tonnes in 2006/07, comprising about 277 000 tonnes of new imports and about 157 000 tonnes of carryover stocks.

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, holding about 80 percent of the market. However, since 2005, an increasing number of cooperative unions operates on a regional basis, importing about 177 000 tonnes of fertilizers. Currently farmers' cooperative unions provide about 41 percent of national supply of DAP and urea.

Table 4: Fertilizer availability by type and supplier in 2006/07 (tonnes)

	Opening stocks			Imports			Total Supply		
	DAP	**Urea**	**Total**	**DAP**	**Urea**	**Total**	**DAP**	**Urea**	**Total**
AISE	2 713	34 904	37 617	75 000	25 000	100 000	77 713	59 904	137 617
Ambassel	15 282	11 580	26 862				15 282	11 580	26 862
Wondo	22 707	1 680	24 387				22 707	1 680	24 387
Sub-total	**40 702**	**48 164**	**88 866**	**75 000**	**25 000**	**100 000**	**115 702**	**73 164**	**188 866**
Lome Adama Union	51	9 821	9 872	25 000	25 301	50 301	25 051	35 122	60 173
Erer Union	186	30	216	25 074		25 074	25 260	30	25 290
Merkeb Union	5 974	6	5 980				5 974	6	5 980
Ambo Union	250	10 213	10 463				250	10 213	10 463
Hitosa Union				25 117		25 117	25 117		25 117
Becho Woliso Union	1	9 755	9 756				1	9 755	9 756
Lecha Union	341	200	541	26 232		26 232	26 573	200	26 773
Gozamen Union	325	23 447	23 772				325	23 447	23 772
Enderta Union	3 837	3 288	7 125				3 837	3 288	7 125
Gibe Dedesa Union				25 000		25 000	25 000		25 000
Biftu Selale Union				25 000		25 000	25 000		25 000
Sub-total Unions	**10 965**	**56 760**	**67 725**	**151 423**	**25 301**	**176 724**	**162 388**	**82 061**	**244 449**
TOTAL	**51 667**	**104 924**	**156 591**	**226 423**	**50 301**	**276 724**	**278 090**	**155 225**	**433 315**

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

3. FOOD PRODUCTION IN 2007

3.1 General

In Ethiopia, some 13.6 million hectares 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. Of these 13-14 million ha 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 plateaux.

The crops are grown during two seasons; the minor season, *belg* (harvested from March up to and including August) and the major season, *meher* (harvested from April up to and including 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 000m to less than 600m above sea level.

The main cereal staples wheat, barley, teff, maize, sorghum and finger millet, are grown in varying proportions according to the parameters noted above conditioned by the traditional culture and prevailing market conditions.

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

Cash crops include oilseeds, sugar-cane, coffee, tea, *chat*[1], eucalyptus, citrus, mangoes and spices. The tree crops are grown in forests and plantations and as hedgerows, on-farm woodlots and orchards throughout the country in the middle altitude and highland areas.

[1] A mild narcotic leaf grown as a bush in small farm woodlots in most places and in well-maintained and irrigated terraces in Haraghe.

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/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, and in South Omo Zone, SNNPR and in the western lowland forest-savannahs that stretch from Gambella, via the Regions 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.

3.2 Rainfall in 2007

Rainfall in Ethiopia occurs in two distinct seasons:

- The *belg*[3], 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*[4], main rains supporting crops planted in or before the *meher* season[5], which usually start in June-July and end in September-October. Such crops are harvested from September to the following March.

In 2007, the Mission was provided with comprehensive rainfall data by the VAM unit, WFP, comprising 2007 data from the National Meteorological Agency NMA from all the weather stations; and zonal estimates by dekad determined by VAM by blending the NMA data with remote sensed data.

Regarding *belg* rains, in some ten zones in the south-central and northern parts of the country, *belg* rains 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 2007, the *belg* rains were late in all the Tigray zones, Oromiya zone (Amhara), West Hararghe and East Haraghe (Oromia), and in Gamo Gofu (SNNPR). Elsewhere, they started on time merging with the *meher* rains in 23 zones. In the remaining 33 zones, the rains fell as expected, leading to a harvest from nine zones of 1.52 million tonnes of assorted cereals and pulses from 790 000 ha[6].

Regarding the *meher* season, the seven Mission teams dispatched throughout the country to determine agriculture production and conditions, collected qualitative and quantitative rainfall data from all zones and *woredas* visited. 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. In 2007, such areas were noted to be few. Regarding zonal averages, the combined returns confirm that in all zones except West Tigray, where the rains were lower than average, *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 September or early October. Extension of rains into November and December, noted last year, did not occur. In all the *belg* producing special *woredas* in SNNPR except Burji[7], better *meher* rains than

[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] Including *gu* (Somali Region) and *sugum* (Afar Region).
[4] In Somali the *deyr* rains, starting in October, may be seen as a follow-on to the *meher* rains elsewhere.
[5] Long cycle crops *viz* maize, sorghums and finger millet are usually planted earlier in April and May.
[6] Further details section 3.8.
[7] In Burji, the VAM rainfall estimates show a much better *meher*, but Mission observations and *woreda* data suggest no harvestable crop in the *meher* season but a good belg crop is noted.

normal were experienced leading to greater areas planted and harvested. Extreme events including floods in Somali, hailstorms in Haraghe and long lasting water–logging in some low-lying plains such as the Cheffa Plain in Kemisse, Oromiya were noted and were of local significance causing losses and necessitating replanting but not at such a level as to influence zonal crop production. The VAM data shows that all *woredas* in Somali received unusual and substantial *meher* season rains, however, the *deyr* season seems to be both delayed and patchy according to the recent OCHA Humanitarian Bulletin (17 December 2007).

For every crop, seasonal-average, zonal-level water requirement maps, also prepared by VAM, WFP, indicate that only rainfed sorghum in the lowland plains of South Tigray suffered from less than adequate rainfall. Following a detailed visit to the area, the Mission feels that this concern is misplaced as all the sorghum grown on the lowland plains in the areas identified is irrigated by spate flows. This season, the Alamata plain received 10 all-encompassing flows providing more than sufficient water for excellent crops of sorghum and maize. The adjacent plains of Raya Azebo *woreda* received only 4 such floods, limiting the area of very highly productive sorghum[8] compared to last year as the fields outside the reach of the diverted floods were sown to teff.

Consequently, the Mission notes that rainfall effects at the national level are:

- Maize planting, indicative of good early rains, has been increased by 13 percent above the elevated level reported last year seemingly at the expense of area sown to pulses.
- Sorghum planting, equally connected to good early rains, has increased by 3 percent.
- In most zones, the harvests of short-cycle crops were either completed or well-advanced at the time of the Mission.
- The mid/late season planting of wheat, barley and teff has also increased slightly over last years' estimates in part because of the continuation of encouraging rainfall throughout the season in most areas.
- Where they occurred, the continuation of the rains into October and early November 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.

Regarding the effect of rainfall on pasture and browse, the good *belg* rain stimulated early growth and the heavy and persistent *meher* sustained the development of forage throughout the year in all parts of the country.

3.3 Area planted

Agricultural data in Ethiopia is derived from two sources:

(i) data 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. CSA methodology is based on widely accepted probability sampling principles and has been approved by national and international experts. The methodology is based on an objective approach of field measurements; surface measurement and crop cuttings. The sampling size covers approximately 66 000 private peasant land-holders selected from 2 200 Enumeration Areas (EAs). Each year a fresh list of HH in each EAs is prepared to account for population movements.

(ii) data from the Ministry of Agriculture and Rural Development (MoARD), based on information collected at local level before harvest from the whole farming community by the Development Agents (DAs) of the Bureaux of Agriculture and Rural Development (BoARD). MoARD approach is subjective and based on farmers' interview (inquiry approach). These BoARD data are processed through a hierarchical series of steps from the DA areas (called *tabia/kebelles*/peasants' associations, depending on region) via *woredas* and zones to the regional BoARD offices.

The two data sets differ significantly with regard to area, a characteristic noted regularly in CFSAMs since 1994. A comparison between CSA and MoARD with regard to area of cereal and pulses is presented in Annex.

[8] In both plains sorghum yields are in the order of 30-45 quintels (3-4.5 tonnes) per ha.

Table 5 presents the strengths and weaknesses of both methodologies as per international experts' consultations in 2007 within the framework of an EC funded project GCP/ETH/071/EC, implemented by FAO, aiming at addressing the discrepancies amongst these datasets:

Table 5: Comparison of CSA and MoARD crop acreage definition methodologies' strengths and weaknesses.

	Strengths	Weaknesses
CSA	• Methodology based on widely accepted probability sampling principles. • Producing precise agriculture statistics for main crops (close to the real value) at federal, regional and zonal levels. • Objective approach: field measurement (surface and crop cutting). • Produces early estimates (mid-November) and final estimates (April). • Well trained staffs for conducting field surveys at country level. • Capable scientific and technical staff at the central level for data processing, analysis and report writing. • Consistent information management system and systematic publication system.	• Does not produce estimates at lower administrative levels (woreda). • CVs for minor crops are high. • Possible negative bias as farmers may not report all their fields to the enumerators. • State, parastatal and commercial farms are not captured in the methodology. • Does not utilize auxiliary data from other sources to improve sampling efficiency and improve statistics. • Does not produce estimates for crops and livestock population in pastoral areas.
MoARD	• Human Infrastructure (reportedly nearly 50,000 DAs at present). • Information reportedly produced at different administrative levels. • Quick assessment of agriculture situation in the event of a shock.	• Subjective approach: inquiry method. • Only produce early estimates. • Quality of data cannot be assessed. • Disconnect in data aggregation at various administrative levels is resulting in redundant data generation systems which lack standardized methodology. • Inaccessibility of disaggregated data at zonal and woreda levels. • Difficulties of the Federal office to access data from the regional offices. • Possible positive bias as the same institution produces data which are used to evaluate performance. • Does not produce estimates for main pastoral areas (Somali region). • Poor or non-existent maintenance of records. • Systematic reporting not in place.

Source: International experts' consultations under GCP/ETH/071/EC project.

Since 1994 and in 2007, MoARD dataset has formed the basis of the CFSAMs and as such data are:

- collected by the Bureaux of Agriculture and Rural Development
- available at the time of the Mission at all entry points, and
- are presented to the Mission in their original form.

The data are discussed at each entry point and then are collated, cleaned and adjusted by the CFSAM agronomists for outlying, inconsistent and illogical figures and double counting[9]. The local *woreda* BoARD data are also used in the DPPA/WFP *Meher* Needs Assessments that form the basis of the annual food aid requirements, a summary of which provides the statistics for the WFP component of the CFSAM Special Reports.

[9] New *woredas* are regularly created within zones and, last year, 6 new zones were created.

The Mission estimates that the national area planted to cereals and pulses during the 2007 *meher* season is 12.25 million hectares, which is 1.0 percent higher than last year's Mission estimate and 0.07 percent above the Federal MoA's 2006 post-harvest data compiled in March 2007.

Explanations noted by the Mission for the c.100 000 ha expansion in 2007 include:

- Farmer confidence in agriculture given the sustained high prices of all crops.
- Very good rains in most zones.
- An increased use of fallow land in Oromia and SNNPR Regions.
- Expansion into forest and grazing lands, particularly in the vast uncultivated areas of the western lowlands.
- Entrant programmes for young, landless persons in Oromia and Amhara Regions.
- Rice area is noted to have increased by 73 percent due to extensive planting in the flood plains of South Gondar.

Closer examination of major cereal and pulse areas at national level reveals that:

- There was a 2 percent increase cereal area reflecting increases in the planted areas of all cereals but
- Area to pulses fell by 8 percent reflecting a major reduction of area to pulses in favour of maize (150 000 ha) in Oromia Region.

Regarding the situation of uncropped arable land in Ethiopia, only the mechanised sector located in the western lowlands is in a position to change radically the areas under productive management. Here, the Mission notes, with concern, that in the large-scale, mechanised farms in the Western Zone of Tigray, investors and resettled peasants have adopted, wholesale and without question, the low-input approaches of their Sudanese neighbours whereby fields of either sorghum and sesame are sown during a single land-preparation-sowing pass. Thereafter, the resulting fields may or may not be weeded 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, including large scale investors with hundreds of hectares and resettlers hiring tractors from contractors to plough their 1-2 ha are already 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. The resilience of vertisols notwithstanding, such practices is environmentally destructive, wasteful of resources and unsustainable. Similarly, in years with rainfall such as 2007's pattern in the Western Zone, Tigray, where rains have been generally below average but occasionally heavy during the main growing season, neglecting the traditional practices of good, early, land preparation, inter-row cultivation (*shilshalo* or *gussia)* and within-field, surplus water management and weed control leads to lower yields and disappointing returns for both groups of farmers.

Regarding other factors affecting area cultivated nationally, given the sustained higher levels of cultivation achieved every year since 2003, there do not appear to be any widespread constraints on ploughing capability. However, in the wetter, forested areas the debilitating effects of trypanosomiasis on draught animals are again noted to be of concern in Dawro, Keffa and Wolaita (SNNPR) and in lowland areas of Jimma Zone (Oromia). In these localities, given that the small size of farms precludes the effective use of the normal four-wheeled tractors but where timeliness of cultivation, sowing, and weeding is of paramount importance for the production of a satisfactory series of crops to achieve food security, *once again* the Mission notes, with surprise, 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[10].

Following the good 2005 *meher* and the very good *2006 belg* and *meher* harvests, seed supply *per se* was not a constraint on 2007's *meher* planting. Seed rates were reported to have been on a par with the higher rates noted last year across the country, resulting in the use of some 850 000 tonnes of cereal seeds. As in previous years, most seed sown came from farmer carried-over stocks. Returns from the National Agricultural Input Suppliers' Association (NAISA) show that in 2007 improved seed sales decreased by 20 percent to 20 500 tonnes[11] from last year's final estimate of 25 000 tonnes, similar to the level used in 2005. According to farmers and zonal agricultural staff in all the progressive teff, wheat and maize farming areas, the supply of certified seed is not enough.

[10] 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 5 years.

[11] 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.

3.4 Factors affecting yields

The national yield averages, again compare favourably with averages estimated over the past five years reflecting a sustained or an improved performance of cereals in all regions. Presently, under the prevailing BoARD system of data collection explained earlier in the report in the context of area estimates, DAs assess yields at pre-harvest and harvest stages for all field crops and pass the data to *woreda* specialists, who cross-check the findings with teams from the zonal and regional offices[12]. Such data are then transferred to the zones (or region in the case of Tigray) for final review, analysis and onward passage.

Because of the timing of the exercise, the Mission teams usually receive at the zonal entry –points, only the early yield estimates.[13] These are then adjusted by the CFSAM team using the qualitative information obtained from the key informants at the BoARD offices, NGOs and from the farmers themselves, and taking into account the Mission teams' transect records, field observations, crop-cutting measurements and any changing conditions regarding the weather and late pest and disease challenges. In 2007, all Mission teams used the Pictorial Evaluation Tool (PET), developed by the Centre for Arid Zone Studies, University of Wales, Bangor, UK, to add more consistency to the auditing approach adopted. On return to Addis Ababa, all assessments are subject to rigorous reviews when performance estimates are revisited with respect to seed type, timing of sowing, extent and timing of fertilizer use, the season's pest and disease profile, the performance of similar crops in neighbouring localities, time-series data and are finally compared with any other independent assessments available for the zones.

In 2007, given that general rainfall adequacy and timely cultivation have already been confirmed in the previous section, the remaining factors affecting crop performance reviewed below are inputs (seeds, fertilizers and chemical), pest and disease profiles and basic crop husbandry during the growing season and at harvesting.

3.4.1 Seeds

In the 2007 *meher* season, 97.7 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 areas, such seeds 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 but the volume exchanged is difficult to quantify. In the more marginal areas, as well as such seeds, traditional local landraces such as black wheat and two-row barley are also in evidence and are exchanged or sold between farm families as needed.

The remaining 2.3 percent of seeds used, amounting in 2007 to the 20 500 tonnes, are certified seeds directly purchased from registered suppliers. Of these improved seeds sold 8 800 tonnes were maize seeds, 9 276 tonnes were wheat seeds and 2 547 tonnes were pulses. Whereas the volume of improved maize seed sales is 12 percent lower than last year, it still accounts for some 14 percent of the maize sown. Certified wheat seed sales are down by 8 percent over last year's directly purchased volume but as these are all open pollinated varieties, the Mission believes that farmers regularly renew their stock with certified seed allowing the use of on-farm, carry-over seeds to be continued for another cycle of 2-3 years. Directly purchased wheat seeds are estimated to account for 4.4 percent of the wheat sown possibly reflecting the higher sowing rate-higher investment required in sowing certified wheat seed compared to maize.[14]

Given the favourable rainfall, no widespread replanting was necessary except in the flood affected localities in Somali[15] and in a few entry-points, where, in some localities, the rains were less favourable, as noted in section 3.2.

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[12] Initial findings of FAO's "Support to Food Security Information System" project suggest that in some zones, *woreda* and zonal staff are making their own assessments.

[13] In some instances no estimates are available at any level. In such cases the Mission teams rely on their transects and case studies to provide initial estimates that are then cross-referenced, by the team and the Mission team leader, with data from neighbouring zones, confirming *inter alia* the usefulness of transects, case studies and sampling.

[14] Sowing rates: wheat 150+ kg/ha; maize 25-30 kg/ha.

[15] Last year (2006) in Gode and Afder Zones, 2 replantings were noted, the second replanting relying entirely on residual moisture to produce a crop. In 2007 a similar set of flooding circumstances prevailed, however, no Mission team visited the areas and the reports from the Somali Regional BoARD are very far from illuminating regarding all aspects of agricultural production.

3.4.2 Fertilizers and chemicals

Continuing the trend noted by the Mission last year, fertilizer use during the *meher* 2007 season, as indicated by cash and credit sales, increased by around 3.3 percent to 388 000 tonnes. Despite significant increases in base prices[16] of DAP (diammonium phosphate) to c.420-440 Birr per quintal (US$511/tonne) and to c.380-390 Birr per quintal (US$444/tonne) for urea, DAP sales went up or were stable in 13 out of 16 zones in Oromia, all zones in Amhara, but declined by 30 percent[17] in SNNPR and in 3 out of 5 zones in Tigray. Urea sales were lower in several zones due, variously, to late arrival, increased prices and credit repayment problems precluding farmer access or causing farmers to defer from purchase in fear of the consequences of defaulting on payments later.

The pattern of amounts distributed during *meher* 2007 was as follows:

- Tigray received the lowest share of fertilizer among the significant crop growing regions at 3.8 percent. This is, however, more than last year's 2.5 percent and similar to the 3.9 percent in 2005.
- Amhara received 32.8 percent (31 percent in 2006 and 2005).
- Oromiya received 46.7 percent compared to 46 percent in 2006 and 50 percent in 2005.
- SNNPR received 7.4 percent reflecting a drop of 14 000 tonnes from the 11 percent share distributed last year due mostly to repayment problems.
- The remaining 10.3 percent (7.1 percent in 2005; 10 percent in 2004; 13 percent in 2003) was sold to farmers in the other regions and to various commercial enterprises.

3.4.3 Pests and diseases

Regarding pests, in 2007 the season was again a virtually migratory pest free:

- No flocking of birds was noted in 2007 suggesting that all migratory *Quelea quelea* birds were kept under control by the aerial spraying of roosting sites.
- Army worm outbreaks were noted in only 2/63 entry-points and these all were controlled by the heavy rains in July.
- Desert locust outbreaks in North Gondar (early in the season) and Somali (September, 2007 on grassland) were reported to have been destroyed by local spraying teams, in a few days, in both cases. Further outbreaks in Somali have been reported by OCHA in the Humanitarian Bulletin, 17 December.

The endemic non-migratory pests were also noted to be of little significance in 2007, the most troublesome being sorghum chafers (*packnoda*), Wollo bush crickets, grasshoppers and bollworms and sesame webworm. In the forest areas, local birds and wild animals require farmers to establish routine pest scaring to avoid significant losses. Storage pests, especially weevils, are noted to be, as usual, a cause for concern throughout the country but they are particularly important in the wetter south- western zones, where stored maize losses are expected to be high. Plenty of interest in the purchase of grain storage protection chemicals was noted by the CFSAM teams among farmers in Sheka, Keffa and Bench Maji zones.

Given more crops, poor on-farm stores and few chemicals annual grain storage losses will be high in marketing year 2008 with levels expected to be 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. Despite earlier reports of rust on improved wheat, no significant events were noted or reported to the Mission. However, the significant presence of sorghum smut was 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 in 2007 as the good distribution of rain generally enhanced all plant growth. The Mission notes an increase in frequency of hand-weeding of most crops in all regions and reports

[16] Transport from the main depots in each zone to the villages to be added.
[17] This includes zones and special *woredas* that encountered repayment and delivery problems.

of "*shilshalo*" or "*gussia*" the animal-powered inter-row cultivation of maize and sorghum crops were commonly noted in all stover-crop growing areas, not, however, in the emerging low-cost mechanised farming areas in the western lowlands[18]. An apparent increase in the use of herbicides by farmers as diverse as wheat farmers in Arsi and Bale, teff farmers in Jimma and mixed cereal farmers in East Gojam is also noted. As was the case last year, the decision to buy herbicides is formed because of heavy weed infestations and a shortage of casual labour with daily rates ranging from 16 Birr to 25-30 Birr per day in most northern areas. Quantities of herbicides sold in the private sector are not available.

The combination of the positive factors noted above and the well-distributed rainfall described previously, has resulted in sustaining or slightly increasing the good yields per unit area noted by the CFSAM last year. The improved yields, in 2006 and 2007 are considered by the Mission to be due to:

- The direct effects of well-distributed rainfall on crop growth and development.
- Better financial returns to cereal growers prompting increased investment in inputs and timely pre-season cultivation and main season husbandry.
- Improved availability of fertilizers and credit.
- High demand and use for improved seeds from both certified sources and farmer-to-farmer exchanges.

3.5 Other crops

Crops contributing to household food security vary from north to south and from east to west. In the north, oilseeds, particularly sesame and *nuq*, are important to both commercial producers and peasant farmers. In 2007, enormous price rises of 100 percent in sesame prices to 1 100-1 200 Birr per quintal noted by the Mission are bound to influence area planted next year in the same way as the planting of oilseed crops increased in 2006 in response to prices of 500-600 birr per quintal for sesame in 2005. In 2007, oilseed planting was sustained at the 2006 level in Tigray (at 98 percent) and Amhara (at 99 percent) but increased in Oromia (101 percent) and Benshangul (108 percent). Yields of oilseeds are lower than last year due to the heavier rain mid-season in Amhara and Tigray but higher than last year in Oromia, resulting in a slightly increased production (101 percent) nationally, at 684 000 tonnes of which most is sesame.

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 Oromia, crops other than cereals and pulses occupy 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. Enset data from southern zones were incomplete in 2007; however, the Mission teams in the enset area noted no reasons to suppose that enset harvesting is out of balance with replanting frequency, suggesting that the area noted last year will have been sustained. Enset condition is noted to be good with yields at normal levels.

Annual roots and tubers, mostly in the same agro-ecological zones as enset have also performed well during both 2007's *belg* and *meher* seasons due to the good rains. The sweet potato and potato yields of 15-30 tonnes per ha, recorded by Mission team members during a separate study in 2003, were probably achieved in 2007 but such yields were not recorded by the BoARD officers. The Mission feels that contributions of these crops and cassava[19] to the household food economies in these localities are being seriously underestimated and requires both production and consumptive use studies.

Coffee production (June 2007-2008) is expected to be better than the previous year. According to the Coffee and Tea Authority specialists interviewed by Mission teams, the biennial cycle of production that the crop follows was favourable in 2007 and growing conditions during the year were good in all zones. The expected increase in coffee in the main 18 coffee producing zones in Oromia (11 zones) and SNNPR (15 zones and special *woredas*) is expected to be in the order of 12 percent.

The performance of other industrial field crops such as tea, sugarcane and cotton and the performance of *chat* are reported to be better than to last year, again due to better rainfall, and, in the latter case, the application of urea fertilizer to *chat* trees.

[18] See section 3.3
[19] Cassava planted at 1.5m to 2m centres is equally likely to be producing similar tonnages per ha of fresh tubers at 15-30 tonnes of fresh material per ha.

3.6 Livestock

Ethiopia has one of the largest livestock inventories in Africa, including more than 38 million cattle, 30 million small ruminants, nearly 1 million camels and 4.5 million equines and 32 million chickens (CSA, 2007 [20]), 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 9.3 million oxen providing draught power for the mixed farming system that prevails.

Much has been made of the sequence of droughts in the pastoral areas in the past five years, yet livestock returns continue to increase nationally, which is something of a paradox. Certainly recovery from shocks in the north-east and southern pastoralist areas should have been possible, as pastures and water points are noted to have been well-supported by the last 2 annual rainfalls and, for two years no premature herd migrations to the relief grazing pastures in east Amhara or South Tigray have been noted by the Mission team during field visits along the Afar- Amhara and the Afar–Tigray borders. However, given the frightful lack of information emanating from and relating to Somali, and, unlike last year when an especially constituted two-person team from the FAO and WFP international consultants visited Gode and Afder Zones to determine the prevailing situation, the Mission is not in a position to comment on the prevailing situation in the Ogaden regarding crops or, more importantly, livestock except to say that the rains during the *meher* season are noted from the VAM, WFP data to have been unusually good, however, the *deyr* rains up to December has been patchy with associated movement of livestock from poorer to better pastures.

Throughout the central highlands and western zones, good pasture and ready access to drinking water has resulted in enhanced livestock body condition during the main grazing season. 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- season 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.[21]

Disease outbreaks, noted as giving concern at zonal level, were limited in 2007 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.

The “unknown” camel disease that was reported to be causing sudden death in areas in Somali in 2006 was noted, in 2007, to have occurred in Borena and Guji, lowering the price of camels. In what may turn out to be completely unrelated circumstances, the Mission team working in Tigray notes a sudden absence of all the camel trains noted during the previous 2 CFSAM missions moving meat camels from Afar to export to Sudan. The only explanation offered by the local livestock specialists in North West Tigray was that probably all the suitable meat camels have been sold!

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

[20] CSA,2007: Private communication.
[21] 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.

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 in 2007" supposedly due to an "illness" are meaningless unless put into the context of true annual mortality rates. It is therefore, recommended that BoARD zonal livestock production staff consider the option of 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. Such records may 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 ratios that will, at least, provide an insight into livestock production of examples of specific systems for the year in question.

Throughout the country, livestock prices are firm or increasing, 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 Tigray and northern Amhara and e) increased animal exports to the Middle East via the five export abattoirs with a current capacity to export 2.4 million sheep/goats per year and through cross border trade to Sudan.

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 ever other day. Therefore, the traditional and modern poultry industries may consume around 873 000 tonnes (traditional) plus 80 000 tonnes (modern) cereals per year. 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 70 000 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.

In an interesting development in Tigray, the Abergele Fattening Agency is promoting the use on a pilot level of urea treatment of barley straw. So far, 578 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.[22]

3.7 Cereal and pulse production forecast

The CFSAM teams' visits coincided with all stages of the harvest from crop cutting to threshing depending on crop and location. The wide range of harvesting activities underway at the time of the visits enabled the Mission to undertake assessments of actual production per unit area for all cereals.

Where crops are still standing:

- Samples of 1 m^2 were taken,
- Threshed using local techniques,
- Dried when necessary to constant weight, and
- Weighed to cross-check agricultural bureaux yield estimates and farmers' predictions of production.

[22] NB Classical experiments on molasses and urea inclusion in ruminant diets by Preston and Willis et al (1965 *etc*).

Where harvesting is over:

- Quantities of stored grains or cobs were matched against the areas from whence they came and

Where threshing or combining of fields is accomplished:

- Information is obtained directly from the harvesting contractors regarding the median yields in their areas of operation.

In such ways, additional information is obtained to make adjustments to the estimates received and to counter-balance glaring inconsistencies and false declarations or to supply figures for missing data.

As noted last year, some thought needs to be given by local assessors as to how intercropping is managed. Presently, it seems likely that the *woreda* assessors disregard the area of the junior crop. The Mission feels they would be better advised to consider both crops as if they were grown in series rather than tandem, that is they should count both areas as separate entities with yields based on the plant density of each. Such data should then be added to both the area estimates and production estimates with a footnote pointing out that such areas (in hectares) are intercropped.

Some 22 500 km of transects driven by the Mission teams moving from location to location, enabled observers to take detailed records of crop conditions. Such observations were standardised using PET[23] which included the field assessment of 57 standard setting samples from a variety of cereals. In stark contrast to previous years, the 2007 Mission samples have been invariably matched or been exceeded by the higher *first-round* yields per ha presented by most *woreda* and zonal BoARDs[24]. Yields regularly noted by the Mission teams include maize (6.0 to 8.5 t measured), sorghum (4.5 to 6.0 t measured) and wheat (4.5 to 5.5t measured). Consequently, it would seem that has been a distinct improvement in realistic estimating. However, the Mission notes some over-enthusiastic, local assessing in some of the surplus areas where the higher commonly-occurring yields have been used as averages, boosting zonal performance. By the same token, the Mission also notes some underestimating of yields in what are considered to be deficit areas. There is still, therefore, a need for capacity building with regard to assessing at harvest-time including training and the provision of suitable equipment at *woreda* and DA level *viz.* PET manuals, accurate balances and quadrats.

Supervisors at all levels[25], responsible for verifying and with the habit of changing DAs' yield data, should also be shown how to assess fields objectively. This points to the need for a programme to address these issues as soon as possible, coupled with technical support from federal staff to help BoARD staff to resist either local pressures to underestimate production in order to sustain the flow of food aid or to enhance production to exaggerate performance.

Mission adjustments made to eliminate glaring inconsistencies above or below the observed norms are, however, always conservative. Despite the usefulness of the Mission's transects, our number of samples are, necessarily, few and far between.

Regional totals of area and production, prepared by the Mission, are presented in Table 6 by crop. They indicate a 2007 *meher* cereal harvest of 19.9 million tonnes from 10.7 million hectares. This is 9 percent higher than last year's CFSAM data from a 2 percent greater area. Pulses return at 1.6 million tonnes from 1.6 million hectares, a harvest that is 14 percent lower than last year's elevated estimate and closer to the earlier estimates in the past four years.

[23]Robinson, I. Stirling, C. Hunde, M. and Bradbury, H. (2004) PET-Cereals, A Pictorial Evaluation Tool for Crop Harvest Assessment in Ethiopia, CAZS, University of Wales, Bangor, UK.

[24] South Wollo Zone is the great exception, sorghum yields on the high-producing lowland plains are still being reported at less than 40 percent of their real value and far lower than similar crops in the North Wollo lowland plains.

[25] Regional as well as Zonal and *Woreda* levels.

Table 6: Area ('000 ha), Production ('000 tonnes) and Yield (tonnes/ha) of Cereals and Pulses in 2007/08 Meher Season

Region/ Item	Teff	Wheat	Barley	Maize	Sorghum	Finger Millet	Other	Total Cereals	Total Pulses	Cereals and Pulses
Tigray										
Area	151.4	89.2	111.3 1/	76.4	229.5	92.2	-	750.0	76.7	826.7
Yield	0.87	1.68	1.44	2.16	1.5	0.98	-			
Production	131.7	150.0	159.8	165.4	343.4	90.1	-	1 040.4	63.5	1 103.9
Afar										
Area	4.6	0.0	5.4	31.3	4.1	-	-	45.4	0.4	45.8
Yield	0.65	0.0	0.87	2.0	0.96	-	-			
Production	3.03	0.0	4.7	62.8	3.9	-	-	74.4	0.3	74.7
Amhara										
Area	807.3	445.6	317.4	402.3	519.6	169.2	43.0	2 704.4	553.4	3 257.8
Yield	1.35	2.10	1.63	3.03	1.8	1.61				
Production	1 090.0	935.1	511.1	1 217.8	935.5	271.6	108.0	5 069.1	524.6	5 593.7
Oromiya										
Area	1 298.9	1 252.3	728.0	1 203.8	863.2	158.0	29.9	5 534.1	641.6	6 175.7
Yield	1.11	2.48	1.83	2.28	1.84	1.09				
Production	1 434.8	3 106.3	1 332.6	2 744.8	1 583.6	172.9	36.4	10 411.4	703.0	11 114.4
Somali 2/										
Area	-	3.9	3.3	37.0	24.4	-	0.8	69.4	0.7	70.1
Yield	-	1.0	0.3	0.7	0.7	-				
Production	-	3.9	1.0	25.9	17.1	-	0.2	48.1	0.2	48.3
Benl-gmuz										
Area	19.2	4.7	3.5	50.0	55.9	30.1	0.4	163.8	14.7	178.5
Yield	0.65	1.11	1.04	2.05	1.79	1.38				
Production	12.4	5.25	3.6	102.2	100.2	41.5	1.3	266.5	12.9	279.4
SNNPR										
Area	321.4	258.3	154.0	503.0	131.9	9.5	5.7	1 383.8	269.1	1 652.9
Yield	1.01	2.91	1.81	2.63	1.79	1.02				
Production	323.0	752.7	278.1	1 321.2	236.1	9.7	19.2	2 940.0	270.5	3 210.5
Gambella										
Area	-	-	-	12.6	5.4	0.3	-	18.3	0.3	18.6
Yield	-	-	-	1.05	0.9	0.9	-			
Production	-	-	-	13.3	4.3	0.3	-	17.9	0.3	18.2
Harari										
Area	-	0.1	-	1.5	5.5	-	-	7.1	-	7.1
Yield	-	1.0	-	1.1	0.8	-	-		-	
Production	-	0.1	-	1.6	4.5	-	-	6.2	-	6.2
A. Ababa										
Area	4.1	4.1	0.1	-	-	-	-	8.3	1.2	9.5
Yield	1.6	1.6	1.0	-	-	-	-			
Production	6.6	6.6	0.1	-	-	-	-	13.3	1.5	14.8
Dire Dawa										
Area	-	-	-	-	0.4	11.2	0.4	12.0	0.2	12.2
Yield	-	-	-	-	1.7	1.1				
Production	-	-	-	-	0.7	12.8	0.3	13.8	0.1	13.9
TOTAL										
Area	**2 606.9**	**2 058.1**	**1 323**	**2 317.9**	**1 839.9**	**470.5**	**80.2**	**10 697**	**1 558**	**12 255**
Yield	**1.15**	**2.41**	**1.73**	**2.44**	**1.75**	**1.27**				
Production	**3 001.7**	**4 960.0**	**2 291.0**	**5 655.0**	**3 229.3**	**598.9**	**165.4**	**19 901**	**1 577**	**21 478**

Note: Totals computed from unrounded data.

1/ With hamfes/wazarat.

2/ Somali data incomplete, further visits to the Regional Bureau as part of the CFSAM should be reconsidered in the light of the dearth of realistic data provided. As was the case last year, a separate mission incorporating rapid appraisal by air should be mounted each year.

Time series data for the past five years are provided in Table 7 for comparison purposes. They show that 2007 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 7: Ethiopia - Cereals and Pulses Production - Comparison of 2003/04 to 2007/08 *Meher* Seasons

Region	Meher season	Cereals		Pulses		Cereals and Pulses	
		Area ('000ha)	Production ('000 tonnes)	Area ('000ha)	Production ('000 tonnes)	Area ('000ha)	Production ('000 tonnes)
Tigray	2003/04	761	677	52.5	28.0	814	705
	2004/05	729	596	71.0	36.7	800	633
	2005/06*	743	955	69	55	812	1 011
	2006/07	**734**	**1 094**	**68**	**69.6**	**801**	**1 163**
	2007/08	**750**	**1 040**	**77**	**64**	**827**	**1 103**
Afar	2003/04	12.8	12.8	0.2	0.8	13.0	13.8
	2004/05	21.2	32.6	0.3	0.3	21.5	32.9
	2005/06*	20.6	39.6	0.4	0.4	21.1	40.1
	2006/07	**35**	**65**	**0**	**0**	**35**	**65**
	2007/08	**45**	**74**	**0.4**	**0.3**	**46**	**75**
Amhara	2003/04	2 276	2 705	460	216	2 736	2 921
	2004/05	2 307	3 365	468	474	2 775	3 892
	2005/06*	2 345	4 074	453	420	2 798	4 496
	2006/07	**2 748**	**4 882**	**527**	**617**	**3 324**	**5 499**
	2007/08	**2 704**	**5 069**	**553**	**525**	**3 258**	**5 594**
Oromiya	2003/04	4 395	5 579	541	391	4 937	5 970
	2004/05	4 757	7 279	606	564	5 363	7 843
	2005/06*	5 274	9 489	706	732	5 980	10 221
	2006/07	**5 359**	**9 654**	**807**	**879**	**6 167**	**10 553**
	2007/08	**5 534**	**10 411**	**642**	**703**	**6 176**	**11 114**
Somali	2003/04	210	61	6.5	2.0	217	63
	2004/05	193	114	8.8	5.5	202	120
	2005/06*	132	85	4.0	2.9	136	88
	2006/07	**67**	**86**	**0.7**	**0.5**	**68**	**87**
	2007/08	**69**	**48**	**0.7**	**0.2**	**70**	**48**
Ben-gum	2003/04	142	165	14.3	9.6	156	175
	2004/05	133	160	12.6	6.8	146	167
	2005/06*	154	194	13.6	6.2	168	199
	2006/07	**154**	**159**	**16**	**11**	**170**	**217**
	2007/08	**164**	**266**	**15**	**13**	**179**	**279**
SNNP	2003/04	1 194	1 453	192	143	1 386	1 595
	20004/5	1 052	1 414	238	171	1 289	1 585
	2005/06*	1 280	2030	242	208	1 523	2 237
	2006/07	**1 270**	**2 251**	**269**	**254**	**1 539**	**2 505**
	2007/08	**1 384**	**2 940**	**269**	**271**	**1 653**	**3 111**
Gambella	2003/04	15.6	17.6	0.9	1.2	16.5	18.8
	2004/05	9.6	13.2	1.0	1.0	10.6	14.2
	2005/06*	16.2	17.8	1.0	0.6	17.2	18.4
	2006/07	**16.1**	**16.3**	**0.3**	**1.4**	**16.4**	**17.7**
	2007/08	**18.3**	**17.9**	**0.3**	**0.3**	**18.6**	**18.2**
Harari	2003/04	9.8	7.1	0.0	0.0	9.8	7.1
	2004/05	9.9	9.0	0.0	0.0	9.9	9.0
	2005/06*	9.7	14.4	0.0	0.0	9.7	14.4
	2006/07	**6.5**	**11.4**	**0.0**	**0.0**	**6.5**	**11.4**
	2007/08	**7.1**	**6.2**	**0.0**	**0.0**	**7.1**	**6.2**

A Ababa	2003/04	8.8	17.1	1.7	2.1	10.5	19.2.
	2004/05	8.5	13.7	1.9	1.9	10.4	15.4
	2005/06*	9.3	18.4	1.1	1.1	10.4	11.6
	2006/07	**9.0**	**17.4**	**0.9**	**1.1**	**9.9**	**18.4**
	2007/08	**8.3**	**13.3**	**1.2**	**1.5**	**9.5**	**14.8**
Dire Dawa	2003/04	11.4	4.3	0.0	0.0	11.4	4.3
	2004/05	12.0	9.6	0.0	0.0	12.0	9.6
	2005/06*	12.6	10.1	0.0	0.0	12.6	10.1
	2006/07	**11.5**	**13.9**	**0.2**	**0.1**	**11.7**	**14.0**
	2007/08	**12.0**	**13.8**	**0.2**	**0.1**	**12.2**	**13.9**
TOTAL	**2003/04**	**9 036**	**10 699**	**1 268**	**794**	**10 304**	**11 493**
	2004/05	**9 234**	**13 751**	**1 408**	**1 299**	**10 640**	**15 049**
	2005/06*	**9 967**	**16 875**	**1 449**	**1 407**	**11 417**	**18 281**
	2006/07	**10 459**	**18 264**	**1 690**	**1 833**	**12 149**	**20 094**
	2007/08	**10 697**	**19 901**	**1 558**	**1 577**	**12 255**	**21 478**

Note: Totals computed from unrounded data.
* 2005/06 *meher* corrected during CFSAM 06/07 using Fed MoARD data. Revised national area > 0.5 percent; revised national production >6.9 percent (similar to last year's correction factor of + 7 percent).

3.8 Belg harvest

In 2007, the Mission was provided with the MoARD/FAO post-harvest assessment of the 2007 *belg* season and collected data from all the *belg* producing *woredas* and zones during field visits by the Mission teams.

Belg 2007 rains are recognised as favourable with a further increase reported in both areas planted and yields obtained during the *belg* season when compared to the very good harvest last year. The Mission summaries for both 2006 and 2007 for all cereals and total pulses only are presented in Table 8. Unlike 2006, no *belg* planting was obtainable from Tigray, therefore the estimates have been derived from data obtained from the Regions Oromiya (56 percent area); SNNPR (27.5 percent area) and Amhara (13 percent 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 harvest in 2007 was again exceptional, with a 30 percent increase in planted area and a similar increase in production.

Table 8: Ethiopia – National Harvest Belg cereals and pulses production in 2006 and 2007

Crop	Belg 2006			Belg 2007			Difference (2007/06)	
	Area (ha)	Yield (q/ha)	Production (tonnes)	Area (ha)	Yield (q/ha)	Production (tonnes)	Area (%)	Production (%)
Teff	79 765	8	60 250	111 232	8	84 348	139	140
Wheat	72 718	15	107 661	147 593	13	187 288	203	174
Barley	204 066	15	296 059	237 241	16	373 124	116	126
Hamfes	358	7	263	218	8	166	61	63
Maize	245 382	22	535 914	314 794	21	649 096	128	121
Sorghum	79 017	13	100 587	60 113	14	81 896	76	81
Millet	6 199	6	4 007	5 380	7	3 633	87	91
Oats	3 956	11	4 518	6 141	11	6 867	155	152
Rice	194	17	321	5 102	36	18 358	2 630	5 718
Total cereals	**691 655**		**1 109 580**	**887 814**		**1 404 778**	**128**	**127**
Pulses	97 721	9	83 651	137 857	8	112 834	141	135
Total grains	**789 376**		**1 193 232**	**1 025 671**		**1 517 612**	**130**	**127**

Note: Totals computed from unrounded data.

The last two *belg* crops are estimated to have contributed between 1.0 and 1.5 million tonnes of grains to domestic availability, however, three years ago the contribution was far less at an estimated 300 000 tonnes,

consequently, when considering the balance, the Mission feels compelled to make a cautious forecast for the *belg* in 2008 at no more than 600 000 tonnes of cereals and pulses.

It should also be noted that, as in all previous years, maize yields used in 2007 estimates of the *meher* harvest include "maize eaten green" earlier in the year from *meher* harvested fields. 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 2008 is justified in the same way as the inclusion of the 2008 *belg* harvest is justified in that it is assumed that both green maize and *belg* harvests will be domestically available next year.

4. GRAIN SUPPLY/DEMAND SITUATION

4.1 Main characteristics of grain markets

Since March 1990, after a 15-year period of heavy interventionist approach by the government with tight control of prices and inter-regional trade, grain markets have been gradually liberalized, becoming more efficient and competitive. After the 1990 market reform, 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 (quota) 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. EGTE's aim is to stabilise retail grain prices in the country via local purchasing of surplus. Its core activities are (i) to export of oilseeds and pulses, (ii) to supply grain to local food processing industries and (iii) to supply food grain for government, non-government organizations, city dwellers and other customers. However, although EGTE has a commercial role, its stock levels and storage capacity are more important for disaster prevention and preparedness.

The 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 players in the market is considerable, including assemblers, brokers, wholesalers, retailers, agro-processors, parastatal reserve agencies, exporters, cooperatives and unions. As about 75 percent of Ethiopian 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 animals 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, to a lesser extent, the rural/urban retailers and consumers. Wholesalers are generally licensed grain traders who receive grain from rural assemblers, but also buy directly from small farmers and state/commercial farms. They usually sell their grain 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, outside of farmers' own stores, 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.[26]

Most grain traders operate through specialized brokers, mainly located in Addis Ababa's market that functions as the main national clearing market and where large volumes of grains from surplus areas transit towards terminal markets in deficit areas[27]. Here brokers, normally specialized by route, 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 infrastructure. A difficult geography and the low priority to road construction given by the socialist regime of the Derg in the 1980s have determined that the country has one of the world's lowest per capita road densities. Normally, farmers have to sell their surplus grain production in markets that are 5 to 20

[26] 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 Agency (EFSRA), with a national network of about 65 warehouses in 7 branches with a storage capacity of about 400 000 tonnes, and the major relief agencies, mainly the World Food Programme (WFP).

[27] Nazareth and Dessie are other markets that perform similar functions, but with reduced volumes.

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. Beyond the infrastructural constraints, grain market access is also determined by the availability of reliable and timely information. The CSA collects prices for the preparation of the Consumer Price Indices, but they are released too late to be used as a decision making tool by farmers and traders. At the same time, the EGTE collects market information for its own purposes (prices and volumes) and it periodically publishes on its website the monthly wholesale prices for major grains (cereals and pulses) in about 25 markets throughout the country. However, farmers, brokers and traders generally rely on their own personal contact networks in order to gather relevant and timely information and this process is evidently supported by the rapid diffusion of mobile phones.

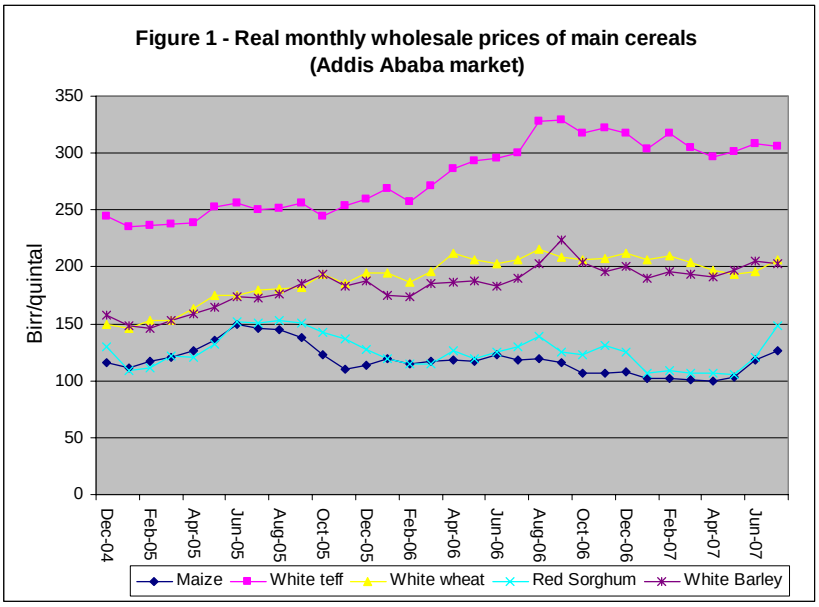
A radical change in the functioning of Ethiopian agricultural markets is expected to take place with the launch of the Ethiopian Commodity Exchange (ECEX) in February 2008. Drawing inspiration on Chicago's original board of trade, the ECEX intends to create a new marketplace where buyers and sellers 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 ECEX will guarantee the characteristics of the traded commodities through warehouse receipts issued by a 10 ECEX-run warehouses network in surplus areas, where produce will be independently weighed, graded and certified. It is expected that farmers throughout the country may be able to negotiate better prices and to gain a market premium according to the quality of their product. The establishment of 20 remote access terminal centres in major markets and of 200 electronic price tickers at *woreda* level, coupled with media coverage, will provide farmers with updated, independent and real time access to price information. In its first phase, ECEX trading will cover six commodities, namely maize, wheat, teff, coffee, sesame and pea beans, which totally account for about US$1 billion trade.

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 2006/07, the number of primary cooperatives has increased to 22 200 from 20 400 the year before, mainly in urban areas in order to tackle problems related to food inflation through provision of credit for consumption. Cooperatives buy approximately some 5-10 percent of cereal production and it is reported that they are gradually increasing their own storage capacity throughout the country.

4.2 Food prices

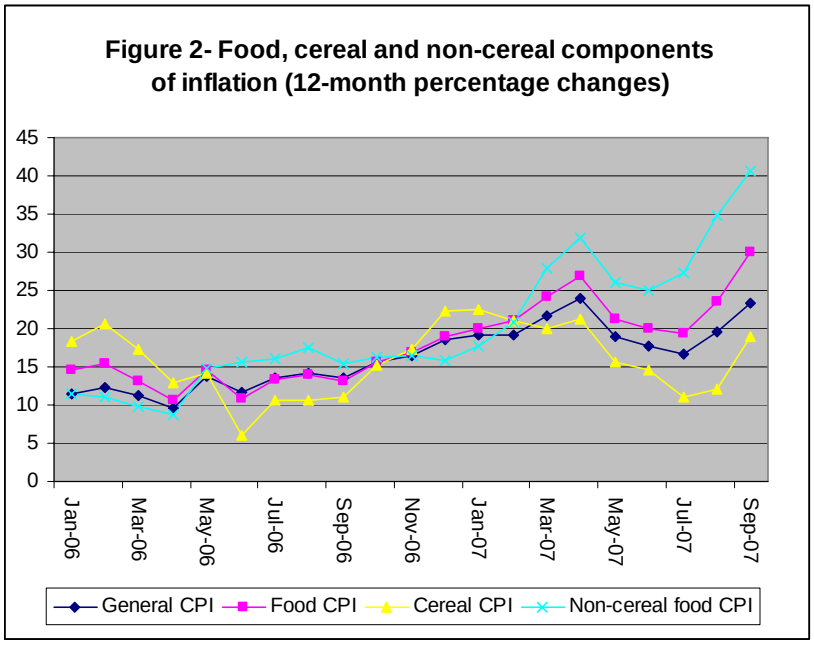
Historically, Ethiopian grain prices have followed a "typical" seasonal pattern. From November through December, prices start to decline due to the large supply that floods the market after the major harvest as farmers need cash to fulfil their tax obligations, to repay loans and to purchase food. Usually about 80 percent of the annual sales of farmers take place between January and March and prices reach their lowest level in April. Then they start rising from May to August, during the lean season, as stocks are gradually depleting and the new harvest is approaching. In general, there is a fairly stable relationship over time among prices of main cereals, with teff having the highest unit price, followed by wheat and barley and then by sorghum and maize with the lowest price.

When comparing nominal prices of the five major cereal commodities, it is evident that the expected "typical" pattern has not been strictly after the arrival on the markets of the first bumper harvest at the end of 2004. For teff, wheat and barley, prices have shown an almost steady upward trend. By August-September 2006, real monthly wholesale prices (based on EGTE data, deflated by the national monthly non-food consumer price index) of teff, wheat and barley in the Addis Ababa market registered record levels, with an increase of between 30 and 20 percent above previous year's prices at the same time. In particular, an important factor explaining the increase in wheat prices is the rising demand by mills, in particular in southern regions of the country where local processing industries export flour and pasta into northern Kenya. For long-cycle cereals (maize and sorghum), the trend in real monthly wholesale prices reached a maximum between June and August 2005 and thereafter it has been reversed.



Source: Ethiopian Grain Trade Enterprise

According to Mission's findings as well as recently published EGTE data, the arrival on markets of the first quantities of the recently harvested maize crop in October and November 2007 is already having an impact on nominal prices, showing a reduction of about 20 percent if compared to the level reached in September. Lower signals of nominal price reduction are also reported for wheat, while teff price is stable due to the fact that the majority of the product has yet reached the markets, being still to be harvested or threshed. Some consumption shifts from expensive teff and wheat to more affordable maize (and sorghum) are reported, with increasing movements from surplus (South and South-West) to deficit areas (East and Centre).



Source: International Monetary Fund.

Regarding the growing rate of overall inflation, it is evident that there is a high degree of correlation between General CPI and Food CPI, since the latter accounts for about 60 percent of the former. However, by the beginning of 2007, there is some evidence that recent inflation is mainly driven by the strong increase in non-cereal food prices that had climbed especially in the months of August-October with market speculations linked to the Ethiopian Millennium celebrations (it is worth mentioning the spectacular price increase of red

pepper, responsible of some 5 percent increase in CPI, due to expectations of massive buying by the returning Diaspora) (see Figure 2). In addition to spices, non-cereal food commodities that have shown substantial increase in prices are pulses and oilseeds. For example, between January and August 2007, the nominal price of nigger seed went from 341.25 to 778.00 Birr/quintal (+128 percent), while rapeseed price went from 278.75 to 504.00 Birr/quintal (+80 percent).

4.3 National grain supply/demand balance in 2008

As in 2006 CFSAM report, 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 2008 national grain balance (January-December marketing year) is summarized in Table 9 and is based on Mission's production estimate for the 2007 *Meher* crop and forecast of the 2008 *Belg* crop and the latest information on consumption, trade flows and stocks availability:

- Total cereal and pulse production is estimated at 22 million tonnes, including 21.5 million tonnes from the main *Meher* crop and a provisional forecast of 600 000 tonnes for the 2008 *Belg* crop. As these estimates are based on a field assessment carried out mainly during the month of December, final production figures, once all *meher* season crops are harvested by end January, may vary.
- Opening stocks of grains for 2008 marketing year (January/December) are estimated at about 376 000 tonnes. These include about 180 000 tonnes held by the Emergency Food Security Reserve (EFSR), about 28 000 tonnes in WFP's warehouses and approximately 37 000 tonnes as food aid already in the pipeline. 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 130 000 tonnes.
- Feed use is forecast at about 1.04 million tonnes, largely for the traditional and modern poultry industries, dairy industry and equines.
- Seed requirement is estimated at 855 000 tonnes on the basis of recommended seed rate in Ethiopia and a planted area of 12.7 million ha of cereals and pulses in 2008/09 (including forecast of 2008 Belg). The following seed rates have been used: 150 kg/ha for wheat, 120 kg/ha for barley, 35 kg/ha for teff, 30 kg/ha for maize, 80 kg/ha for finger millet, 15 kg/ha for sorghum, 80 kg/ha for pulses and 100 kg/ha for other cereal crops (rice and oats).
- Losses and other uses are estimated at 3.5 million tonnes. Rates of post harvest losses range from 5 percent for teff and finger millet to as high as 25 percent for maize and pulses. The post harvest losses have averaged at about 15 percent of the total *meher* harvest. As "Other uses", it includes the amount of barley, maize and sorghum used for brewing.
- Exports are expected to be at high level of about 800 000 tonnes. This is related to the exceptionally good harvest, but it also considers suggestions of recent increases in cross-border grain trade. More studies to estimate unregistered exports of cereals are needed.
- Food use is estimated at 15.54 million tonnes, using a 2008 mid-year population of 79.24 million persons and a per capita average consumption at 196 kg of cereals and pulses. This per capita value represents a 15 percent increase over the CSA estimates for 2000 per-capita consumption as reported in the 1999/2000 Household Income, Consumption and Expenditure Survey. Per-capita consumption comprises 50 kg of maize, 42 kg of wheat, 33 kg of teff, 33 kg of sorghum, 16 kg of barley, 7 kg of millet, 14 kg of pulses and 2.0 kg of other cereal crops.
- Closing stocks are forecast at 684 000 tonnes, representing national food requirements for about three weeks. Wheat and barley are expected to account for the bulk of the closing stocks with about 630 000 tonnes and the rest being mostly pulses, teff and rice.

Table 9: National Grain Balance ('000 tonnes)

	Teff	Wheat	Barley	Maize	Sorghum	Finger millet	Others	Total cereals	Pulses	Cereals and Pulses
Domestic availability	**3 060**	**5 284**	**2 459**	**5 932**	**3 271**	**600**	**181**	**20 787**	**1 667**	**22 454**
Opening stocks	25	250	20	20	10		6	331	45	376
Total production	**3 035**	**5 034**	**2 439**	**5 912**	**3 261**	**600**	**175**	**20 456**	**1 622**	**22 078**
2007 Meher season	3 002	4 960	2 291	5 655	3 229	599	165	19 901	1 577	21 478
2008 Belg season	33	74	148	257	32	1	10	555	45	600
Total utilization	**3 060**	**5 284**	**2 459**	**5 932**	**3 271**	**600**	**181**	**20 787**	**1 667**	**22 454**
Food use	2 615	3 328	1 268	3 962	2 575	521	158	14 428	1 109	15 537
Seed use	93	317	165	73	28	37	13	726	129	855
Feed use		200	300	276	250		10	1 036		1 036
Losses and other uses	152	667	518	1 528	390	42		3 297	244	3 541
Comm. & informal exports	180	350		93	28			651	150	801
Closing stocks	21	422	208					649	35	684

Note: Totals computed from unrounded data.

ANNEX 1

CROP PRODUCTION SITUATION BY REGION

Oromia

Oromia, 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.

In 2007, the Region had good *belg* rains in 6 out of the main *belg* harvest zones and production has been estimated by the current Mission from data received at 806 000 tonnes of cereals and pulses from 550 000 ha in the zones of Guji, Borena, East Arsi, West Arsi, North Shoa (Fiche), and East Haraghe. This estimate is 27 percent greater than final *belg* 2006 zonal estimates collected by the Mission during 2007 visits. In the Region, the *belg* was followed by a timely onset to the main season and *meher* season rains were plentiful and well-distributed geographically ending in October.

The timely availability of credit and fertilizers, plus pro-ploughing policies of the regional government, young farmer entry schemes, combined with good prices for cereals and pulses during the year, encouraged a slight expansion in cropped area. Regional combined fertilizer (DAP and urea) use was 181 000 tonnes, 6 percent higher than last year's level for the *meher* crop[1] at around 170 000 tonnes, with distribution increasing in 16/20 zones despite increases in retail price of 40-50 Birr per quintal.

Last year localised floods and water-logging are noted to have prompted some replanting but even with some need to replant in 2007, seed availability *per se* was not an issue. Regarding local seeds, farmer- to-farmer seed exchanges 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. In 2007, due to availability, higher than normal seed rates were noted and optimal cultivation practices were reported to have been fully observed resulting in an area planted to cereals 3 percent greater than 2006's estimate, which is mostly due to increased maize planting. The area sown to pulses has fallen by a similar area suggesting widespread substitution of pulses for maize as commercially-orientated farmers and investors cash in on the combination of high prices and good yields now obtainable.

Regarding pests and diseases, apart from a reported outbreak of army worm in the Wellega zones that was immediately swamped by heavy rains, no migratory pest attacks are noted in Oromia Region. Non-migratory pests are, however, ubiquitous but, as usual are rarely treated. Last year mild to intermediate/average infestations of the regular non-migratory insect pests including sorghum chafer, stalk-borer, shoot-fly, bollworm, grasshoppers, termites 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 in 2007, 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 15 Birr per labourer per day (plus food) in such areas.

According to the BoARD Mission adjusted figures, the current Oromia *meher* crop is estimated to have resulted in 10.411 million tonnes of cereals and 0.703 million tonnes of pulses, which is a cereal harvest 8 percent greater than last year's CFSAM cereal estimate, due to sustained yields and an increased cereal at the expense of pulses. Pulse production estimates, in contrast, has dropped by 19 percent due to a reduction in area that has seemingly been switched to maize production. In 2007, the cereal estimates comprised 3.11 million tonnes of wheat, 2.74 million tonnes of maize, 1.58 million tonnes of sorghum, 1.43 million tonnes of teff and 1.33 million tonnes of barley. Regarding the minor cereals finger millet, rice and

[1] Fertilizer use on the *belg* crop was estimated at 20 000 tonnes in 2007.

oats the combined harvest is estimated to be around 0.2 million tonnes. Unlike last year, the area data from CSA are still being processed and are not available for comparison purposes

Grain prices in Oromia, which are presently firm being the same or higher than in December 2005 in all zones, are expected to fall in the next two months when the new harvest is presented for sale. As was the case last year, local purchasing for distribution out of the region is recommended.

Settled livestock condition in the zones visited by the Mission team was recorded 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.

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 26 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.

In 2007, *belg* rains in the north eastern production zones of North Wollo, South Wollo, Oromiya and North Shoa (Amhara) were much better than 2006. Mission returns suggest that the planted area in the four zones is up 24 percent with a harvest 40 percent greater than last year at around 175 000 tonnes.

Regarding the *meher* season, the start was timely and was followed by well-distributed rains that continued throughout the season until October which prompted increased planting of all types of cereals. After the settling of statistics, noted by the Mission in 2006, whereby cereal area increased by 17 percent, 2007 sees a slight drop (1.6 percent or 44 000 ha) in cereal area, whereas area sown to pulses exhibits an increase of more than 4 percent (26 000 ha). The cereal areas of commercial growers and resettlers (5 000 ha) that are registered have been included in the data set, however, there are now thought to be unregistered areas being farmed by investors and settlers so the data are incomplete.

No reports of cultivating difficulties reached the Mission and no significant fallow areas were noted in what is a very intensively farmed region.

Regarding seed availability, given last year's good season, no overall seed shortages were either anticipated or noted in 2007, however, the demand for improved maize seed exceeded supply.

Other commercial input utilization in Amhara in 2007 follows the pattern established in the last few years with fertilizer use increasing slightly by 10 000 tonnes to 33 percent of the national distribution at 127 000 tonnes; an unquantifiable increase in herbicide use (2 4 D) and the occasional use of pesticides on non-migratory pests.

In 2007, pest and disease outbreaks were noted to be minimal. An outbreak of *desert locust* in North Gondar was eliminated in a few days by on-ground spraying in July and no other sustained threats from migratory pests were reported. Non-migratory pests noted in 2007, as most years, include sorghum chafers in the eastern zones, Wollo bush crickets, stalk-borers, boll-worms, aphids, termites and grasshoppers but no infestations were described as anything but mild affecting a few hundred hectares.

Good *meher* crop production is evident throughout the Region. Excellent sorghum crops were recorded in the transects driven through all 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). In the western zones of Awi, West and East Gojam, early starts to the *meher* and good mid-season rainfall encouraged planting of maize which was also picked out in the transects as being very productive in 2007, with yields matching the high yields reported by the CFSAM 2005 and 2006 being cited by BoARD

staff. 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.

In Meket *woreda*, North Wollo Zone, in the usually marginal producing highlands, surprisingly good wheat and barley crops at around 2.0 tonnes/ha, around twice the usual yield, were recorded in transects and measured in fields. In adjacent *woredas* in Weghamra Zone, the crops were, however, similar to previous years.

The resulting Amhara Region cereal harvest is estimated at 5.069 million tonnes, 4 percent higher than the CFSAM estimate for *meher* 2006 from a similar area. Pulses from an area 5 percent higher, exhibit a production estimate some 20 percent lower possibly due to an inflated yield estimate in 2006 rather than poorer performance in 2007.[2]

Last year maize contributed 1.2 million tonnes, sorghum 0.93 million tonnes, teff contributed 1.09 million tonnes, wheat 0.93 million tonnes, barley at 0.51 million tonnes and finger millet at 0.27 million tonnes towards the cereal harvest. Other cereals, including oats and rice, contributed 108 000 tonnes to the remainder of the crop.

Cereal prices are similar to this time last year but 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. Lower scores were noted on the Cheffa plain where community grazing land has been lost to large-scale farming operations. No disease outbreaks are noted and the regular round of vaccinating is being conducted for the endemic diseases, however, charges presently being levied by vaccinators should be monitored to ensure compliance to policies. Livestock prices are stable at rates similar to or 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 SNNP 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. Fortunately, the majority of the rural population 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.

In 2006, *belg* rains were very good in all the 12 potential *belg* producing localities[3], resulting in a harvest of cereals and pulses estimated by the Mission to be 0.470 million tonnes from an area reported to be 12 percent greater than last year's final estimated area at 270 000ha[4]. This substantial boost to local food security from cereals and pulses will have been augmented by contemporary harvests of potatoes and sweet potatoes, which along with enset provide the preferred staple for most of the population of the region.

Rainfall post-*belg* is reported also to have been good throughout the region, if somewhat heavy mid-season in some localities. Given the encouragement of good, early *meher* rains the Mission notes an 9 percent increase in *meher* cereal area to 1.38 million ha, and area to pulses has been sustained at last year's higher level, suggesting the incorporation of new arable land in the less populated zones and special *woredas.* In the enset producing high and middle altitude zones of the region, the crop area is said to have been extended but no area data are available.

[2] Pulse yields are difficult to estimate, most pulses seen by the Mission are either harvested or are still in the vegetative stage. No PET has been prepared for pulses so the true range of performance, in all regions not just in Amhara, is not known.
[3] Burji, Amaro, Gedeo, Konso, Derashe, South Omo, Wolaita, Gamugofa, Kembata- Tembura and Dawro all had significant *belg* harvests in 2007. Eturns from sidame and Hadiya were not available to the Mission.
[4] 50 percent of both the 2006 and the 2007 early MoARD return, which suggest definition problems at the time of land preparation and sowing.

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 fallen to 29 000 tonnes, suggesting a reduction in the market share from 11 percent to below the 9 percent market share in 2005 due to loan repayment and distribution problems.

Pests and diseases were, again, noted to be minimal in 2007. Regarding migratory pests, the presence of migratory *Quelea quelea* bird nesting sites are noted in Konso Special *Woreda* but no outbreaks ensued due to controlling measures undertaken by MoARD. Armyworm outbreaks occurred in some of the southern special *woredas* early in the *meher* season but were effectively controlled by the heavy rain and pest control measures. 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 24 percent greater than last year at 3.11 million tonnes, comprising about 1.32 million tonnes of maize, 0.23 million tonnes of sorghum, 0.32 million tonnes of teff, 0.75 million tonnes of wheat, 0.28 million tonnes of barley and 0.27 million tonnes of pulses. Regarding other crops this *meher* season, areas of Irish potatoes have risen to 41 000 ha but the sweet potatoes returns seem incomplete at around 8 000 ha but even so, with Mission expected yields of c15 tonnes per ha, the potato contribution to household food economies will be considerable at a further 150 000 tonnes of cereal equivalents during the coming 3-4 months. Such a contribution, although significant does not match the annual production from enset, which, from a similar area of established orchards and given an 8 year cycle of tree turnover, may be producing around 468 000 tonnes of cereal equivalent.[5]

No CSA data were available for comparison in 2007 as the data are still being processed.

Livestock condition in the zones and special *woredas* visited by the Mission team was recorded 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.

Tigray

Tigray, the northernmost region of Ethiopia bordering Sudan and Eritrea, has a cultivated area of more than 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.

Regarding the western lowlands, after several years of contiguous assessment it is now clear to the Mission that the 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 are now noted to use one-pass-sow land preparation, no intra-field water management, no inter-row 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.

[5]Assumptions for enset; 72 000 ha connects to an annual harvest of 9 000 ha given stable orchards and an 8 year cycle yielding 130 tonnes of *kucho* per ha (52 kg per tree at 2x2m spacing) and estimating *kucho* at 40 percent dry-matter, enset harvested over a year may provide 468 000 tonnes of net starch.

Regarding rainfall last year, in the Southern Zone, 6 *woredas* usually produced a *belg* harvest, last year the rains were late and no *belg* crop was registered. However, regarding the whole Region, the start to the *meher* was prompt and heralded a similarly good season to last year in almost all *woredas*. Only in the Western Zone *woreda* of Kafta Humera and the Central Zone *woreda* Tanqua Abergele were rainfall conditions non-conducive for better production than last year. Elsewhere, timelier and better than average-distributed rain during July, August and September encouraged and sustained *meher* season production possibilities. *Meher* season rains in the north-west were timely and their onset was followed by good distribution but an early finish is unlikely to support the extensive fields of later sown *wanza* sorghum in Shire that will be harvested in January as well as last year.

In the Eastern Zone, apart from supporting the crops growing *in situ*, the good rains generated a series of run-off spates that produced many more floods than are usually experienced in the Southern Zone fertile plains of Alamata and, to a lesser extent Raya-Azebo (Mehoni). Early rain, several run-offs and good rains in the middle of the season, supported excellent maize and sorghum production in Alamata continuing the long series of highly productive sorghum areas along the eastern lowlands of the country that begins in Amhara, North Shoa and continues through Cheffa (Oromiya Zone), South and North Wollo to Alamata and finishing north–east of Mehoni. Excellent crops of wheat and sorghum were also noted in Offla, where the Mission measured samples of 5.5 tonnes of wheat and 8 tonnes of sorghum per ha confirming the sorghum growing highlands of the Southern Zone also had sufficient rainfall to sustain a very good crop[6].

Fertilizer use increased by 5 000 tonnes and is mostly DAP, a reflection of price and credit policies in the fertilizer using areas. Cereal seed supply in 2007 was almost entirely from farmer-saved stocks, local markets or seed banks. Backyard maize production was also noted by the Mission 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, no significant outbreaks of pests were noted in 2007, however, 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 were again available to the investor farmer/traders at the time of the CFSAM due to a permeable border and trade agreements between the two countries recently epitomised by the official opening of a new stretch of tarmac road across the border. Farm gate prices of sesame were exceptionally high having increased by 100 percent in four months to 1 100-1 200 Birr per quintal. Trade routes for sesame are to the west, towards Sudan and the large trading companies are rapidly constructing warehouses in Humera with a current capacity of 60 000 tonnes. The regional oilseed area has been sustained at 230 000 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.

All the BoARD offices in Tigray use data generated by the DAs in the manner described earlier in Section 3. These data are substantiated through socio-economic surveys conducted by the Regional Government, REST and other agencies. Household farm sizes have been registered during land-redistribution programmes throughout the region and offer a direct means of cross-checking assessments. No CSA data were available for comparison purposes in 2007.

Mission estimated yields derived by adjusting *woreda* data following transects, crop-cutting, and case-studies in 17 of the 34 *woredas,* are similar to last year except in the Western Zone where poorer crop performances were noted in Kafta Humera due to less rain and the accumulative effect of low input practices of the mechanised farmers.

The Mission estimates that cereal and pulse production will be very similar to last year with a harvest of 1.103 million tonnes. The cereal production estimate and comprises 132 000 tonnes of teff, 150 000 tonnes of wheat, 160 000 tonnes of hamfes and barley, 165 000 tonnes maize, 343 000 tonnes of sorghum and

[6]The WFP VAM water indices show a seasonal deficit for sorghum growing in the Southern Zone Tigray. This is clearly a mistake, partly due to the expected and regular use of spate floods (Alamata and Raya Azebo) and partly due to possible rain-cloud- data related problems (Offla).

90 000 tonnes of finger millet. Estimates for pulses and oilseeds are 64 000 tonnes and 120 650 tonnes respectively.

Livestock condition in all the zones is noted to be good. No cattle herds exhibiting the poor body condition scores of 1 to 1.5 noted 3 years ago in south-east and eastern woredas have been seen for the past 2 years. Such continued improvement is due to better pastures and drinking water supply and an absence of debilitating disease outbreaks. However, enclosure policies restricting access to grazing stock in both national park areas and exclusion zones, is likely to affect pastoralist routes in Western and North Western Zones respectively in the coming year with possible concomitant effects on body condition of transhumant animals and settled livestock unless alternative grazing areas are designated for use.

Presently, livestock prices are higher than last year throughout the region because of the buoyant market for all classes of stock, partly because of the good grazing, partly because of a strong export trade and partly because of regional investment in credit programmes for livestock purchase. The Abergele Fattening Agency is promoting the use on a pilot level of urea treatment of barley straw to finish livestock. So far, 578 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 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. This may prove difficult to do unless export prices for fattened cattle are high enough to justify the use cereals in the diet.[7]

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, 2007's rainfall has been similar to 2006, a good year, in both 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 in 2007 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. No CSA data were available for comparison in 2007.

In 2007, improved reporting from the Region identified a 29 percent increasing in planting of cereals in Zones 1, 3, 4 and 5, without specifying the locations. The sites were not accessible to Mission teams. In Zone 2, the CFSAM team witnessed the harvesting of good maize crops, however, due to a late start to the *meher* virtually no sorghum was planted, the area in part being sown to rainfed teff and barley. This is an interesting development insomuch as for 4 years Mekelle University has been successfully testing and demonstrating the transplanting of sorghum as a risk aversion approach to delayed onset of rains in Ab Alla. Seemingly, either the extension message has not been transmitted effectively or no farmers in Ab Alla have enough agricultural interest to pickup the idea. Regarding maize crops in 2007, the diversion of floods from the eastern escarpment, channelled through the three river systems that flow on to the Ab Alla plain directed at least four flows to most areas. As is the nature of such traditional schemes, controlling the water is difficult which leads to a wide range of crop performance even in adjacent fields. Thus, in 2007, the CFSAM sampled maize crops producing 20 quintals (2.0 t) per ha, very close to fields producing 1.3 quintals (1.3t) per ha.

No significant pests and diseases were noted by and reported to the CFSAM in 2007. However, in 2006, the CFSAM noted that 30-40 percent of all the sorghum plants were severely infested with smut. This may have had something to do with the almost complete absence of sorghum in 2007 and suggests that a sorghum seed renewal programme in Ab Alla is needed to reconstitute seed stocks.

[7] NB Classical experiments on barley beef (UK) and molasses and urea inclusion in ruminant diets by Preston and Willis et al (1965 *etc*).

The Mission estimates that cereal and pulse production in the Region will be greater than last year with a harvest of 75 000 tonnes. The cereal production estimate and comprises 3 000 tonnes of teff, 4 700 tonnes of barley, 63 000 tonnes of maize, and 4 000 tonnes of sorghum.

The Mission is not in a position to collect data 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 Jigjgga 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. In 2007, the rains both *in situ* and in the upper reaches of the water catchments caused widespread flooding in the Wabi- Shabelle.

The Mission team visiting Jigjiga was unable to obtain any realistic information regarding any features of the agricultural season. Mission data from Somali Region are, therefore, woefully incomplete.

Last year, a short visit for a small team was arranged to Gode Zone and Afder Zone(north only) involving helicopter transects flown at a height of 500 ft along the Wabi-Shabelle river. In 2007, no such facility was made available to the teams.

No CSA data are available yet for the region.

Whereas the OCHA Humanitarian Bulletin (17 December) quotes patchy *deyr* rain, the WFP, VAM rainfall estimates show an unusually good *meher* rain is all zones suggesting that more planting than usual was probably undertaken and sustained. Late sowing on the flood recedes is also probable but no information is available for such areas either.

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 in 2007 included desert locusts that were controlled in September, however, OCHA reports of fresh outbreaks of the same migratory pest on pasture and browse in December, which, in the absence of pesticides is prompting calls for assistance.

The Mission estimates that cereal and pulse production will be lower than last year with an unlikely harvest estimate of 48 000 tonnes from 70 000 ha. The cereal production estimate and comprises 4 000 tonnes of wheat, 1 000 tonnes of barley, 26 000 tonnes maize, and 17 000 tonnes of sorghum. 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. In 2007, the *meher* rains were late and below expectations finishing in September.

Local seeds were available in sufficient quantity to meet the seed requirement. Fertilizer use decreased to only 370 tonnes is urea and is presumably used on the well-organised chat fields.

Area estimates for cereals and pulses are estimated at 7 100 ha, compared to 6 500 ha in 2006.

Production of cereals is estimated at 6 200 tonnes of which 73 percent is sorghum and the remainder is maize.

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 to the emerging export trade.

Dire-Dawa

Sorghum, maize and vegetables are the main crops grown around the city of Dire-Dawa. In 2007 the *belg* rains began in March and fell until the end of April. *Meher* rain began in mid-June and was heavy in July and August, continuing until September. In 2007 some replanting of maize in August due to waterlogging was noted. No improved seeds were used and local seeds were available for initial sowing and replanting.

Area planted to cereals estimated by BoARD as mostly sorghum, is placed at 12 000 ha producing 13 800 tonnes, which is similar to last year's estimate. No CSA estimates are yet available for comparison purposes.

Livestock condition noted by Mission teams was good, but access to pasture is limited so livestock depend more on the arable by- products. Livestock prices are high and increasing due to a flourishing export trade.

Addis Ababa

The area planted to cereals and pulses in 2007 in Addis Ababa administration area was similar to 2006 at around 9 500 ha. The area includes the peri-urban planting of city dwellers and the adjacent farming community

Good rainfall, beginning in the *belg* season and continuing into *meher* was well-distributed in July and August and finished in mid-September. Fertilizer use in 2007 increased by 30 percent to around 1 000 tonnes through cooperative union channels. Further quantities may have been obtained from the private sector along with herbicides and pesticides but the figures are not available.

No CSA estimates are yet available for comparison purposes.

In 2007, there were no significant pests and diseases but weeding was noted to have been neglected due to the high price of labour, so yields were reported to have fallen slightly providing a harvest of cereals and pulses of 14 800 tonnes of which wheat and teff each provided an estimated 6 600 tonnes.

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.

In 2007 a Mission team visited Gambella for the first time for several 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. No outbreaks of pests or diseases are noted.

No CSA estimates are yet available for comparison purposes.

The Mission estimates that cereal and pulse production will be higher than last year with a harvest estimate of 18 200 tonnes from over 18 000 ha. The cereal production estimate comprises 13 300 tonnes maize, and 4 300 tonnes of sorghum. The estimate is incomplete.

Data regarding livestock is equally unavailable with regard to numbers and production, however, apparently movement within the region has been affected by floods causing premature migration, however, apart from the flooded areas that will presumably show benefits later in the year, 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 in 2006, last year the 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. In 2007, donkey drawn ploughs have been introduced in Assossa 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, 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 2007 conditions except for localized 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. No CSA estimates are yet available for comparison purposes.

In 2007 the Mission estimated that 279 000 tonnes of cereals and pulses will be harvested, marking an increase of 30 percent, of which 100 000 tonnes are sorghum, 102 000 tonnes are maize, 42 000 tonnes are finger millet, 12 000 tonnes are teff and 5 300 tonnes are wheat. The total pulse crop is expected to bring around 13 000 tonnes and oilseeds some 36 000 tonnes from 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. In 2007, rains have generated pasture and sustained water points, and animal body condition was good. The only disease outbreak beyond the normal level for the endemic livestock diseases was noted to be Newcastle disease in poultry, which has substantially reduced the local chicken population. Ruminant prices are stable or rising in all markets.