

SPECIAL REPORT

FAO/WFP CROP AND FOOD SUPPLY ASSESSMENT MISSION TO ETHIOPIA

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WORLD FOOD PROGRAMME, ROME

This report has been prepared by Messrs. M. Zappacosta, W.I. Robinson, Neville Edirisinghe, Scott Ronchini, Naouar Labidi under the responsibility of the FAO and WFP Secretariats 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

Angela van Rynbach
Deputy Regional Director, ODK, WFP
Fax: 00256-3124500
E-mail: angela.vanrynbach@wfp.org

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TABLE OF CONTENTS

	<u>Page</u>
Acronyms and Abbreviations	iv
Mission Highlights	1
1. <u>OVERVIEW</u>	1
2. <u>SOCIO-ECONOMIC CONTEXT</u>	2
2.1 Macro-economic situation	2
2.2 Poverty and population	4
2.3 Recent developments in food security policy	5
2.4 Agricultural sector policies	6
2.4.1 Agricultural credit	6
2.4.2 Fertilizer balance	6
3. <u>FOOD PRODUCTION IN 2006</u>	7
3.1 General	7
3.2 Rainfall in 2006	8
3.3 Area planted	9
3.4 Factors affecting yields	12
3.4.1 Seeds	13
3.4.2 Fertilizers and chemicals	13
3.4.3 Pests and diseases	14
3.5 Other crops	14
3.6 Livestock	15
3.7 Cereal and pulse production forecast	16
3.8 Belg harvest	19
4. <u>GRAIN SUPPLY/DEMAND SITUATION</u>	19
4.1 Main characteristics of grain markets	19
4.2 Food prices	20
4.3 National grain supply/demand balance in 2007	22
5. <u>HOUSEHOLD VULNERABILITY AND EMERGENCY FOOD SECURITY</u>	
 <u>NEEDS ASSESSMENT</u>	25
5.1 Food security and nutrition background	25
5.1.1 Food security situation	25
5.1.2 General nutrition status of vulnerable populations	26
5.1.3 Links between HIV/AIDS, nutrition and food security	27
5.1.4 Shift in Government response to food security challenge	27
5.2 The emergency food needs assessment approach in Ethiopia	29
5.2.1 Outline of the current emergency food needs assessment approach	29
5.2.2 Recent developments in the emergency needs assessment approach	30
5.2.3 Recommended areas for improvement and complementarity	30
5.3 Current vulnerability and food security status	32
5.3.1 Area and population groups affected or likely to be affected	32
5.3.2 Potential impact of increased production on food insecure people	35
5.3.3 Forms of assistance	35
5.3.4 Scope for local purchases	36
5.4 Follow-on assessment needs	37
Annexes:	
1. Crop production situation by region	38
2. Analyzing chronic and acute food insecurity	50

Acronyms and Abbreviations

ADLI	Agricultural Development Led Industrialisation
AISE	Agricultural Input Supply Enterprise
AMC	Agricultural Marketing Corporation
BoARD	Bureaux 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 Preparedness and Prevention Commission/Agency
EFSSR	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 Bureau
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 Government Organization
ODA	Official Development Assistance
PASDEP	Plan for Accelerated and Sustainable Development to End Poverty
PRSP	Poverty Reduction Strategy Paper
PSNP	Productive Safety Net Programme
REST	Relief Society of Tigray
SDPRP	Sustainable Development and Poverty Reduction Programme
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WFP	World Food Programme

Mission Highlights

- Aggregate cereal and pulse production in Ethiopia from the 2006/07 *meher* season is forecast at 20.1 million tonnes, about 10 percent above the previous year's post-harvest revised estimates and 53 percent above the average of the previous five years. This represents a third 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.
- Despite a bumper harvest and favourable macro-economic situation, the steady increase and relatively high levels of food prices mean that poorer households will find it more difficult to secure access to adequate food supplies.
- Overall improving food security conditions, benefiting from the favourable weather conditions and the record cereal production, resulted in a marked reduction in both volume of relief food aid and beneficiaries. With a Government appeal for assistance to some 1.3 million people requiring 150 000 tonnes of food, emergency food aid needs have reached the lowest level in recent years. However, chronically food insecure households require continued support through the safety net programme.
- In view of ample domestic cereal availability, local cereal purchases by government institutions and relief agencies to support most vulnerable households should be considered, but, in view of continued high prices, should be based on specific availability assessments.
- Assessment approaches continue to evolve in Ethiopia. Traditional judgement based methods lack the rigour required for evidence based decision making. Although collective efforts to improve the food security analysis system are acknowledged, adequate attention should be given to the use of survey-based tools to complement and enhance the ongoing strengthening of assessment methods.

1. OVERVIEW

An FAO/WFP Crop and Food Supply Assessment Mission visited Ethiopia from 12 November to 8 December 2006 to estimate the main meher season cereal and pulse production; review the final estimates of the 2005 main meher season and 2006 secondary belg season harvests; forecast the 2007 belg season production; and assess the overall food supply situation for the 2007 marketing year (January/December). Accompanied by experts from the Ministry of Agriculture and Rural Development, the Central Statistics Authority (CSA) and by observers from the European Commission and USAID, the Mission, with seven teams, visited sixty-three zones and special *woredas* (districts), over an 18-day period, in all the grain producing regions. In addition, helicopter overflights of the Gode and Afder zones, in Somali region, were carried out at the end of the field work.

Parallel to the Mission, but spread over a longer period, another assessment exercise (the "Meher Assessment"), led by the Government's Disaster Prevention and Preparedness Authority, and with members comprising staff from the WFP Country Office, bilateral donor agencies and NGOs, visited several marginal localities and vulnerable zones and *woredas* in order to determine their current and prospective food security situation. The Meher assessment process was observed by three CFSAM teams, including a consultant nutritionist, who visited selected areas to work along with the Meher teams but also to triangulate findings with other information such as data on the health and nutrition status. A comparison of the preliminary results from the two exercises was organized at the conclusion of the country visit.

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 donor project staff and remote sensing data from early warning systems. Data on planted area were also compared with 2006's CSA estimates of *meher* area of cereals and pulses. Within the visited zones and special *woredas*, 258 key informant interviews (to be considered as rapid case studies) were conducted with associated crop inspections, including several samples of spot-check crop-cuts. Market visits, livestock condition observations and continuous transect observation recording of crops and their conditions were conducted over the 28 000 km travelled by the teams. This information provided the background with which teams audited performance data received and, in several cases, official yield forecasts were adjusted to take into consideration latest and broader information.

The overall agricultural performance of the *meher* 2006 season is better than the previous year, due to improved yields in a greater cultivated 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 improved availability of fertilisers, improved seeds and credit.

Overall, the Mission estimates total 2006/07 *meher* cereal and pulse production at slightly above 20 million tonnes, about 10 percent above the previous year's post-harvest estimates and 53 percent above the average of the previous five years. It represents the third consecutive bumper harvest. With a *belg* harvest in July/August 2007 anticipated at the historical average 275 000 tonnes, total domestic availability of cereal and pulses for 2007 is estimated at 20.4 million tonnes. For the first time, the Ethiopia cereal and pulse balance sheet is provided with a breakdown by main cereal.

Since the beginning of 2004, prices of main cereals have followed a steady upward trend, without any significant post harvest reduction, and remaining above the average level throughout 2006. This trend may be explained by a combination of economic factors affecting effective grain demand and supply, and supporting the inflationary pressure induced by rising oil prices affecting all commodity markets. Last years' nationwide good economic performance, fuelled by increasing investments in infrastructure, the injection of cash into the rural economy through the Productive Safety Net Program and budgetary support at *woreda* level, may have increased the local demand for grains and livestock. At the same time, despite the good harvests obtained in the previous years, 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, 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 domestic supply.

The last three years have been characterized by a steady growth of the Ethiopian economy, with an average real GDP growth rate of 10.7 percent per year. The good performance of the agricultural sector as well as the increasing government's poverty-targeted capital expenditure, 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.

From the above, it follows that the overall food situation is highly favourable, with an increase in food availability and possibly access for a large number of vulnerable groups. 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.

However, a significant number of vulnerable households are still expected to remain largely food insecure and dependent on humanitarian assistance in 2007. The sustained and relatively high grain prices, although beneficial to surplus crop producing households, will also negatively affect the poorer households that are net buyers of grains. In view of expected good domestic grain production, local purchases by governmental institutions and relief agencies in surplus producing areas should be considered, but in view of continued high prices should be based on specific availability assessments..

2. SOCIO-ECONOMIC CONTEXT

2.1 Macro-economic situation

In the last three years, the Ethiopian economy has been characterized by a steady growth of real GDP. 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 showed a strong positive performance in the following three years, with 11.9 percent in 2003/04, 10.5 percent in 2004/05 and 9.6 percent in 2005/06. Typically overall economic growth in Ethiopia is highly dependent on the performance of the agricultural sector that represents about 47 percent of GDP, followed by 39 percent from the service sector and 14 percent from the industrial sector. However, the three consecutive years of bumper harvests as well as the government's investments in infrastructures have contributed to support a broad based expansion in the services and industry sectors.

Compared to the previous fiscal year, total government expenditure in 2005/06 has increased by 18 percent and it reflects the priority assigned to poverty-targeted capital investments. In fact, although the share of

current expenditure in GDP has remained relatively constant, slightly below 14 percent, capital spending has steadily risen up to 12.6 percent of GDP from 9.3 percent of GDP in 2002/03. This is essentially due to growth of the pro-poor capital expenditure that increased from 6.1 million Birr in 2003/04, to 9 million Birr in 2004/05, to 11.8 million Birr in 2005/06, concerning in particular the sectors of road construction (+57 percent), education (+31 percent) and agriculture (+16 percent).

Table 1 – Macro-economic indicators

	2003/04	2004/05	2005/06
Real Sector and Prices (% change over the previous year)			
Real GDP	11.9	10.5	9.6
Agricultural Value Added	17.3	13.4	11.2
Non-Agricultural Value Added	7.9	8.3	8.8
All Services	7.3	8.4	9.2
Consumer Price Index	8.6	6.8	12.3
Government Finance (as % of GDP)			
Domestic Revenue	16.6	16.1	17.5
O/w: Tax Revenue	13.0	12.8	12.7
External Grants	4.8	4.7	3.4
Total expenditure	24.5	25.7	26.4
Overall Balance (including grants)	-3.1	-4.8	-5.5
External Sector (% change over the previous year)			
Exports	24.2	41.2	18.1
Imports	39.4	40.4	20.7
Average Exchange Rate Birr/US\$	8.62	8.65	8.68
Reserve in months of imports	3.7	3.6	3.2
Total Merchandize Exports (Mio. US\$)	600	847	1 000
Total Merchandize Imports (Mio. US\$)	2 584	3 633	4 384
Total Trade Balance (Mio. US\$)	-1 984	-2 786	-3 383
Overall Balance of Payments (Mio. US\$)	307	-101	-327

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

For long time, Ethiopia has been a country with low inflation rates in Sub-Saharan-Africa. In the past, this has been the result of several factors, such as a strong currency due to prudent monetary and fiscal policies (1960-1973), the general price control (1974-1992) or the implementation of economic reform and stabilization programs (1992-2004). The historic peak level of inflation has been 21 percent, which was recorded in 1991/92, mainly due to the severe drought that hit agricultural production. Since the end of 2004/beginning of 2005, coinciding with a good performance of the agricultural sector as well as the development of the electoral campaign, consumer prices started to gradually climb, reaching during 2005/06 the high inflation rate of 12.3 percent, 3.7 percentage points above the previous year's level. This increase mainly reflects the trend in food inflation that passed from 7.7 percent in 2004/05 to 14.0 percent in 2005/06 (for detailed information on food prices, see section 4.2). At the same time, the rise in non-food prices is the result of rising oil prices and the higher cost of petroleum-based imports such as fertilisers, petrochemicals and plastics. The Ethiopian government tried to limit the impact of higher world oil prices by subsidising local fuel prices, but, with the cost of subsidies spiralling in line with world oil prices, the situation has become unsustainable. As a result, the government decided to lift local fuel prices by approximately 20 percent in April 2006 and by another 20 percent in August, adding inflationary pressure into the national price system.

In fiscal year 2005/06, Ethiopia registered a budget deficit of 5.5 percent of GDP (10.7 percent of GDP excluding external grants), the higher in the previous three years, essentially due to a grant shortfall and inefficiencies in tax collection. The new budget for 2006/07 targets a 16 percent increase in spending, especially in capital accounts, and it reflects the redirection of main donors' funding directly to the *woreda* (district) level instead of giving budget support to the federal government. An important vehicle for this transfer of financial resources at district level is the World Bank's Protection of Basic Services (PBS) project, within the context of the Interim Country Assistance Strategy 2006-07, which could be worth up to US\$340 million by June 2007.

With regard to trade, 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 2005/06, the total value of exports grew by 18.1 percent, driven by an expansion in sales of coffee and a robust growth in other exports such as oilseeds (about +70 percent increase in value compared to 2004/05, especially due to a surge of sales of sesame seed to China), gold and leather products. The sectors of horticulture, especially

flowers, and meat and live animals are also experiencing growth. Export prices of coffee and strong oilseeds have gone up by about 16 and 9 percent, respectively, during 2005/06. Imports also surged in 2005/06, reflecting the rise in private and public investment (especially in machinery and transport capital goods) and the increasing consumption demand following the fast pace of economic growth, alongside the escalating world oil price. By the end of the 2005/06 fiscal year, the trade deficit reached the record level of US\$3,383 million, with an increase of 21.4 percent compared to the previous year and thus exports financed only 22.8 percent of imports.

Table 2 - Major agricultural exports (values in million Birr; volumes in '000 tonnes)

Commodity	2003/04	2004/05	2005/06	Previous year's change (%)
Coffee				
Value	1 927	2 901	3 076	+6.0
Volume	156.4	161.1	147.7	-8.3
Oilseeds				
Value	713	1 082	1 835	+69.6
Volume	105.9	170.8	265.6	+55.5
Chat				
Value	759	867	773	-10.8
Volume	18.5	19.4	22.3	+14.9
Hides & Skins				
Value	376	585	651	+11.3
Volume	9 401	15 644	15 396	-1.6
Pulses				
Value	195	307	321	+4.6
Volume	73.2	121.7	110.4	-9.3

Source: Custom Authority; National Bank of Ethiopia.

Despite a surplus in the capital account of about 4.2 percent of GDP, the deficit of the overall balance of payments has been funded by a mixture of reserve rundown and the proceeds of debt relief. Regarding foreign-exchange reserves, they fell to US\$1.1 billion in June 2006, 26 percent lower than the year before and equivalent to the minimum acceptable level of 13 weeks of import cover.

During the 2005/06 fiscal year, the total external debt outstanding was Birr 6 036 million, with an increase of 0.24 percent compared to previous year. Multilateral creditors account for 81 percent of the total and the remaining 13 and 6 percent owned by bilateral and other commercial creditors.

Reflecting the Government commitment to enhance the competitiveness of the export sector, the official exchange rate of the Birr continued to slightly depreciate. The weighted average of official exchange rate data revealed that the value of the Birr against the US Dollar has shown a 0.34 percent annual depreciation to stand at US\$1=Birr 8.68 in 2005/06 and US\$1=Birr 8.65 in 2004/05.

2.2 Poverty and population

Ethiopia is one of the poorest countries in the world. According to the 2006 Human Development Report of the United Nations Development Programme (based on 2004 data), Ethiopia is ranked 170th out of 177 countries in the human development index, with a GDP per capita adjusted with the Purchasing Power Parity of only US\$756 (compared to almost US\$2,000 average for Sub-Saharan countries). From 1995 to 2000, the incidence of poverty has marginally declined from 46 to 44 percent. Regarding the last five years, according to initial indications of the forthcoming Household Income, Consumption and Expenditure Survey by the CSA (quoted in the 2006/09 Country Strategy Paper of the African Development Bank, published in June 2006), national poverty is expected to fall to 36 percent in 2004/05 as a consequence of the good economic performance and the substantial increase in Government's poverty-targeted expenditures. It is also interesting to note that wealth in Ethiopia is rather equally distributed compared to other Sub-Saharan countries, with a very low Gini coefficient. 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. From 1996 to 2005, national gross primary school enrolment ratio increased from 37.4 percent to 74.2 percent; adult literacy rate passed from 25.8 percent to 37.9 percent; the proportion of rural population with access to clean water and sanitation increased from 27.9 percent to 36 percent; the proportion of infants suffering from chronic malnutrition declined from 57 percent to 47 percent.

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 resource base, 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 percent living in towns and only Addis Ababa, the capital, accounting for over 1 million people.

The population of Ethiopia for mid-year 2007 has been estimated by the Mission at 77.1 million. This estimate is based on projections by the Central Statistical Authority for mid-2006 population, applying the official overall annual population growth rate of 2.77 percent.

2.3 Recent developments in food security policy

The Government of Ethiopia, in close collaboration with donor partners, has developed a Food Security Programme 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 core objectives of the Food Security Programme are to: (i) enable about five to six million chronically food insecure people to attain food security within the coming 3 years and (ii) improve significantly the food security situation of up to ten million additional food insecure people within three to five years time. The programme 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 Ethiopia, food insecurity has conventionally been understood in terms of recurrent food crises and responses to food insecurity have been dominated by emergency food-based interventions. However, not all food insecure households have the same characteristics. On one side, there are households who face transitory and unpredictable food deficits because of erratic weather conditions or other livelihood shocks. On the other side, some households face chronic and more predictable food deficits, caused by agricultural production constraints and poverty. Building on this conceptual distinction between the two typologies of food insecure families, in January 2005 the Government of Ethiopia has launched the Productive Safety Net Programme (PSNP) as the main component of the Food Security Programme. The PSNP represents a significant transformation of the Government's food security policy, moving away from responding to chronic hunger through emergency appeals and food aid delivery toward the establishment of a productive safety net system. PSNP's objectives are the reduction of household vulnerability, the improvement of household and community resilience to shocks, and breaking the cycle of dependence on food aid.

Under the PSNP scheme, the chronic food insecure families receive cash or food transfers, either 'for work' (through a public work programme to employ beneficiaries in building roads and other infrastructures) or 'for free' (called "direct support"), 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 is designed 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 are to enable households to escape from chronic food insecurity, after which they will no longer receive any social assistance, except during emergencies.

The first phase of the PSNP has been completed in December 2006, during which period the necessary institutional structures, implementation capacity, financing modalities and financial management systems were put in place. During the first semester of 2006, a total of about 7.2 million beneficiaries received cash or food transfers in the regions of Tigray, Amhara, Oromiya, SNNP, Afar, Harari and Dire Dawa. At the beginning of the 2006, 64 percent of the beneficiaries have received cash and 36 percent food. However, this proportion has gradually shifted from cash to food and, at the end of the first semester of 2006, about 55 percent of the beneficiaries received food transfer while only 45 percent received cash. This change has been essentially driven by the fact that the entire capital and administrative budget has been transferred during the first rounds of disbursement as well as by the preference in many *woredas* to receive food as a consequence of the high food prices. Almost 6 million beneficiaries have participated in public work, while only 1.4 million were recipients of direct support. 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.

The second phase of PSNP will begin in the first quarter of 2007 with a budget of about US\$645 million. This phase will continue the implementation of the main programme components and address other issues such as strengthening governance and transparency, improving efficiency and predictability of transfers, catalyzing environmental transformation and discussing the medium-term financial sustainability of the PSNP.

2.4 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 implementation of specialized extension services for differentiated agricultural zones and types of commercial agriculture; (iv) the development of national business plans for 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.

2.4.1 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 by commercial banks with the intervention of the state governments to underwrite the loans. During 2005/06, CBE has approved almost Birr 1.4 billion of agricultural input loans based on credit requests submitted by the regional governments of Oromia, Amhara, SNNP, Tigray and Addis Ababa. As reported in Table 3, the amount of agricultural credit approved and disbursed in 2005/06 is the highest in the last five years. The interest rate on these loans is 7.5 percent shared between the CBE which receives 5.25 percent on the disbursed amounts and regional governments which receive 2.25 percent for loan disbursement, recovery and administrative charges.

Table 3 – Agricultural credit

Year	Approved ('000 Birr)	Disbursed ('000 Birr)	Disbursed (percent)	Overdue ('000 Birr)
2001/02	641 362	455 242	71.0	-
2002/03	545 305	294 782	54.1	18 825
2003/04	780 148	376 532	48.3	-
2004/05	982 787	780 217	79.4	172 971
2005/06	1 383 941	1 051 882	76.0	490 480

Source: Commercial Bank of Ethiopia.

2.4.2 Fertilizer balance

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 is 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. In 2005/06, total fertilizer availability amounted to 521 000 metric tonnes comprising 386 000 metric tonnes of new imports and 135 000 metric tonnes of carry-over stocks. The state-owned Agricultural Input Supply Enterprise (AISE) and the two private trading companies (Ambassel and Wondo) have dominated the fertilizer sector over the previous years, holding about 80 percent of the market. However, since 2005 several cooperative unions have started to operate on

a regional basis, importing about 180 000 metric tonnes of fertilizers. Currently farmers' cooperative unions provide about 56 percent of national supply of DAP and urea and they are also involved in the distribution of a significant quantity of fertilizer.

Table 4 – 2005/06 Fertilizer Balance (tonnes)

	Opening stocks			Imports			Total supply		
	DAP	Urea	Total	DAP	Urea	Total	DAP	Urea	Total
AISE	26 617	42 880	69 497	25 000	24 976	49 976	51 617	67 856	119 473
Ambassel	4 154	2 071	6 225	28 498	28 521	57 019	32 652	30 592	63 244
Wondo	15 493	6 847	22 340	25 067		25 067	40 560	6 847	47 407
Sub-total	46 264	51 798	98 062	78 565	53 497	132 062	124 829	105 295	230 124
Lume Adama	758		758		25 000	25 000	758	25 000	25 758
Erer F.C.U.	298	6 664	6 962	24 954		24 954	25 252	6 664	31 916
Merekb F.C.U.	25 614	4 047	29 661				25 614	4 047	29 661
Ambo F.C.U.				24 995	24 697	49 692	24 995	24 697	49 692
Hetosa F.C.U.				24 905		24 905	24 905		24 905
Becho Woliso				24 914	25 082	49 996	24 914	25 082	49 996
Licha Hadiya				28 967		28 967	28 967		28 967
Gozamin					25 000	25 000		25 000	25 000
Enderita				25 000		25 000	25 000		25 000
Sub-total	26 670	10 711	37 381	153 735	99 779	253 514	180 405	110 490	290 895
TOTAL	72 934	62 509	135 443	232 300	153 276	385 576	305 234	215 785	521 019

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

3. **FOOD PRODUCTION IN 2006**

3.1 **General**

In Ethiopia, more than 14 million hectares are presently being farmed to produce cereals, pulses and a plethora of other crops. Of these, only some 190 000 ha are irrigated, therefore, every year, the nation's 9 million peasant farmers stand hostages to the fortune of the quality and quantity of the variable annual rains. Consequently, production at the national level varies dramatically from year to year particularly in marginal areas located predominantly in the north and east of the country and low-lying valleys and rain-shadows throughout the main production zones of the central highland plateaux.

The crops grown during the minor season, *belg* (planted in February and March and harvested up to and including August) and the major season, *meher* (planted from April-May onwards and harvested up to January) are diverse and follow 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 ventricosum*), 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, coffee, *chat*¹, eucalyptus, and spices. The tree crops are grown in forests and plantations and as hedgerows, on-farm woodlots/orchards throughout the country in the middle altitude and highland areas.

In the western, eastern and southern lowlands and fore-mentioned valley bottoms and escarpments indigenous grasses and 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 Oromiya Region viz Bale and Borena, South Omo in 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 and for the

¹ A mild narcotic leaf grown as a bush.

ubiquitous oxen that provide the draught power for major peasant farming operations² viz ploughing, secondary cultivation, and threshing and some transportation of goods and commodities.

3.2 Rainfall in 2006

As noted above, rainfall in Ethiopia occurs in two distinct seasons: (i) the *belg*³, the minor rains that usually begin in February and end in April-May supporting 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 (ii) the *meher*⁴, the main rains supporting crops planted and harvested in the *meher* season⁵, which usually start in June-July and ends in September-October. 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 usually 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, so providing a much needed “early-bite”. The melding of *belg* and *meher* rains in the south-west zones 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 2006, the *belg* rains started on time in all the major southern *belg* producing zones except Borena (where they were several weeks late and delivered less rain than usual) and followed their expected pattern. In the north/north-eastern zones, in the low-lying valleys of West Shoa and in similar locations in the eastern Oromiya zones of West and East Haraghe, they are noted to have started a week or so later than usual. Excessive *belg* rains are reported to have caused the destruction of 600 ha of crops in both Wolaita and Hadiya zones, a loss which although locally disturbing, fails to make an impact on the 2 million ha estimated to have been planted in 2006 compared to 1.5 million ha reported by the CFSAM in 2005. The overall rainfall situation was, therefore, more favourable than the previous year, a feature which is reflected in the good *belg* harvest summarised in Section 3.8 below.

Regarding the *meher* season, the Mission was provided with comprehensive rainfall data from the National Meteorological Agency from all the weather stations for 2006. Further, 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 2006, such areas are noted to be fewer than the previous year. The combined returns confirm that in 59⁶ of the 64 zones and special *woredas* visited by Mission teams, *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 have been extended, in many localities, up to the Mission field visits in November and December. In the 5 zones/special *woredas* where less than satisfactory reports were filed, the *meher* rains began later than expected, were erratic and finished early. Such reports were filed by BoARD offices in Borena and Guji, West Haraghe in the south and in Humera and Tanqua-Abergele, Tigray. The normally sparse rainfall patterns of the agricultural areas in Afar Zone 2 (Ab Alla) and Mehoni and to a lesser extent Alamata (South Tigray) were more than adequately supplemented by an impressive series of spates⁷ throughout the *meher* season. Heavy rains and flooding did cause the need for more than one replanting in some areas particularly in Gode and Afder Zones, Somali Region. Consequently, the Mission notes that at the national level:

- Maize planting, indicative of good early rains, has been sustained at the elevated level reported the previous year.
- Sorghum planting, equally connected to good early rains, has increased by 6 percent and, more generally.
- The mid/late season planting of wheat, barley and teff has also increased over the previous years' estimates, in part⁸ because of the continuation of encouraging rainfall throughout the season in most areas.

² Camel and equines for transport and dry-land farm operations; horses 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 56 entry-points provided similar returns in CFSAM 2005.

⁷ Spasmodic flows of seasonal rivers from highlands diverted to agricultural land using traditional methods.

⁸ In part due to higher prices.

As was reported the previous year, the continuation of the rains into October and early November also encouraged late, opportunistic planting of short-cycle pulse crops such as chick peas and grass peas and niche cereals such as sassa barley and *wanza* sorghum and is supporting their development, adding a further positive aspect to the season. Notwithstanding increased probability of seed drop in the un-harvested teff crop in East Gojam and elsewhere, the intermittent rains in late November and December are considered, on balance, more likely to have positive effects than negative effects.

- In Tigray, harvesting campaigns, conducted as a precaution against possible storm-related losses, have secured all vulnerable crops, including the extensive sesame crop in the West Zone.
- Elsewhere in the north, the harvests of short-cycle crops were either completed or well-advanced at the time of the Mission.
- Further, the highly productive sorghum crops of Southern Tigray, North Wollo, South Wollo and Oromiya zones are being bunched and tied-up to protect the heads against lodging under the effects of inclement weather if storms were to persist.
- In the cases of late-planted sassa barley in East Tigray, the sorghum in North-West Tigray and North Gondar and the late planted barley and pulses throughout Awi zone, crop production will only benefit from any continued precipitation.
- In the south, the main barley and wheat harvests are over, any un-harvested maize crops are unlikely to be affected and a wide range of perennial crops and annual root crops will only benefit substantially from the continued rains.

Regarding the effect of rainfall on pasture and browse, the good *belg* rain stimulated early growth and the heavy and persistent *meher* and *deyr* rains have 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 emanating from the Central Statistics Authority (CSA) under their official mandate to provide comprehensive statistical data on agriculture through the organisation and implementation of sample surveys; and (ii) data collected at grassroots level, at ploughing, sowing and harvesting time from the whole farming community by the Development Agents (DAs) of the Bureaux of Agriculture and Rural Development (BoARD). 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 for use by agricultural specialists in their day-to-day activities. In the past, the two data sets have differed significantly with regard to area, a characteristic noted regularly in CFSAMs since 1994. Hitherto, it has been the latter data set that forms the basis of the CFSAMs, as such data are:

- collected by the established government partner to the Mission (Federal MoARD);
- available at the time of the Mission at all entry points⁹ and
- presented to the Mission in their original form.

The data are then discussed at each entry point and cleaned, collated, audited by CFSAM teams and where necessary, adjusted by the CFSAM agronomists prior to final inclusion in CFSAM report. The local *woreda* BoARD data are also used in the DPPA/WFP *Meher* Needs Assessments¹⁰ 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.

In 2006, for the second time, the seven Mission teams received from CSA, estimates of area planted in the 2006 *meher* season by zone and by crop for their respective entry-points, these being estimates of the crop areas sown by private peasant land-holders from a fresh list in 2006 and based on the Ethiopian Agricultural Sample Enumeration 2001-2. The area data, based on the preliminary returns of the 2006 Agricultural Sample Survey of 62 000 households selected from 2072 Enumeration Areas (EA) do not include the area sown by the large-scale commercial farmers. While the estimates are considered by CSA to account for some 96 percent of the land farmed in Ethiopia, the Regional BoARDS in most regions consider that the data do not represent their regional farming activities due to the omissions noted above and the sampling procedures adopted. The exception to this is Amhara Region. Following discussions at Federal level three

⁹ Entry-point is the term used by the Mission to describe the main contact point for the administrative areas that form the basic unit of data collection

¹⁰ But without the CFSAM cleaning, auditing and adjusting.

years ago, the Amhara Regional Bureau of Agriculture and Rural Development (BoARD) embraced the use of CSA area data. In 2006, in a new development, the Amhara Regional BoARD issued instructions to their Zonal Offices to use an *adjusted version* of such data, prepared at Regional level, as the envelope for their own crop estimates.

As noted in the previous year, it should be understood that the BoARD data to which this report refers, are “actual.” They refer to areas actually sown and are markedly different from the “planning data” prepared by the regional BoARD specialists in response to regional policies and used as targets for farming related programmes and other activities. During the key informant interviews with BoARD staff, Mission teams identified both the “planned” and “actual” data sets and selected only the “actual” sown area data for use in the area compilation after adjustment, if needed. Regarding the collection of the “actual” data-set the process used was confirmed during the Mission to be as follows:

- In all cases other than Amhara, Regional (BOARD) data originates from Development Agents (DAs)¹¹ based at Peasants’ Association (PA) level throughout the country.
- The DAs working through the farmer team-leaders of the 30 household head administrative units (known variously as *Mengistu Guden*, *Lemhat Gujele*, or *Lemhat Gere*), collect the annual crop ploughing/sowing/harvesting data and yield estimates, from all farmers farming in their domains.
- These data, collected in local units, are translated into international units, collated and passed to the *woreda* crop experts by the DAs for cleaning, verification and onward passage to the zonal experts.
- In all regions except Tigray, the zonal experts clean the figures and pass them forward to the Regional Bureaux¹².
- The Mission collects such data at the zonal level in all regions visited except Tigray, where there are no Zonal Agricultural Offices. In the latter case, the Mission is provided with original *woreda* data by the Senior Agricultural Officer of the Region for review and auditing/adjustment. The resulting files are then re-aggregated, by the Mission, into zonal clusters for time-series comparison purposes.
- In addition, the Mission teams collect data on area and production of farming companies, investors, and resettled farmers either from the BoARD offices or from original sources.

Notwithstanding the fact that a joint CSA-MoARD-FAO-EU programme was established during 2006 to resolve area differences, the Mission estimates for the 2006 *meher* harvest are again based on data collected from the BoARD offices as no resolution has been achieved so far. Table 5 below presents the regional level cereal and pulse area differences between the two data sets in 2006.

¹¹ DAs are extension agents. There is presently at least 1 DA per PA and in most zones there are as many as three functioning DAs per PA.

¹² This process is usually undertaken after the Mission leaves Ethiopia.

Table 5 - Comparison of area estimates of cereals and pulses in 2006/07 *meher* season ('000 ha)

Region	Item	Total C+P	Pulses	Cereals	Teff	Wheat	Barley	Hamfes	Maize	Sorgh.	F.Millet
Tigray	BoARD	802	68	734	149	77	68	40	79	230	90
	CSA	761	64	697	161	99	99	-	55	201	80
	% B/C	105	106	105	92	77	68	-	143	114	112
Afar	BoARD	35	0	35	2	0	0	0	21	12	0
	CSA ^{1/}	19	1	17	2	0	0	0	13	3	0
	% B/C	184	0	205	100	0	0	0	161	400	0
Amhara	BoARD	3 282	527	2 755	834	486	327	7	372	543	186
	CSA ^{2/}	3 376	577	2 799	961	431	334	0	365	527	181
	% B/C	98	91	99	87	113	98	700	102	103	103
Oromiya	BoARD	6 145	810	5 335	1 257	1 220	708	0	1141	859	150
	CSA ^{3/}	4 728	494	4 234	1 007	1 073	580	0	982	508	84
	% B/C	153	164	151	125	144	122	0	116	169	266
Somali	BoARD	68	1	67	0	6	2	0	32	27	0
	CSA ^{4/}	68	1	67	0	6	2	0	32	27	0
	% B/C	100	100	100	0	100	100	0	100	100	0
SNNPR	BoARD	1 522	270	1 252	258	232	161	0	471	120	10
	CSA	980	169	811	212	123	80	0	274	117	6
	% B/C	159	159	157	122	188	201	0	172	103	167
Benshan.	BoARD	168	16	152	14	3	3	0	45	58	29
	CSA	139	6	133	14	1	1	0	34	56	26
	% B/C	122	266	115	100	300	300	0	132	104	111
Dire D.	BoARD	14	1	13	0	0	0	0	1	11	1
	CSA	8	1	7	0	0	0	0	0	7	0
	% B/C	150	100	157	0	0	0	0	100	171	100
Addis A	BoARD	10	1	9	4	5	0	0	0	0	0
	CSA	10	3	7	3	3	1	0	0	0	0
	% B/C	100	33	128	133	166	0	0	0	0	0
Gambella	BoARD	17	1	16	0	0	0	10	5	1	0
	CSA	na	na	na	na	na	na	na	na	na	na
	% B/C	-	-	-	-	-	-	-	-	-	-
Harari	BoARD	6	0	6	0	0	0	0	1	5	0
	CSA	7	0	7	0	0	0	0	2	5	0
	% B/C	85	0	85	0	0	0	0	50	100	0
National	BoARD	12 069	1 695	10 373	2 518	2 029	1 269	57	2 168	1 867	465
	CSA	10 096	1 316	8 779	2 360	1 736	1 097	0	1 757	1 451	377
	% B/C	119.5	128.8	118.2	106.7	116.9	115.7	100	123.4	128.7	123.3

Note: Totals computed from unrounded data.

1/ No Zone 2 in CSA data.

2/ +24 000 ha oats; 27 000 ha rice in BoARD data, no oats or rice in CSA data.

3/ +23 000 ha oats and 3 000 ha rice BoARD: 69 000 ha oats CSA.

4/ Incomplete data; CSA used.

Table 5 indicates a 19.5 percent difference at the national level between combined cereal and pulse area in favour of BoARD data, 7 percent less than the previous year, arising mostly because of differences in Oromiya Region and SNNPR. Overall, the CSA area data have increased by 13 percent, whereas BoARD area data have only increase by 5 percent. It should be noted that CSA data include neither data from Gambella nor commercial farms. If approximate values for such areas are added, the difference between the two data sets drops to 16 percent. Consequently, using the BoARD data as collected and adjusted for outlying, inconsistent and illogical figures and double counting,¹³ the Mission estimates that the national area planted to cereals and pulses during the 2006 *meher* season is about 12 million hectares, which is 5.0 percent higher than the previous year's Mission estimate, adjusted in 2006 with Federal MoARD final returns to 11.42 million ha.

Explanations given to the Mission for the expansion in 2006 include:

- Farmer confidence in agriculture given the sustained high prices of all crops;
- very good rains;
- an increased use of fallow land in Oromiya and SNNPR;

¹³ In 2006 many new *woredas* were created within zones and 6 new zones were created causing problems in maintaining the time series and in spotting duplications in data entry.

- expansion into forest and grazing lands, particularly in the vast uncultivated areas of the western lowlands;
- young farmer entrant programmes in Oromiya and Amhara.

Closer examination of major cereal areas at national level reveals that there were increases in planted areas of all cereals and pulses except maize, which was sustained at the high level reported by the CFSAM the previous year. National rice area is noted to have increased dramatically by 74 percent, completely due to extensive planting in the flood plains of South Gondar that increased from 14 000 ha to 23 000 ha due to favourable flooding.

Regarding other factors affecting area, countrywide, given the sustained 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 (Oromiya). Reports of possible drug resistant trypanosomes are noted from the case studies in special *woredas* of SNNPR. 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.

Following the good 2005 *meher* and 2006 *belg* harvests, seed supply *per se* was not a constraint on 2006's *meher* planting. Seed rates were reported to have been on a par with the higher rates noted the previous 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 2006 improved seed sales increased by 18 percent to 22 000 tonnes¹⁴ from the previous year's final estimate of 19 000 tonnes. According to farmers in the progressive wheat farming areas of West and East Arsi, Bale, West Shoa, and in the serious cereal growing areas of East and West Gojam, East and West Wellega and Jimma, improved seed supply did not meet the increased demand despite the fact that nationally, NAISA claims that c. 4 000 tonnes of assorted improved seed remain unsold.

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. 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 the early yield estimates only at the zonal entry points.¹⁵ These are then adjusted by the CFSAM team using the qualitative information from the key informants at the BoARD offices, NGOs and the farmers themselves, and taking into account the Mission teams' transect records taken through every zone in 2006, field observations, crop-cutting measurements and any changing conditions regarding the weather and late pest and disease challenges. In 2006, 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 subjects of rigorous reviews when performance estimates are revisited with respect to seed type, timing of sowing, extent and timing of fertiliser 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 2006, given the already discussed general rainfall adequacy and timely cultivation, the remaining factors affecting crop performance reviewed below are inputs (seeds, fertilizers and chemicals), pest and disease profiles during the growing season and at harvesting.

¹⁴ 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.

¹⁵ 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.

3.4.1 Seeds

In the 2006 *meher* season, 97 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 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, augments the distribution of quality seeds, 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 3 percent of seeds used, amounting to about 22 500 tonnes, are certified seeds directly purchased from registered suppliers. Of these improved seeds, about 6 500 tonnes were maize seeds, 13 230 tonnes were wheat seeds and 2 550 tonnes were pulses. Whereas the volume of improved maize seed sales is similar to the previous year, accounting for some 13 percent of the maize sown (30 percent of the maize area in West Gojam), wheat seed sales are up by 100 percent over the previous year's directly purchased volume, as the Mission believes that farmers regularly renew their stock with certified seed allowing the use of on-farm carry-over seeds to be continue for another cycle of 2-3 years. Directly purchased wheat seeds are estimated to account for 4.3 percent of the wheat sown reflecting the higher sowing rate-higher investment required in sowing certified wheat seed compared to maize.¹⁶

Given the favourable rainfall, no widespread replanting was necessary except in the flood affected localities in Somali¹⁷ in particular and in five entry-points, where, in some places, the rains were less favourable, as noted in section 3.2. The continuation of the rainfall meant that where replanting did occur, the rains supported the growth and development of the replacement crop as well as the main crops, reinforcing the role of rainfall as the single most important determinant regarding crop performance in Ethiopia.

In 2006, seed assistance programmes were restricted to the national emergency supply programme covering all concerns as indicated in Table 6. These seeds were requested for the *meher* planting for zones where the *belg* 2006 harvest, which normally provides a boost to the seed stock, was less than expected.

Table 6 - 2006 National Emergency Seed Programme

Region	Woredas	Seeds (tonnes)	Area (ha)	Area planted to field crops (%)
Tigray	14	1 455	14 550	1.4
Amhara	18	683	8 543	0.23
Somali	13	280	10 113	14.9 ^{1/}
SNNPR	3	1 060	21 700	1.4
Oromiya	12	1 027	19 361	0.26
Total	60	4 506	74 267	0.005

^{1/} Incomplete regional area data.

3.4.2 Fertilizers and chemicals

Continuing the trend noted by the Mission the previous year, fertiliser use during the *meher* 2006 season, as indicated by cash and credit sales, increased by around 6.9 percent to 375 700 tonnes, despite significant increases in base prices¹⁸ of DAP (diammonium phosphate) to c.400 Birr per quintal (US\$471/tonne) and to c.350 Birr per quintal (US\$411/tonne) for urea. Sales went up in 13/16 zones in Oromiya, 8/10 zones in Amhara, 9/20 zones¹⁹ in SNNPR and in 2/5 zones in Tigray, following the pattern of amounts distributed, which was, as follows:

- Tigray received the lowest share among the significant crop growing regions at 2.5 percent (3.9 percent in 2005; 2.7 percent in 2004; 5 percent in 2003);
- Amhara received 31 percent (31 percent in 2005; 31 percent in 2004; 29 percent in 2003);

¹⁶ Sowing rates: wheat 150 kg/ha; maize 25 kg/ha.

¹⁷ In Gode and Afder Zones, 2 replantings are noted. The second replanting will rely entirely on residual moisture to produce a crop.

¹⁸ Transport from the main depots in each zone to the villages to be added.

¹⁹ Including special *woredas*.

- Oromiya received 46 percent (50 percent in 2005; 46 percent in 2004; 44 percent in 2003);
- SNNPR received 11.5 percent (9 percent in 2005; 10 percent in 2004; 8 percent in 2003).

The remaining 9 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.

Weed competition was again fierce in 2006, as the good distribution of rain generally enhanced all plant growth. The Mission teams note an increase in frequency of hand-weeding of most crops in all regions and reports of “*shillshallo*” or “*gussia*” the animal- powered inter-row cultivation of maize and sorghum crops were commonly noted in all stover-crop growing areas. There is also an apparent increase in the use of herbicides as farmers as diverse as investors in West Tigray, wheat farmers in Arsi and Bale, teff farmers in Jimma and mixed cereal farmers in East Gojam are noted to be buying 2 4 D from private stockists. As was the case the previous year, their 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.

3.4.3 Pests and diseases

Regarding pests and diseases, in 2006 the season was virtually migratory pest free. Migratory quelea quelea birds were kept under control by the aerial spraying of roosting sites in zones approaching the western borders of Somali Region, west Afar and Konso. The Mission noted only one flocking of the birds, which was in South Wollo and was rapidly contained by the Federal MoARD. Army worm outbreaks were noted 22/63 entry-points and these all were controlled by both pesticide use and by the heavy rains in July. The endemic non-migratory pests were also noted to be of little significance in 2006, the most troublesome being sorghum chafers (*packnoda*), Wollo bush crickets, grasshoppers and bollworms. In the forest areas, local birds and wild animals required farmers to establish routine pest scaring to avoid significant losses. Storage pests, especially weevils, are noted to be, as usual, as 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 in such areas. The increased rainfall during the immediate harvest and post-harvest periods suggests that overall, annual grain storage losses will be high in marketing year 2007 with levels expected to be around 3 percent for teff and finger millet, 8 percent for sorghum, 10 percent for wheat and barley and 20 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 Afar Zone 2 (Ab Alla) South Wollo, 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 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.

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 2006, the planting of oilseed crops increased in response to prices of 500-600 birr per quintal for sesame the previous year by 42 percent through increased planting of 35 000 ha in Tigray, 31 000 ha in Amhara (plus the inclusion of 71 000 ha of commercial investor planting), 40 000 ha in Benshangel-Gumuz, and 76 000 ha in Oromiya. Yields of oilseeds are similar to the previous year, resulting in an increased production of a similar percentage at a total production of 680 000 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 Oromiya, 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 million people and makes a substantial contribution to the diet of an additional 4 million people, is well understood. Enset data from southern zones are incomplete in 2006; however, the Mission teams in the enset area consider that enset harvesting remains in equilibrium with replanting frequency, suggesting that the area noted the previous 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 the 2006 *belg* and *meher*

season due to the good rain. 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 being achieved in 2006 but such yields are not recorded by the BoARD officers. The Mission feels that contributions of these crops and cassava²⁰ to the household food economies in these localities are being seriously underestimated by the local BoARD staff.

In 2006 coffee production is expected to be less than the previous year, according to the Coffee and Tea Authority specialists interviewed by Mission teams, because of the biennial cycle of production that the crop is reported to follow. Growing conditions during the year were good in all zones and prices are firm and expected to increase. The performance of other industrial field crops such as tea, sugarcane and cotton and the performance of chat are reported to be similar to the previous year.

3.6 Livestock

Ethiopia has 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 45 million chickens (CSA, 2004), 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 yet livestock returns continue to increase nationally, which is something of a paradox. Certainly some recovery from shocks in the north-east and southern pastoralist areas should be possible in 2006, as pastures and water points are reported to be well-supported by the annual rainfall and, unlike two years ago, no premature herd migrations to the relief grazing pastures in east Amhara or South Tigray are noted by the Mission team during field visits along the Afar- Amhara and the Afar-Tigray borders. Given the lack of information regarding Somali, at the end of this Mission, an especially constituted two-person team from FAO and WFP international consultants visited Gode and Afder Zones to determine the prevailing situation. They noted that browse and grazing are in very good condition throughout the zones and the body condition scores of all stock seen were equally high at grades 3 and 4 (being the scale from grade 1 = poor to 5 = fat, as reported by the Australian schemes derived in 1960s). Elsewhere, good pasture and ready access to drinking water has resulted in enhancing livestock body condition during the main grazing season throughout the central highlands and western zones to adult body condition scores of 2-3-4, averaging 3 in most areas.

Disease outbreaks noted as giving concern are lumpy skin disease in East Amhara, Somali and East Haraghe; PPR in northern zones and African horse sickness in zones as far apart as West Haraghe, Sheka (SNNPR) and West Wellega. Other endemic diseases also noted to be present include pasteurellosis, anthrax, blackleg, CBPP, CCPP and internal/external parasites. Trypanosomiasis is routinely cited as a concern in western and southern lowlands, in 2006 with the extra observation in Dawro (Gojeb River valley) that the condition is not responding to the usual treatments with the recommended drugs suggesting that resistant strains may be developing. 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. An "unknown" camel disease was reported to be causing sudden death in areas in Somali but no further information as to cause is available.

Regarding deaths of adults and young stock, it would not be surprising if adult mortality in the extensive systems noted above was around 7 percent, 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. Furthermore, CFSAM case studies suggest that in marginal areas, post-natal to weaning mortality may be as high as 30-40 percent in small ruminants due to poor per-natal management practices. Such figures and regular sales for slaughter explain the low animal population annual growth rates used by BoARDS 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 due to specific events or challenges,

²⁰ Cassava at 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.

viz claims that 400 head have in a particular *woreda* “died in 2006” supposedly due to an “illness” are meaningless unless put into the context of true annual mortality rates.

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) safety-net programmes increasing family incomes in marginal areas, d) increased daily labour rates throughout Tigray and northern Amhara and e) increased 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. Given that the backyard chicken population has recently been estimated by MOA at 56 million birds (7 million households with, on average, 8 birds per household) and by the CSA at 45 million birds, assuming that every household feeds only two *menelik/wollo/tassa* (2 x 0.7 kg) of home-produced cereals to the birds once a week, then the feed use is in the order of 500 000 tonnes per year. Mission observations suggest that both the grain ration and frequency of feeding are usually greater than assumed above. Therefore, the traditional and modern poultry industries may consume around 580 000 tonnes of 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 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 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 at 650 000 tonnes, to cover such eventualities this coming year when grains will be more freely available.

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 Mission enabled a ready assessment of actual production per unit area to be observed by the teams. Where crops were still standing, samples 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. Where harvesting was over, quantities of stored grains or cobs were matched against the areas from whence they came; and where threshing or combining of fields had been accomplished, information was obtained directly from the harvesting contractors, regarding the median yields in their areas of operation. In such ways, additional information was obtained to make adjustments to estimates and predictions received and to counter-balance glaring inconsistencies and false declarations or to supply figures for missing data. Some 27 000 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 the PET. As in previous years, Mission samples point to much higher potential yields per ha than are presented by *woreda* and zonal BoARDs, particularly for sorghum crops in the lowland areas of north-east Amhara where the lowest common denominator often appears to be used as the average. The Mission also uses higher yields per ha of most maize crops throughout Oromiya and SNNPR, where green-maize sale/use appears to be subtracted from local harvest estimates. Mission adjustments, made to eliminate glaring inconsistencies are, however, conservative. Crop assessment training of young DAs and awareness raising of their supervisors with regard to the range of yields contemporarily available on small farms, remains of paramount importance.

Regional totals of area and production, prepared by the Mission, are presented in Table 7 by crop. They indicate a 2006 *meher* cereal harvest of 18.28 million tonnes from 10.46 million hectares. This is 8 percent higher than the previous year's CFSAM data adjusted from MoARD post-harvest estimate, from a 5 percent greater area according to the BoARD data collected by Mission teams. Pulses return at 1.83 million tonnes from 1.69 million hectares, a harvest that is 30 percent greater than the previous year's corrected post harvest estimate.

Table 7 - Cereals and pulses in 2006/07 meher season - Area ('000 ha), production ('000 tonnes) and yield (tonnes/ha)

Region/Item	Teff	Wheat	Barley	Maize	Sorghum	Finger Millet	Other	Total Cereals	Total Pulses	Cereals and Pulses
Tigray										
Area	149.5	77.3	107.9 ^{1/}	79.0	229.6	90.4	-	733.9	67.9	801.8
Yield	0.9	1.7	1.45	2.1	1.7	1.2	-	-	-	-
Production	136.2	130.2	157.1	165.4	397.3	107.6	-	1 093.8	69.6	1 163.4
Afar										
Area	1.2	0.0	2.2	20.56	11.0	-	-	34.9	-	34.9
Yield	1.3	0.0	1.0	2.2	1.3	-	-	-	-	-
Production	1.56	0.0	2.2	46.03	14.8	-	-	64.6	-	64.6
Amhara										
Area	834.6	485.8	334.3 ^{2/}	372.1	542.6	185.9	41.6	2 796.9	527	3 324
Yield	1.2	1.9	1.5	2.9	1.8	1.6	-	-	-	-
Production	972.7	915.1	506.0	1 090.7	982.7	296.7	-	4 847.9	617.2	5 465
Oromiya										
Area	1 256.0	1 219.6	708.4	1 140.7	859.0	149.5	25.5	5 358.7	807.5	6 166.2
Yield	1.1	2.2	1.7	2.2	1.8	1.1	-	-	-	-
Production	1 417.8	2 724.6	1 233.2	2 532.1	1 595.2	159.5	11.2	9 653.6	879.4	10 553.0
Somali^{2/}										
Area	-	6.4	2.3	31.5	26.6	-	-	66.8	0.7	67.5
Yield	-	1.0	0.8	1.2	1.5	-	-	-	-	-
Production	-	6.4	1.8	37.7	39.9	-	-	85.9	0.5	86.4
Beni-gmuz										
Area	14.0	3.4	3.2	45.1	57.8	28.6	1.6	153.7	16.4	170.1
Yield	1	1	1.0	1.5	1.4	1.3	-	-	-	-
Production	13.5	3.7	3.2	68.1	78.2	36.7	2.7	206.3	11.0	217.3
SNNPR										
Area	280.1	240.38	143.1	471.3	119.8	12.7	2.3	1 270.1	269.5	1 539.6
Yield	0.8	2.2	1.5	2.3	1.6	1.2	-	-	-	-
Production	216.3	538.5	216.5	1 065.0	194.5	15.8	4.9	2 251.7	254.1	2 505.8
Gambella										
Area	-	-	-	10.8	4.9	0.3	0.0	16.1	0.3	16.4
Yield	-	-	-	1.1	0.8	1.0	-	-	-	-
Production	-	-	-	11.8	4.1	0.3	1.1	17.4	1.4	18.8
Harari										
Area	-	0.3	-	1.3	4.9	-	-	6.5	-	6.5
Yield	-	1.0	-	2.3	1.7	-	-	-	-	-
Production	-	0.3	-	3.1	8.1	-	-	11.4	-	11.4
A. Ababa										
Area	3.9	4.9	0.1	-	-	-	-	9.0	0.9	9.9
Yield	1.5	2.3	1.0	-	-	-	-	-	-	-
Production	6.0	11.3	0.1	-	-	-	-	17.4	1.1	18.5
Dire Dawa										
Area	-	-	-	1.0	9.0	2.0	-	12.0	0.2	12.2
Yield	-	-	-	1.0	0.6	1.2	-	-	-	-
Production	-	-	-	1.0	10.8	1.2	-	13.0	0.1	14.0
TOTAL										
Area	2 540.0	2 038.1	1 301 ^{2/}	2 173	1 867	469	71.0	10 458	1 690.4	12 148
Yield	1.1	2.1	1.6	2.3	1.8	1.3	-	-	-	-
Production	2 764.3	4 330.1	2 121.0	5 021.3	3 325.6	617.8	103.9	18 282	1 834.4	20 110

Note: Totals computed from unrounded data.

^{1/} With hamfes/wazarat.

^{2/} Somali data incomplete.

Time series data for the past five years are provided in Table 8 for comparison purposes. They show that 2006 production estimates for cereals and pulses are the highest that have been achieved to date. Its validity hinges on the accuracy of the area and yield estimates prepared by the BoARD staff adjusted by the team, as described earlier. If high area estimates generate doubt in the minds of assessors, they may then opt for lower yield estimates to redress possible overestimated areas, therefore, the sooner the area differences can be practically identified and resolved at *woreda* or PA level, the better. In 2006 the formalized approach to transect-based field recording and crop-cutting by all Mission teams resulted in "spot-check" yield estimates that are significantly higher than some zonal averages, particularly in the marginal zones, where many of the low average yield estimates of 2-3 quintals are thought to be highly unlikely and connect to the absence of training in crop assessment, the unavailability of suitable equipment at *woreda* level *viz.* PET manuals, accurate balances and quadrats. Supervisors verifying 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 zonal and regional specialists to help BoARD staff, at local levels, to resist local pressures to underestimate production in order to sustain the flow of food aid.

At the same time, some thought needs to be given to how intercropping is managed. Presently, it seems likely 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.

Table 8 - Cereals and pulses production - Comparison of 2001/02 to 2006/07 meher seasons

Region	Meher season 1/	Cereals		Pulses		Cereals and Pulses	
		Area	Production	Area	Production	Area	Production
		('000 ha)	('000 tonnes)	('000 ha)	('000 tonnes)	('000 ha)	('000 tonnes)
Tigray	2001/02	723	637	47.3	24.6	770	662
	2002/03	692	427	41.8	14.2	733	442
	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	802	1 163
Afar	2001/02	10.5	8.3	1.3	0.6	11.8	8.9
	2002/03	8.5	4.6	1.0	0.1	9.5	4.7
	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	34.9	64.6	0	0	34.9	64.6
Amhara	2001/02	3 307	3 546	656	424	3 962	3 970
	2002/03	3 212	2 760	683	361	3 895	3 121
	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	2 797	4 848	527	617	3 324	5 465
Oromia	2001/02	4 419	5 326	608	416	5 026	5 742
	2002/03	4 275	3 804	610	287	4 885	4 090
	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	6 166	10 553
Somali	2001/02	97.3	36.6	0.0	0.0	97.3	36.6
	2002/03	98.9	47.9	0.0	0.0	98.9	47.9
	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	86
Ben-gum	2001/02	137	118	10.9	7.0	148	124
	2002/03	135	111	8.1	5.0	143	116
	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	206	16	11	170	217
SNNP	2001/02	1 104	1 246	177	129	1 281	1 376
	2002/03	1 041	973	170	98	1 211	1 071
	2003/04	1 194	1 453	192	143	1 386	1 595
	2004/05	1 052	1 414	238	171	1 289	1 585
	2005/06	1 280	2 030	242	208	1 523	2 237
	2006/07	1 270	2 252	269	254	1 540	2 506

Gambella	2001/02	18.1	21.0	1.1	1.5	19.2	22.6
	2002/03	14.5	12.3	1.0	1.3	15.4	13.6
	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	17.4	0.3	1.4	16.4	18.8
Harari	2001/02	10.2	6.6	0.1	0.0	10.3	6.6
	2002/03	8.9	4.3	0.1	0.0	9.0	4.3
	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
A. Ababa	2001/02	8.1	9.1	1.8	1.1	9.9	10.3
	2002/03	8.3	11.2	1.5	1.1	9.8	12.2
	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	18.5
Dire Dawa	2001/02	11.3	5.8	0.0	0.0	11.3	5.8
	2002/03	8.4	1.0	0.0	0.0	8.4	1.0
	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	12.0	13.0	0.2	0.1	12.2	14.0
TOTAL	2001/02	9 845	10 960	1 502	1 005	11 347	11 964
	2002/03	9 502	8 157	1 515	767	11 018	8 923
	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	10 458	18 282	1 690	1 834	12 148	20 110

Note: Totals computed from unrounded data.

1/ 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 the previous year's correction factor of + 7 percent).

3.8 Belg harvest

In 2006, the Mission was provided with the MoARD post-harvest assessment of the 2006 *belg* season and collected data from *belg* producing *woredas* and zones during field visits by the Mission teams. MoARD estimates indicate a *belg* crop of 2.71 million tonnes in 2006. This compares with 1.43 million tonnes in 2005 and 292 000 tonnes in 2004. Estimates of the last two years seem way out of historical trends and the Mission was not in a position to audit or adjust the *belg* data. Exercising caution, the Mission forecast for the coming *belg* crops to be harvested from June to August in 2007 at historical average (without including 2005 and 2006 exceptional years) of 310 000 tonnes of cereals and pulses.

It should also be noted that, as in all previous years, maize yields used in the 2006 estimates of the *meher* harvest include "maize eaten green". Excluding this important contribution to income/food security would be misleading with regard to the production achieved. Carrying forward the total maize production, including the green cobs sold or consumed to marketing year 2007 is justified in the same way as the inclusion of the 2007 *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 organization, city dwellers and other customers. However, although its commercial nature, EGTE's stock levels and storage capacity are more important for disaster prevention and preparedness.

The structure of grain markets in Ethiopia is quite complicate 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 as many as five or six intermediaries. 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 animal and small trucks for sale in secondary or urban markets. For maize, rural assemblers are estimated to handle about half of the marketed volume from the smallholders. Their sales outlets are mainly the relatively larger wholesalers and, in lesser extent, the rural/urban retailers and consumers. Wholesalers are generally licensed grain traders who receive grain from rural assemblers, but also directly from small farmers and state/commercial farms. They usually sell their grains to private trading companies, to wholesalers in urban areas or directly to urban retailers. Wholesalers play a key role in the grain marketing system because, 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.²¹

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 areas²². Here brokers are normally specialized by route where mediate between grain traders and wholesalers, food processing industries and private companies and tend to coordinate all the activities (buying, selling, transporting and pricing).

Access to markets, especially for dispersed and remote rural communities, is often limited by the poorly developed transport infrastructures. 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 density. At the same time, rail networks are not viable for much of the country, with the exception of the link between Addis Ababa and Dire Dawa. 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 and 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. In recent years, the Marketing Division of the Ministry of Agriculture and Rural Development is making efforts to develop a market information system.

4.2 Food prices

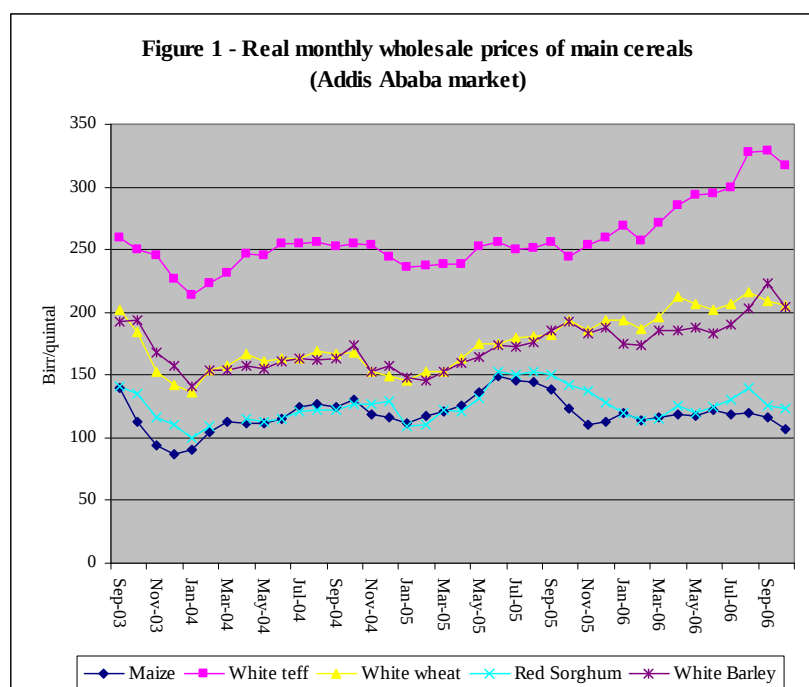
Historically, Ethiopian grain prices have followed a "typical" seasonal pattern. From November through December, prices start to decline due to the large supply that floods the market after the major harvest as farmers need cash to fulfil their tax obligations, to repay loans and to purchase food. Usually 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

²¹ Other important storage facilities are hold 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 with a storage capacity of about 325 000 TONNES, and the major relief agencies, mainly the World Food Programme (WFP).

²² Nazareth and Dessie are other markets that perform similar functions, but with reduced volumes.

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 real prices of the five major cereal commodities, in order to eliminate the inflationary pressure on all commodity markets due to the rising oil price, it is evident that the expected "typical" pattern has not strictly pertained during the last three years. For teff, wheat and barley, starting at the beginning of 2004, just with a slight decrease after the good *meher* harvest of 2005, prices have shown an almost steady upward trend. By the end of 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 the previous year's prices at the same time. For long-cycle cereals (maize and sorghum), the trend in real monthly wholesale prices reached a maximum in July 2005 and thereafter it has been reversed. Similar price trends are found throughout the country, in both deficit and surplus crop producing areas.



Relying on the different perspectives and views offered by market operators and market analysts that were interviewed by the Mission, it seems that the recent trend in food prices, without any significant post harvest reduction in the previous years, seems to not have a unique explanation, but its roots may be found in a number of economic factors that may have had an impact on the effective demand and supply in the country. However, further investigations are needed in order to determine the scope and magnitude of these effects.

On the demand side, the good general economic performance, fuelled by increasing investments in infrastructures, can be considered a key factor in augmenting per-capita consumption. Especially in urban areas, economic growth may have determined an increase in the demand of teff and wheat, commodities that are considered as luxury goods and are characterized by high-income elasticity. At the same time, in rural areas, purchasing power of some households may have 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 many cases, cereal demand in rural areas has also been sustained by the higher income obtained by farmers from livestock sales due to the increasing prices of animals. However, in rural areas consumption of maize and sorghum is predominant and, depending on household income level, it may have had only a slight increase due to their low-income elasticity of demand. On the contrary, some substitution in coarse grain consumption is expected to take place, shifting household cereal demand toward more expensive cereals, such as wheat and, at higher incomes, teff.

On the supply side, despite the good harvests obtained in the last three years, the real volumes available into the markets may have not increased as expected following the good harvests or, at least, their sales

may have taken place in a more distributed way along the year, without being concentrated as usual at the harvest time. In fact, at the beginning of 2005, just before the political elections, the government granted to farmers the possibility to delay the payments of loans and land taxes, determining a reduction in the financial pressure in the early part of the season with a consequent reduction of cereal sales just after the harvest and an increase in stocks in anticipation of better future prices.

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 had a significant impact on prices in local markets. 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.

Several key informants have also pointed out that an important factor explaining the increase in wheat prices might be the rising demand by flourmills, in particular in southern regions of the country where local processing industries export flour northern Kenya.

Finally, trade seems to be an important factor affecting food domestic supply and prices. Regarding livestock, in the previous years, a strong increase is reported in official exports. According to Ethiopian Custom Authority, data exports of live animals increased from about 3 000 tonnes in 2003/04 to 21 000 tonnes in 2004/05 and to 33 000 tonnes in 2005/06. To a lesser extent, exports of meat products doubled from 2003/04, reaching 8 000 tonnes in 2005/06. In addition, although there are no data available, every year a significant number of animals informally cross Ethiopian borders towards Kenya, Somalia and Sudan.

Regarding grain trade, the situation of cereals and pulses seems to be quite different. Official exports of cereals are minimal and, since the beginning of 2006, the government imposed a ban to exports in order to avoid further increases in domestic prices. In 2005/06, before the imposition of the ban, teff exports have increased substantially, with about 20 000 tonnes exported primarily to Sudan, the Yemen and Djibouti (although it is believed that the ultimate markets are Eritrea and the Ethiopian population in Israel and the US). However, several market analysts suspect that significant informal exports are taking place, especially to Kenya, Sudan, Eritrea and Somalia. On the contrary, official exports of pulses have increased substantially in the previous years, especially due to the significant demand for green beans in Europe, for chickpeas in India and Pakistan and for horse beans in Kenya. Total official exports of pulses in 2005/06 have been estimated by the Custom Authority at about 110 000 tonnes.

4.3 National grain supply/demand balance in 2007

In 2006, for the first time, the Mission presented a disaggregated version of the national grain supply/demand balance, considering separately teff, wheat, barley, maize, sorghum, finger millet, other cereals and pulses. This first attempt reveals the need for further investigations regarding some variables such as the volume of unregistered trade, the demand of cereals for brewing, the stocks held by private traders and households. The 2007 national grain balance (January-December marketing year) is summarized in Table 9 and is based on Mission's production estimate for the 2006 *meher* crop and forecast of the 2007 *belg* crop and the latest information on trade and stocks.

- Total cereal and pulse production is estimated at 20.4 million tonnes, including 20.1 million tonnes from the main *meher* crop, and a provisional forecast of 310 000 tonnes for the 2007 *belg* crop. As these estimates are based on a field assessment carried out mainly during the month of November, final production figures, once all *meher* season crops are harvested by end January, may vary.
- Opening stocks for the 2007 marketing year (January/December) are estimated at about 522 000 tonnes. These include about 16 000 tonnes held by the Ethiopian Grain Trade Enterprise (EGTE); about 180 000 tonnes held by the Emergency Food Security Reserve (EFSR), about 58 000 tonnes in WFP's warehouses and approximately 150 000 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 120 000 tonnes.
- Feed use is forecast at about 900 000 tonnes, largely for the poultry industry, dairy industry and equines.
- Seeds requirement, at slightly below 840 000 tonnes, are estimated on the basis of recommended seed rate in Ethiopia and a planted area of 12.1 million ha of cereals and pulses in 2006/07. The following seed rates have been used: 150 kg/ha for wheat, 120 kg/ha for barley, 35 kg/ha for teff, 25 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 crops.

- Losses and other uses are estimated at 3.3 million tonnes. Rates of post harvest losses range from 3 percent for teff to as high as 15 percent for pulses and 25 percent for maize. The post harvest losses have averaged at about 15 percent of the total *meher* harvest. As “Other uses”, it included 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 14.3 million tonnes, using a 2007 mid-year population of 77.1 million persons and a per capita average consumption of about 185 kg of cereals and pulses. This per capita value represents a 10 percent increase over the value of 170 kg per capita that was estimated by the CSA in 2000. Per capita consumption comprises 45 kg of maize, 39 kg of wheat, 33 kg of teff, 31 kg of sorghum, 7 kg of millet, 11 kg of barley and 18 kg of pulses.
- Closing stocks are forecast at 855 000 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 800 000 tonnes and the rest being coarse grains.

Table 9 – National grain supply/demand balance, January-December 2007 ('000 tonnes)

	Teff	Wheat	Barley	Maize	Sorghum	F. Millet	Others	Total cereals	Pulses	Cereals and pulses
Domestic availability	2 814	4 659	2 151	5 303	3 390	617	111	19 045	1 904	20 950
Opening stocks	35	323	20	62	19		7	467	55	522
Total production	2 779	4 335	2 131	5 241	3 371	617	104	18 578	1 849	20 428
<i>2006 Meher season</i>	<i>2 764</i>	<i>4 330</i>	<i>2 121</i>	<i>5 021</i>	<i>3 326</i>	<i>610</i>	<i>104</i>	<i>18 282</i>	<i>1 834</i>	<i>20 116</i>
<i>2007 Belg season</i>	<i>15</i>	<i>5</i>	<i>10</i>	<i>220</i>	<i>45</i>	<i>0</i>	<i>0</i>	<i>295</i>	<i>15</i>	<i>310</i>
Utilization	2 814	4 659	2 151	5 303	3 390	617	111	19 045	1 904	20 950
Food use	2 546	3 009	849	3 472	2 392	540	58	12 864	1 389	14 253
Seed use	89	306	156	54	28	37	7	678	159	836
Feed use		120	236	200	300	8	35	900		900
Losses and other uses	83	650	468	1 355	431	31	10	3 028	275	3 302
Commercial & informal exports	97	23\4	0	190	200	0	0	721	83	804
Closing stocks	0	341	442	32	40	0	0	855		855

Note: Totals computed from unrounded data.

Table 10 gives a comparison of the national grain balance sheet for 2004/05 to 2006/07, using revised figures for the previous two years. Some of the assumptions behind the figures, for instance exports with the exception of pulses, need further studies. Cross border trade is known to be an important activity but no records are available.

Table 10 – Comparison of last three years' national grain supply/demand grain balance ('000 tonnes)

	2006/07	2005/06	2004/05
Domestic availability	20 950	18 998	15 759
Opening stocks	522	407	400
Total production	20 428	18 591	15 359
Utilization	20 950	18 998	15 759
Food use	14 253	12 930	11 395
Seed use	836	791	715
Feed use	900	1 000	565
Losses and other uses	3 302	2 955	2 427
Exports	804	800	250
Closing stocks	855	522	407

Note: Totals computed from unrounded data.

5. HOUSEHOLD VULNERABILITY AND EMERGENCY FOOD SECURITY NEEDS ASSESSMENT²³

5.1 Food security and nutrition background

5.1.1 Food security situation

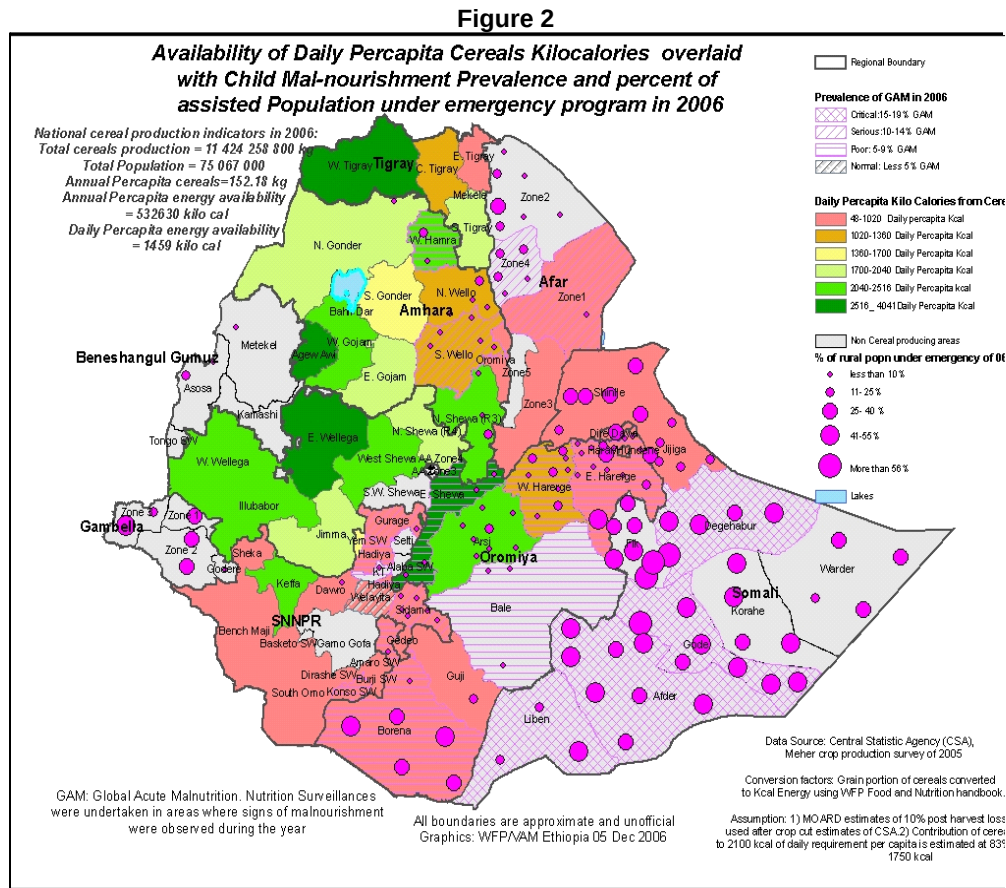
Food security conditions in Ethiopia have always been fragile. A vast majority of the population depends on a rain-fed agricultural system for their livelihoods and food needs and constantly runs the risk of being victimized by vagaries of weather. Low quality soils and over-farming cause soil degradation that diminishes productivity. Thus production has often not been able to meet the food requirements of a rapidly growing population.

Crop production has traditionally been the main indicator of food security; therefore food insecurity is not assessed regularly in food surplus areas. During the last ten years (1996-2006), on average, about 6 million people have been identified as food insecure and in need of assistance.²⁴ The lowest number was 2.69 million in 1996 while the highest number was 12.2 million in 2003.

²³ The Members of the mission who examined this aspect of the CFSAM included: Neville Edirisinghe (Consultant: Team Leader), Scott Ronchini (WFP), Naouar Labidi (WFP) and Zewditu Getahun (Consultant Nutritionist). Linda Stephen participated as an observer from EC.

²⁴ Data are from WFP data base.

Figure 2 presents the picture of per capita production of cereals (from the 2005/06 Meher crop and 2006 Belg crop) in terms of per capita kilocalories per day in different zones within the regions during the year 2006. It also shows the extent of emergency assistance received by areas within regions as well as the incidence of Global Acute Malnutrition (GAM) for areas where nutrition screening has been conducted.



5.1.2 General nutrition status of vulnerable populations

Ethiopia is one of the countries in Sub-Saharan Africa with the highest rate of child malnutrition. According to the findings of the Ethiopian Demographic Health Survey (EDHS) 2005 about 47 percent of children less than five years are chronically malnourished and 24 percent were severely stunted. Thirty-eight percent were underweight (low weight for their age) and 11 percent wasted (low weight for their height). The level of stunting, underweight and wasting was higher among rural children than among urban children. A comparison of the data with that of EDHS 2000 shows that there has been some improvement in the nutritional status of children in the past five years. The percentage of children stunted fell by 10 percent from 52 percent in 2000 to 47 percent in 2005. Similarly the percentage of children underweight declined by 19 percent from 47 percent in 2000 to 38 percent in 2005. There was, however, no change over the five years period in the percentage of children wasted. The trend for the prevalence of malnutrition from 2000 to 2005 is shown (Figure 3).

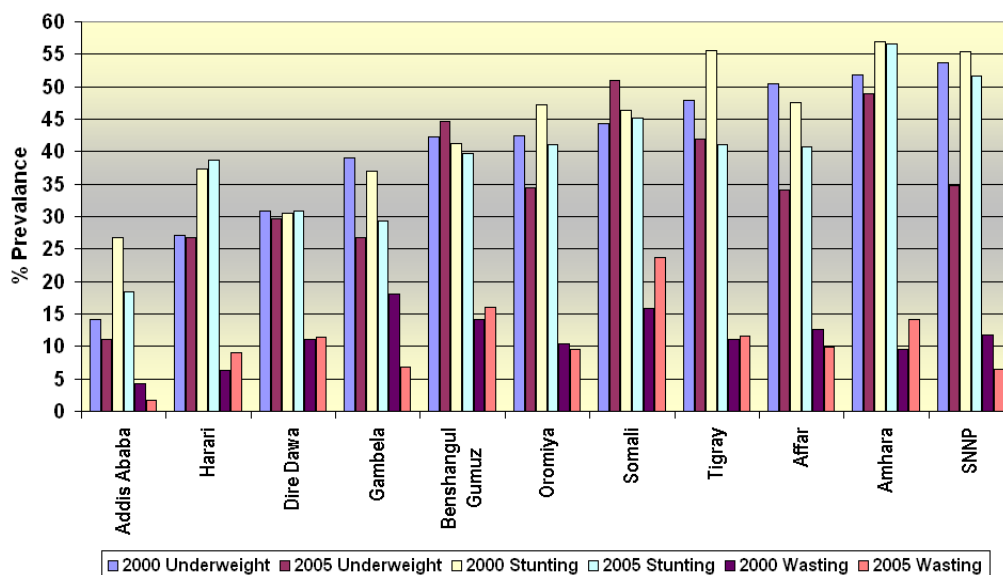
Wasting represents the failure to receive adequate nutrition in the period immediately preceding the survey and may be the result of inadequate food intake or a recent episode of illness causing loss of weight and the onset of malnutrition. Wasting prevalence of 10 percent indicates a serious nutritional problem especially in the presence of aggravating factors and calls for intervention. Wasting is higher than the national average in Somali region (24 percent), Benshangul Gumuz (16 percent), Amhara (14 percent), and Tigray (12 percent). These regions include the major food deficit areas having frequent production shocks.

The DPPA and NGOs working in the area of health and nutrition conduct nutrition surveys in different woredas that have a history of vulnerability. The database available with the DPPA is summarized below to

show the trends in child malnutrition in different regions. The nutritional problem varies from poor to critical according to the DPPA classification (Emergency Nutrition Coordination Unit's Guidelines).

Surveys done in Somali region in 2006 indicated that there is a critical malnutrition problem with GAM rate ranging from 16 percent to 22 percent. Access to health care facilities is very limited. Diseases like malaria and diarrhea are major health problems, diarrhea being the main cause of under-five morbidity and mortality. Extended Program of Immunization (EPI) coverage is very low and there is also lack of manpower and essential drugs.

Figure 3
Trend in Nutritional Status of Children in Ethiopia



5.1.3 Links between HIV/AIDS, nutrition and food security

In 2005 a total of 1.32 million people were living with HIV/AIDS. Of these, 634 000 were living in rural areas and 686 000 in urban areas. The national HIV prevalence rate is 3.5 percent (urban 10.5 and rural 1.9 percent). The rural rate is still rising though at a decreasing rate. The urban rate has been slowly declining since 2001. There are currently 4.6 million orphans in Ethiopia - with around 540 000 of them having been orphaned by the HIV/AIDS pandemic.

Prevalence levels are highest in Gambella and Addis Ababa. Other regions in which HIV prevalence exceeds the national average includes Harari, Dire Dawa, Afar, Tigray and Amhara. HIV infection levels increase directly with education among both men and women and are markedly higher among those with a secondary or higher education compared with those having less education, which appears as a complex phenomenon.

While the urban sector HIV/AIDS problem is quite well researched, the rural phenomenon and its socio-economic constructs are yet to be well understood. Although conceptualizations of the inter-relationships between the disease and rural economic activities are abundant, actual field investigations as to the causes of the fast spread to rural areas, which types of households or people are affected and the implications on rural productive activities are scanty.

5.1.4 Shift in Government response to food security challenge

In 2003 the Government-led New Coalition for Food Security recognized that each year large numbers of people required "emergency" relief food assistance even as cereal production was increasing, while others only needed assistance when local production failures occurred. This has led to a re-categorization of food insecurity in Ethiopia. Those who have regularly received relief assistance in the past ten years are

categorized as the chronic food insecure. These people are assumed to face periods of acute food insecurity even in “good” production years. Other people living in food-insecure areas who occasionally require relief assistance due to an external shock are classified as the “unpredictable” acute food insecure. These people are assumed to face sharp but only short-term declines in their food security situation. Thus in any given year, there often are some unpredictable acute food insecurity needs due to localized shocks in addition to the chronic needs. In 2006, the total number requiring assistance in meeting food needs was estimated to be 9.7 million people; this figure included about 7.2 million chronically food insecure and about 2.5 million unpredictable acute food insecure.

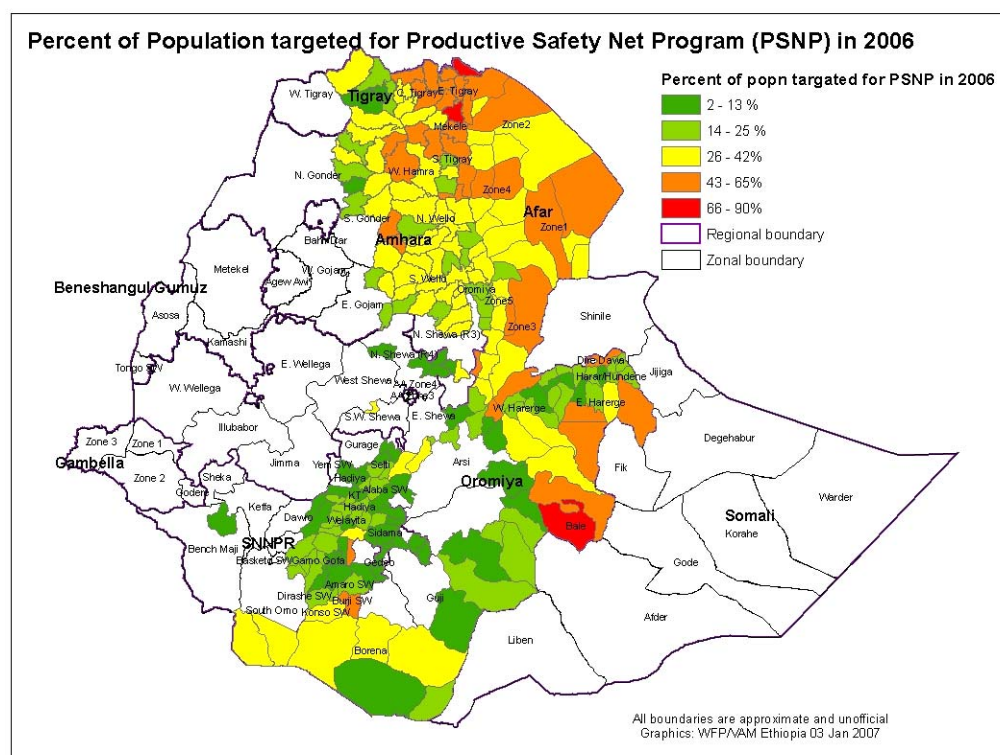
Up until 2004, food insecurity was assessed through the impact of agricultural production failure on households who depend on own production for their consumption needs. Over the years, the Government of Ethiopia and its partners have developed an institutionalized emergency needs assessment process based around the two major harvest seasons. The main harvest assessment is the Meher Assessment, undertaken in late November/December, which determines the emergency food needs on which the annual Humanitarian Appeal is based. The second assessment is undertaken following the mid-year Belg harvest. In addition, ad-hoc assessments are done following sudden onset emergencies such as floods.

The regularity of this “emergency” assistance process and the large magnitudes of food aid involved caused serious concerns about a growing aid-dependency syndrome that may have dampened the need and the will for self-reliance. A major reason for this concern was the fact that humanitarian emergency assistance, intended to address short-term acute shortfalls in consumption, has also been used to assist chronic food insecurity that requires more development-oriented assistance rather than relief assistance.

Therefore, in 2005, following from the work of the New Coalition for Food Security and within the framework of Ethiopia’s new poverty reduction strategy, the Plan for Accelerated and Sustained Development to End Poverty (PASDEP²⁵), the government began implementing a Food Security Program to address those people categorized as chronic food insecure. Currently, about 7.23 million people in rural Ethiopia have been taken out of the annual humanitarian appeal process and are provided with predictable resources in the form of cash and food transfers through the multi-year Productive Safety Net Program (PSNP), the main pillar of the Food Security Program. These households are selected by communities based on selected indicators, the predominant one being previous receipt of relief assistance. The share of population receiving PSNP benefits is shown in Figure 4.

²⁵ . The plan contains eight strategies: (1) A massive push to accelerate growth - commercialisation of agriculture and promoting much more rapid non-farm private sector growth; (2) geographical differentiation – including urban issues; (3) reducing population growth; (4) reducing gender discrimination; (5) constructing infrastructure; (6) risk management and reducing vulnerability; (7) scaling up service delivery to reach the Millennium Development Goals (MDGs); and (8) increasing employment.

Figure 4



With the PSNP in place, the annual Humanitarian Appeal is now focused on assisting the unpredictable food-insecure - those who face short-term acute needs as a result of a shock. Thus, the Government's assessment process focuses on determining these short-term needs. In practice, the process does not go to the community level to identify the chronically food insecure (PSNP recipients) and others affected by the shock. The total number of people requiring food assistance is first estimated based on production and other factors affecting needs in a region and then the number in the PSNP is deducted from this number to derive the number who should receive relief assistance or be kept under close observation. Since the government's Meher and Belg assessments focus on those living in food-deficit woredas who are "affected" by the shock, it is likely to include the chronically food insecure who are not included in the PSNP due to targeting and administrative issues (such as those in Somali region). However, it is also likely to exclude those living in food secure areas who may nonetheless lack access to food through loss of livelihoods. Annex 2 presents some conceptual considerations on the relationship between chronic and acute food security needs.

5.2 **The emergency food needs assessment approach in Ethiopia**

5.2.1 **Outline of the current emergency food needs assessment approach**

The main assessment to determine relief needs for the annual Humanitarian Appeal is known as the Meher Assessment, and is conducted countrywide towards the end of the year with the advent of the Meher rains. This assessment has now moved from being solely a Government activity, to becoming an inter-agency participatory assessment, thus bringing greater transparency to the assessment process.

To provide a broader perspective on food security, the Government has developed a set of guidelines for the Meher and Belg assessments. Several food security-related variables (i.e. market conditions, sources of income, coping mechanisms, human health and nutrition conditions, relief distribution) are included in these guidelines, with the aim to expand the data collection and triangulation beyond traditional food and livestock production variables.

In addition to the Meher, a Belg assessment (conducted mid year, after the Belg rains) is undertaken to determine the Belg crop and up-date the food needs prediction from the Meher assessment. Additional ad-hoc assessments are conducted in response to unpredictable shocks, such as floods.

The Disaster Prevention and Preparedness Authority (DPPA) has in place an Early Warning System (EWS). This is spearheaded by an Early Warning Working Group (EWWG), and has a Methodology Sub-group. The EWS collects information through a monthly monitoring and reporting form at the Woreda level, and has expanded to include key food security variables.

Meher and Belg assessment teams are given guidelines, the contents of which are similar to those of the EWS monthly monitoring and reporting forms. The information sheets provided by Woreda officials to the Meher and Belg teams during the assessment are primarily based on these EWS monthly reporting forms. The assessment teams then triangulate and verify the information of these EWS forms based on their field observations and discussions, and then engage in discussions with Woreda and Zonal officials in order to arrive at the most plausible findings and situational analysis.

5.2.2 Recent developments in the emergency needs assessment approach

In recent years, the assessment of emergency food needs in Ethiopia has come under critical review²⁶, particularly in relation to understanding the non-food needs dimension of both chronic and acute food insecure people. As a result, significant efforts have been made by the Government to begin moving traditional emergency “food needs” assessments to more emergency “food security” type assessments (EFSA’s), in collaboration with its partners.

In response to the criticism that the traditional assessment approach is no more than a process of negotiations between assessment teams and local officials over qualitative information, the Government endorsed piloting of the more rigorous Household Economy Approach (HEA) in the SNNPR in 2004. This livelihood-based approach considers how shock-induced changes in variables such as production levels, other income sources, price levels and coping mechanisms affect food access of households in a given livelihood zone. Based on positive reviews of the HEA pilot, it was decided to replicate this methodology in other regions. Thus HEA baseline studies are underway in the Tigray, Afar and Somali regions. It is planned that the HEA will be rolled out in the rest of the country over the next two years.

Although this indicates a shift to more rigorous assessment processes, the Meher assessment in 2006 still remained a predominantly food needs assessment. The number of acute food insecure people is for the most part derived through a process of discussions and triangulation of existing data between assessment teams, local officials, and key informants at varying administrative layers, and with ‘need’ being primarily determined on agricultural food production prospects for the woreda’s. The exception to this has been the SNNPR, whereby the HEA baseline was used to estimate vulnerability and food gaps for the region during the Meher assessment.

The Government-led process of change continues to be conducted in an open manner, welcoming the participation of partners in an effort to bring more rigour to the assessment of emergency food security needs. The following issues and suggestions arising from the CFSA Mission are meant to contribute to the ongoing efforts by the Government and its food security partners.

5.2.3 Recommended areas for improvement and complementarity

Training in data collection and information triangulation methods:

Prior to the start of the Meher assessment, teams receive a briefing session and are provided with the guidelines and available secondary data for their region. However, it is the missions’ view that insufficient time given to this aspect can lead to a lack of consistency in interpreting the guidelines or fully utilizing the secondary data. More time should be allocated for briefing and training on assessment objectives and methodology. Briefing materials (guidelines, secondary data, EWS information) should be provided well in advance to the assessment teams, to enable more active participation and discussions during training.

Training should also focus on the use of Participatory Rural Appraisal (PRA) techniques for more robust data collection, given that a major information source in the assessment should be communities. Although the assessment guidelines do mention community interviews, the insufficient attention given to this aspect by

²⁶ Human Policy Group Research Report. May 2006. A review of emergency food security assessment practice in Ethiopia. This report is generally referred to as the “ODI Report”; and Riley, F. 2001. Emergency Food Needs Assessment in Ethiopia: Initial Fact Finding Activity Report to WFP.

some teams suggests that it could be due to lack of training (and appreciation) on participatory rural appraisal techniques.

During the Meher assessment, the triangulation and verification of data is expected to take place through a process of intensive discussions with local authorities, community focus group and key informants, reviews of secondary data, and field observations. This is expected to help in:

- Identifying the extent of the damages caused by a shock and their impact on agro-ecological zones and socio-economic status;
- estimating the number of people in need of relief assistance and / or that require monitoring; and
- estimating the required duration of assistance.

Although the guidelines provide checklists and reporting formats to the Meher teams, they lack an analytical framework in which to link different variables to determine food security outcomes, and the assessment of food and non-food needs. For example, the teams have to understand the different income sources that households have, as well as market prices, but how this information can be used in understanding the impact of prices on access to food is not explicitly described. It was also observed that there was no consistency between assessment teams in examining food security variables other than food production.

Better understanding of the link between food security and nutrition data:

The nutritional status of people is the outcome of a number of factors with complex relations including poor health and inadequate food consumption. Since emergency needs assessments often take place in situations of acute food crises, malnutrition serves as an indicator of food insecurity. Hence, concurrent analysis of food security and nutrition information is required to identify the underlying causes and appropriate response options.

This makes it necessary for assessment teams to develop a better understanding of the relationships between malnutrition and food supply failures. It was observed by the mission that assessment teams have varying degrees of understanding in, and interpretation of, nutrition issues, such as the objectives and methodologies of nutritional screening taking place in vulnerable areas, and the links between nutritional outcomes and food insecurity.

What is important from an EFSA perspective is to get a longer-term view of the problems of malnutrition with well identified causal factors and a clear distinction between chronic and acute food security contexts. Ways in which this could be strengthened in the current system include:

- Agencies like WFP and UNICEF should be able to provide trend information on malnutrition, and an analysis of causal factors related to areas identified as "hot spots", which assessment teams are expected to visit;
- Such agencies as well as research institutions (IFPRI, for example) should be encouraged to discern any predictable relationships between food supply, access variables, and incidence of malnutrition with due control for other factors (health; sanitation; clinical and other facility availability); and
- Assessment teams require adequate training on the use of nutritional information in acute food insecurity assessments, and should be provided with a comprehensive checklist on nutrition and health indicators.

Complementing emergency assessments with market analysis:

The EWS and Meher assessments are more or less focused on a few cereal staples that dominate subsistence-oriented agriculture. There are recent indications that the rural economy may be going through significant changes, as the aggregate demand for food appears to have undergone a structural increase, and is supported by reasonably high growth rates in the economy.

Successive good years of agricultural production have contributed significantly to this growth. Where food consumption plays a dominant role in total household expenditures, then higher household incomes lead to higher food demands. The fact that food prices have not come down immediately after crop harvests, as is the tradition, is viewed as indicative of a shift in aggregate demand. Expected high prices also induce traders to smoothen the release of supplies over time in order to maximize profits from trade, a phenomenon likely to filter down to farm-gate level operations.

In this context, needs assessments have to broaden their focus to include the potential farmer responses to these changes and their impact on household food security. The mission observed how farmers tended to respond to price signals both from the local and cross-border markets in making cropping and/or sales decisions. Field observations in three woredas affected by flooding and hailstorms during the 2006 cultivation season in the Amhara region showed how farmers replanted their flood-affected crop areas with higher valued cash crops, to meet the demand for such products from neighbouring Sudan. Due to the prospects for lucrative incomes from cash crops, the Meher assessment team found these areas least qualified for relief assistance. This example highlights the diversity of livelihood options being used, which should be taken into account in assessing household food security.

WFP has been in the favourable position to support the preparation of market profiles in selected countries. Its EC-sponsored SENAC project has a strong focus towards promoting market studies and market profiling using price and consumption analysis. Adoption of the SENAC experience in the Ethiopian context would help serve two purposes: In the first place, it would help the EFSA to be more comprehensive and include dynamic changes taking place in agricultural production and trade, as well as explicitly consider the impact of price changes on consumption in their assessments; and secondly, it could help to bring out for policy consideration current constraints to market development at the local level. The latter has implications not only for enhancing current food security prospects of the food insecure, but also for longer term food security due to the crucial role of markets in poverty alleviation.

Thus, EFSA's should be supported through on-going assessments of local markets. Particular attention would need to be given to markets in deficit areas, where food security issues are most crucial. The EC-sponsored project "Support to Food Security Information Systems in Ethiopia" could provide a framework for FAO and WFP to work with DPPA towards more local market profiling and analysis, with a view to strengthening the assessment processes.

Enhancing the advances in assessment methodology:

Assessments that do not have at least some basis in quantitative survey data are more prone to negotiations and subjective judgments. While the newly adopted HEA ensures more analytical rigour than the traditional assessment approach, its value added remains constraint by its food access focus and qualitative character:

- In contrast to the traditional assessment methods that focus almost exclusively on food availability issues, the HEA also looks at access issues which provide a better understanding of food security status and changes. It does not, however, adequately address the third pillar of food security, i.e. issues of food utilization and nutrition.
- The HEA focuses on homogenous livelihood zones rather than on agro-ecological or administrative areas, which could have more heterogeneous food security patterns and hence may compromise the representativeness of food security issues. However, any statistical representativeness of information is compromised by the HEA's use of community self-reported wealth groups in order to develop 'typical' household profiles.

Although the HEA represents a methodological improvement from the traditional assessment approach, this tool alone cannot be expected to fully address the analysis of food and non-food information requirements in the Ethiopian context. Complementary assessment methods should be explored which build upon and enhance the information arising out of the HEA baselines and monitoring. Areas to be considered include household surveys based on probability sampling which would provide information on household types beyond just the 'typical'.

5.3 Current vulnerability and food security status

5.3.1 Area and population groups affected or likely to be affected

The majority of Ethiopia's population relies on crop production for food security. While overall crop production in 2006 performed much better than the previous year, which also had a record level of production, localized hazardous weather conditions affected crop production and livestock in some locations. As indicated from the past experience, the incidence of localized weather hazards can affect food security of relatively large numbers of people. These hazards range from severe floods to hailstorms, landslides and moisture stress. Floods in the Somali region caused some deaths, substantial damages to about 360 000 people and displacement of about 125 000 people. The impact of the floods on food security is likely to continue into 2007, hence the need for careful monitoring. Mission observations based on an aerial

monitoring exercise in the flooded areas of Somali indicated that where water had subsided, farmers had replanted. However, this area is likely to be lower than normal, as some farmers had ran out of seed stocks from the previous harvests. As such, the impact of replanting has to be assessed during the first quarter of 2007 in order to determine whether harvests were realized. Although isolated dry spells were experienced in some areas, where there was rain, pasture and browse regeneration/growth was good.

Overall the Government-led Meher assessment identified 2.3 million people as requiring assistance. However, a good part of these people are found in areas covered by the Productive Safety Net Programme (PSNP), leaving an estimated 1.36 million people in need of some level of food assistance. The Joint Government and Humanitarian Partner's 2007 Humanitarian Appeal requests approximately 150 000 tonnes as a contingency amount to meet relief food requirements during the year. Actual allocations to regions will be based on further assessments on an area-by-area and case-by-case basis. More than two thirds of relief food needs are in the Somali region. How weather conditions and crop production impacted the food security situation in the various regions is discussed below.

Oromiya:

The performance of the 2006 Meher rains was generally good in most parts of the region. However, pockets of low-lying areas in Arsi, West Arsi, Bale, East and West Harerge and East Shewa zones suffered from moisture stresses. In addition, heavy rains accompanied by floods, water logging, hail storms and land slides impacted crop yields in different agro-ecological zones of the region, with significant consequence in the highlands. Despite occurrences of various weather related shocks, regional level crop production prospect from the current agricultural season is likely to be substantially better than the previous year. Populations living in those pocket areas that experienced considerable crop damages from weather irregularities will require relief assistance for some months of the year but the number of relief beneficiaries in 2007 is expected to be lower than the previous year.

Somali:

Following the normal to above normal Deyr rains in seven of the nine zones of the region, and the untimely rains since October in Jijiga and Shinile zones, pasture and water availability has remarkably improved through out the region. This is expected to sustain livestock well up to the next rainy season beginning in March/April. The heavy rains in October and November caused the overflow of major rivers in the region with considerable loss of lives, assets, and cropped fields. As a consequence, the floods affected over 360 000 people in Gode, Korahe, Afder and Liban zones and displaced around 125 000 people, and killed large numbers of livestock. Gode Zone was the hardest hit of all. Crop production prospects in the riverine areas of Gode, Afder and other southern zones is very poor due to repeated floods that washed away planted crops. The agro pastoral areas of Shinnile and Jijiga are also expecting below normal harvests in 2006. They have been affected by a combination of flash floods, excessive rains and pests. Despite overall improvement in the performance of the rains and conditions of livestock, recovery from the effects of the last drought and the recent floods will require some time. Therefore, in this region, around 1 million people in 2006, compared to over 1.5 million people the previous year, are likely to be under relief for the months to come. A reassessment in the growing areas towards the end of the first quarter should review this number.

Afar:

The rains in the second half of 2006 have generally performed much better than in past few years. This has greatly helped the regeneration of pastures especially browse and the replenishment of water sources across the region. Nonetheless, there are areas that still continue to encounter chronic shortages of water and pastures. These are most of the woredas in Zone 2; Yallo and Teru woredas in Zone 4; and Elidar woreda in Zone 1. Current livestock conditions are good although herd sizes have not yet fully recovered from the impacts of the recurrent drought in the past years. The recent assessment has concluded that there will not be any relief beneficiaries in 2007 as long as the more than 472 000 chronically food insecure households receive their PSNP food entitlements on a regular basis.

Tigray:

The main 2006 rain was much better in both amount and geographic distributions than those of the past few years in the region. Yet some pocket areas in different zones still experienced weather related adversities including delays in start and early cessation of the rains; extended dry spells in July, heavy rains, hailstorms, flash floods, frost, water logging, windstorms and crop pests affecting crops at different stages in their

development. Despite these shocks, the region anticipates an estimated 93 percent increase in crop production above the past five year average. If these estimates are true, the harvest prospects are good and they reflect a huge improvement in production. There is also considerable improvement in livestock conditions. With the exception of pocket areas where weather-triggered shocks have caused significant yield losses, overall food security situation in 2007 in most woredas of the region seems stable and better than in the previous year, and no emergency relief assistance should be required.

Amhara:

With the exception of some lowlands in North and South Wello, North and South Gondar, North Shewa and areas in Wag Himra zones, the Kiremt (main season) rains were good in onset, amount, spatial distribution and cessation across most of the region. Some pocket areas in different zones experienced shocks including floods, excessive rains, hailstorms, moisture stress, unseasonable precipitations, pests and diseases that inflicted moderate losses on crop production. Regionally, crop production from the 2006/07 year is estimated to rise sharply by 26 percent and 51 percent from the previous year and the five-year average, respectively. Given good Meher production prospects, improved market prices of both cereals and livestock, improved productivity of livestock, the contributions of PSNP and other food security programs, overall food security situation in the region is expected to remain stable in the months to come except in those pocket areas where weather borne hazards have induced crop losses of considerable magnitude. Therefore it is anticipated that most of the food relief requirements could be covered under the PSNP's contingency budget.

SNNPR:

With some exceptions both the Belg and the Kiremt rains in 2006 have been good for crop production, pasture regeneration and replenishment of water sources in the entire region. Hazards like hailstorms, landslides and floods have occurred in some woredas but their impact have been minimal. Due to a combination of good weather in both the Belg and Meher seasons, relatively adequate supply of inputs, timely performance of agricultural activities, and the absence of major hazards, crop production in the region is expected to be the best since 2003.

Means of obtaining cash income has improved with increases in the prices of grains, livestock and wage labor. These together with good crop production prospect and the impact of various food security programs including the PSNP, point to a stable food security outlook at least until the coming Belg harvest in June/July. However, poor and very poor households residing in areas affected by weather shocks, or those heavily affected by outbreaks of trypanosomiasis, are expected to face food shortages in the next six months. People in need of relief food assistance may thus also be covered under the PSNP in 2006.

Gambella:

Meher rains in 2006 generally performed better than in the past years. However, heavy rains and hailstorms have been reported widely. Floods from over flowing rivers inundated large cropped areas and caused significant damages to crops. Significant numbers of people have been displaced by either floods or tribal conflicts. Thus, due to the combined effect of natural hazards and man-made problems, relief food requirements in 2007 will be about the same as the previous year.

Benishangul Gumuz:

The Meher rains have been good in the region leading to a promising crop production. Yet, very small areas suffered from heavy rains and hailstorms that will negatively influence their food security prospects. Any food relief requirements remain relatively negligible.

Dire Dawa:

Overall, Meher rains in 2006 were good in the highlands but poor in the lowlands. The lowlands of Dire Dawa experienced different natural hazards including dry spells in May; severe floods in August that devastated property and claimed human lives; early cessation of rains in September; widespread incidences of crop pests (armyworm, stock borer and aphids) and diseases (sorghum head smut). These shocks are likely to result in acute food shortages for some affected households, with food relief requirements remaining near the previous year's level.

Harari:

Generally, the prospect of both crop and livestock production is good due to improved performance of the Meher rains in 2006. This combined with the impact of ongoing food security programs in the region will significantly contribute to improved food security situation in 2007. Despite this overall improvement, moisture stresses and crop diseases in two pocket areas have caused significant crop damages. This along with the displacement of some 5 000 people has triggered acute food problems that need to be addressed through relief programs in 2007.

5.3.2 Potential impact of increased production on food insecure people

Bumper harvests in surplus producing areas are expected to bring down cereal prices, which in turn will have a salutary effect on food insecure people in deficit areas. However, what has been observed so far is the absence of a price decrease in spite of the record harvests the previous year. Price behavior in the current situation indicates that the trend of non-decreasing prices is likely to continue. This suggests that a positive impact from a supply increase on food purchases by food insecure households is unlikely to take place, unless they are able to increase their income levels from additional earnings and/or by shifting non-food expenditures towards food expenditures.

There is evidence that nominal wage rates have increased in some areas by over 100 percent relative to the previous year resulting from an increased demand for labour due to increased investment activities in the country. To what degree this phenomenon has spread over to the rural sector is not known.

The possibility of shifting expenditure allocations is negligible for most of the food insecure households given the high levels of poverty in food deficit areas where the bulk of the food insecure people reside.²⁷ Non-food expenditures that may account for 20-30 percent of total expenditures are typically meant to meet "fixed costs of survival" – costs of health, education, taxes, basic clothing and inputs for sustaining livelihood activities.

Gaining a deeper understanding of the impact of food production and price changes on food insecure households would deserve special attention in the context of the EC-sponsored project to Strengthen Food Security Information Systems in Ethiopia or a similar initiative.

5.3.3 Forms of assistance

The immediate objective of providing humanitarian assistance in a food security-related emergency is to prevent hunger. In some situations, such assistance may be to save lives; in others, it may be to assure adequate consumption so that people can continue with their productive livelihood activities. The latter appears as more relevant to the food security situation discussed in this report. This entails that whatever the form of assistance, it should first help to meet the immediate food needs of affected populations. Direct food transfers or cash transfers that help food (and other) purchases by the households or a combination of both are the most appropriate forms of assistance to meet these objectives. It is important, therefore, to examine the relative appropriateness of these two forms of assistance in the context of Ethiopia's current situation.

The conceptual issues and arguments for and against the two forms of assistance are well known. Ethiopia has used both forms of transfers in relatively large-scale operations under the PSNP; lessons learnt from this programme indicate how important it is to have the appropriate economic and social environment to assure full fruition of humanitarian and developmental contributions (freedom of choice in consumption; stimulation of local market development) expected from cash transfers. The issue that stands out, which has direct implications for the nutritional objectives of emergency assistance, is the fast erosion of the real value of cash transfers in some areas. Although the 2004/05 cereal output was considered the largest ever achieved in the country, market prices did not reflect this. Prices rose consistently throughout 2005 making cash transfers inadequate, particularly in wheat-consuming areas, to purchase the amount of food given in food rations. In addition, the food transfer includes some pulses and a small amount of vegetable oil, further increasing its value when compared with the cash transfer, which is intended to purchase only a cereal ration. By September 2005, the value of the food transfer package was more than twice the value of the cash

²⁷ A study that analyzed growth and poverty reduction prospects under different development strategies found that poverty would be affecting as much as 60 percent of the population in food deficit areas compared with a 45 percent poverty rate nationally. Xinshen Diao and Alejandro Nin Pratt et al. "Growth Options and Poverty Reduction in Ethiopia: A Spatial, Economywide Model Analysis for 2004–15" Ethiopian Development Research Institute. Research Paper No. 2, September 2005.

transfer. Protests by cash-receiving woredas resulted in a significant increase in food transfers. The ratio of cash to food transfers in the PSNP changed from 62 percent to 38 percent to almost 50 percent each.

The present mission also observed certain nutritional implications of cash transfers. For example, because of the high prices of preferred cereals, cash recipients have tended to purchase cheaper cereals with lower nutritional quality; this may have been a contributing factor to the relatively high degree of GAM observed in one woreda visited by the mission.²⁸ In this woreda, the mission learnt from women focus group interviews that cash received by male-heads of households (which appeared to be the typical practice) did not help to bring about the expected nutritional impact of cash transfers on household members.

Notwithstanding these problems, the cash transfer initiative should be seen as a step in the right direction with the opportunity to contribute to rural economic development by which the food insecure themselves will stand to benefit in the medium and long run. However, for the initiative to achieve the desired objectives, cash transfers need regular adjustment to reflect new prices. Obviously this has implications for the level of resources required. Moreover, at times of rising prices the shift to food transfers should remain an option because increased cash transfers add to the effective demand in the rural economy, which, at least in the short-term, is likely to push prices up further. Therefore, decision-making on the right type of assistance has to be based on a sound understanding of issues related to market performance, food price behaviour, programme implementation capacity and the role of women in household nutrition.

Immediate non-food needs exist in the areas of health and nutrition. Insufficient and nutritionally-deficient food consumption due to a prolonged hungry season in some areas where crops have failed, impact of floods on propagation of disease, worsening of sanitation conditions and drinking water availability are some of the main factors that deteriorates already undesirable nutrition and health conditions. A large number of nutrition and health interventions are already in place in the country, which have to be encouraged and supported to bring special focus on the areas affected by crop failures and floods. While the Ministry of Health spearheads the nutrition and health responses, WFP, UNICEF, WHO and the World Bank as well as a number of international and national NGOs participate in these. The large number of initiatives and interventions include: the Essential Nutrition Actions (ENA) program that focus on women and children and promotion of health facilities and community-based child nutrition; Enhanced Outreach Strategy (EOS) for reducing child mortality and morbidity; Micronutrient Deficiency control Program with the objective of eliminating micro-nutrient deficiencies by the year 2010; Integrated Management of Childhood Illnesses (IMCI); Child growth Promotion and Food Security Project run by the Ministry of Agriculture and Rural development; Emergency Nutrition Surveillance conducted by DPPA, Essential Nutrition Actions implemented by CARE and Community Therapeutic Centres (CTC) and Outpatient Therapeutic Program (OTP).

These initiatives and programs are not emergencies-oriented *per se*, (except the Emergency Nutrition Surveillance programme) but are generally present in the areas that are prone to emergencies. What seems to be lacking is a coordination effort to bring together required responses to problems that emanate from a crisis situation. As the mission learnt, in one woreda, the lack of coordination in response efforts in a food crisis situation apparently led to deaths of several children. A possible explanation for this was the failure of a timely, planned response to nutritional problems previously detected. The mission is of the view that the DPPA's Nutrition Surveillance Program needs to be strengthened and required to play the dominant role in monitoring and coordination of responses to emergency-related nutrition and health problems in pre-identified "hot spots".

5.3.4 Scope for local purchases

Local purchases are a useful tool to prevent sharp declines in prices during harvest periods thus providing support for domestic farming sector. However, the 2006 experience in Ethiopia indicates that various other factors contributed to keep the prices relatively high even during the months that typically witnessed large releases of stocks by farmers. As discussed previously, cereal prices are not expected to decline to any significant degree in 2007 either, notwithstanding a bumper harvest. WFP's Cereal Availability Study (CAS) provided a number of reasons for the unusual low level grain flow and an elevated price trend in January and February 2006:

- Relaxation of government tax collection and inputs loan repayment schedules or reduced pressure on farmers for cash outflows, leading to lower pressure to sell at harvest.

²⁸ See, Zewditu Getahun. Addis Ababa, January 2007, an analysis of nutritional issues in the context of emergency food security assessments: Report prepared during the FAO/WFP CFSAM in Ethiopia.

- The price of cash crops such as coffee, oil, spice and pulse crops as well as live animals and their products were reportedly high compared to previous years, encouraging farmers to sell these crops instead of cereals for their immediate cash needs.
- Demand increase of cereals resulting from increased availability of cash provided to Productive Safety Net Program beneficiaries.
- Increased legal and illegal export of cereals compared to the previous years. For instance, increased volumes of wheat and maize were reported to have been flowing to Kenya via Moyale from Arsi, Bale, Sidama and Hadiya zones leading to supply shortages and high prices of these cereals in the terminal markets including Addis Ababa over the last three to four months.

It is likely that similar factors would play a role in keeping cereal prices relatively high in 2007 (although the policy on tax receipts is yet to be known). The amount that could be purchased locally in 2007 needs to be carefully considered as the high prices of wheat throughout 2006 suggested that some structural changes are taking place in the demand/supply situation. For example, wheat prices remained above US\$320/million tonnes throughout the year, whereas the trend during the last five years has been for the prices to drop below US\$280/million tonnes after the harvest in December/January. Maize, a cereal of lower preference, was available in abundance and prices did drop though not to the levels seen on the average for the previous five years during harvest periods.

In 2006 WFP bought over 90 000 tonnes of maize out of the 171 000 tonnes targeted for distribution. As for wheat, WFP quit the market because of the high prices. It is envisaged that WFP will not enter the wheat market because of the high prices. Current price of wheat of about 340/million tonnes is near or more than the price of imports. With respect to maize, the CAS for 2007, expected to be conducted in early part of the year, will provide the required information base.

5.4 Follow-on assessment needs

- An assessment of the impact of floods in the Somali region undertaken by the mission in mid-December 2006 indicated a relatively high degree of crop replanting that has or is taking place in a substantial part of the flood-affected areas. The mission therefore recommends that a crop assessment be undertaken in around February/March in the crop growing areas of Somali region. The Meher assessment team that visited the Somali region has also recommended a follow-up mission to assess the prolonged potential negative impact of the floods on food security.
- As in previous years, the Belg pre-harvest assessment needs to take place around June 2007. The belg crop that comes from a relatively short rainy season is important in south and south-eastern regions and in some other districts elsewhere. The Belg assessment should lead to adjustment in relief food requirements pertaining to these areas.

CROP PRODUCTION SITUATION BY REGION

1.1 Oromiya

Oromiya, comprising 14 administrative zones, is the largest region in the country extending in a “T” shaped landmass from near the Sudanese border in the west, across central Ethiopia near the eastern border with Somalia and southwards to the border with Kenya. It includes the most productive highland plateaux as well as drought-prone valley bottoms and lowland plains and usually produces some 54 percent of the nation’s seeds 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 2006 the Region had very good *belg* rains and the *belg* harvest has been estimated by a MoARD/FAO Joint Mission at 907 000 tonnes of cereals and pulses, which is far above any estimates in recent years. It has been recorded as the production from 762 000 ha (50 percent increase over the previous year’s *belg* area) in the zones of Bale, Guji, Borena, East Arsi, West Arsi, North Shoa (Oromiya), West Haraghe, East Haraghe and East Shoa and stands testimony to the quality of the early rains.

The *belg* was followed by a timely onset to the main season. The *meher* season rains were also plentiful and well-distributed geographically. In some areas they have continued until November, positively affecting levels of crop performance and boosting the regional production of late sown pulses, root crops and perennial crops.

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 an expansion in cropped area. Regional combined fertilizer (DAP and urea) use was 2 percent lower than the previous year’s level for the *meher* crop²⁹ at around 170 000 tonnes, with distribution increasing in 16/20 zones despite increases in retail price of 40- 50 Birr per quintal.

With no major need to replant in 2006, seed availability *per se* was not an issue. 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. Higher than normal seed rates are noted and optimal cultivation practices are reported to have been fully observed resulting in an area planted to cereals and pulses 3 percent greater than the previous years’ revised estimate. According to BoARD data, planting increased for all cereals except finger millet and oats the recorded areas of which both fell dramatically.

Area data from CSA present a different picture with regard to this *meher* season’s farmed area compared to the BoARD data. Table 11 summarises the two data sets for cereals and pulses by zone.

²⁹ Fertilizer use on the *belg* crop is low at 1 500 tonnes for the season.

Table 11 - Area differences in Oromiya by zone ('000 ha)

Zone	BoARD Cereals	BoARD Pulses	BoARD Cereal and Pulses	CSA Cereals	CSA Pulses	CSA Cereal and Pulses
West Wellega ^{1/}	300	25	325	277	27	304
East Wellega ^{1/}	422	32	454	352	22	374
Kellem Well ^{1/}	250	33	283	17	5	22
Ho. Guduru ^{1/}	145	13	158	26	2	28
Illubabor	310	34	345	219	22	241
Jimma	471	43	515	429	42	471
West Shoa	618	63	681	492	49	541
S W Shoa	314	81	395	257	55	307
N Shoa	489	118	606	318	68	386
E Shoa ^{2/}	383	84	467	379	69	478
East Arsi ^{2/}	550	71	621	440	52	492
West Arsi ^{2/}	252	26	278	277	14	291
Bale ^{2/}	208	19	228	335	25	360
WestHaraghe	189	19	209	176	19	195
EastHaraghe	320	112	432	217	16	233
Borena	16	5	21	24	10	34
Guji ^{3/}	207	32	239	66	10	76
Commercial	22	1	23	na	na	na
Regional	5 379	807	6 187	4 306	510	4 816
Reg difference	+ 1 073	+ 297	+ 1 370	-	-	-

Note: Totals computed from unrounded data.

^{1/} New Zone boundaries; BoARD aggregates show a 286 000ha increase vs CSA's 47 000 ha increase. nb 10 fold differences in area of two new zones Horo Guduru and Kellem Wellega

^{2/} New Zone boundaries; BoARD data aggregate show 21 000ha decrease; CSA data show 339 000ha increase.

^{3/} Extreme difference

Regarding pests and diseases, migratory pest attacks were reported in 6 zones, Bale, Borena, Guji, East and West Haraghe and Horo Guduru. In each case, a combination of heavy rains and chemical spraying controlled the outbreaks before any significant damage was done. No other significant outbreaks of pests or diseases are noted. Mild infestations of the regular non-migratory insect pests including sorghum chafer, stalk-borer, shoot-fly, boll-worm, grasshoppers, termites and aphids were all reported to have occurred at non-significant levels. Vertebrate pests including non-migratory birds, wart-hogs and monkeys required the usual attention of the farmers wishing to protect their fields, particularly in the lead-in to harvest.

According to the BoARD Mission adjusted figures, the current *meher* crop is estimated to have resulted in 9.654 million tonnes of cereals and 0.879 million tonnes of pulses, which is a harvest 3 percent greater than the previous year's adjusted CFSAM estimate, due to sustained yields and a slightly increased cereal and pulses area (2 percent). The cereals comprise 2.72 million tonnes of wheat, 2.53 million tonnes of maize, 1.59 million tonnes of sorghum, 1.42 million tonnes of teff and 1.23 million tonnes of barley. Regarding the minor cereals rice and oats, each harvest is estimated to be around 50-60 000 tonnes.

Grain prices in Oromiya, 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. Again, as recommended the previous year, local purchasing for distribution out of the region is recommended.

1.2 Amhara

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

In 2006, *belg* rains in the north eastern production zones of North Wollo, South Wollo, Oromia and North Shoa (Amhara) were not as good as elsewhere in the country being later and apparently less than in 2005. Nevertheless, the Joint Federal MoARD/FAO *belg* assessment team still reported a harvest 10 percent greater than the previous year, from a similarly increased area planted to cereals and pulses, at around 224 000 tonnes.

Regarding the *meher* season, the start was timely and was followed by well-distributed rains that continued throughout the season until October and November, which prompted increased planting of all types of cereals.

Following the Amhara Regional BoARD instructions, all zones use CSA data adjusted locally to describe their zonal agricultural area, however, the application of the instructions, which involves partitioning area data to *woredas* and crops, is difficult particularly when the CSA data omit crops from their lists. As indicated in Table 5, the aggregated regional area estimates in 2006 are the same as the CSA data. All cereals register a 19 percent planted area increases over the previous year's BoARD data. Area sown to pulses exhibits an increase of 16 percent. The Mission believes that these increases reflect adjustments to area data thought to have been underestimated by CSA and BoARD in the past two years rather than an actual physical increase in area. The area noted to have been sown to oilseeds has apparently increased by 45 percent to 323 000 ha, possibly for similar reasons.

No reports of cultivating difficulties reached the Mission and no significant fallow areas were noted in what remains a very intensively farmed region. The situation regarding the commercial farms is the same as was reported the previous year, the Mission including the data separately. The area under commercial enterprises is estimated to have reached 110 000 ha of mixed crops of which more than 50 percent are oilseeds (sesame). From the remainder, 36 000 ha of cereals have been incorporated into the Mission data set.

Regarding seed availability, given the previous year's good season, no seed shortages were either anticipated or noted in 2006. Commercial input utilization in Amhara in 2006 follows the pattern established the previous year with fertilizer use increasing by 11 percent, despite price hikes, to 117 000 tonnes, some 31 percent of the national input with fertiliser distribution increases noted, by the CFSAM, in 8/10 zones.

Pest and disease outbreaks were noted to be minimal with no sustained threats from migratory pests reported. Non-migratory pests noted in 2006, as most years, include sorghum chafers in the eastern zones, Wollo Bush Crickets, stalk-borers, aphids, termites and grasshoppers but no infestations were described as anything but mild.

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 2006, with yields matching the high yields reported by the CFSAM 2005 actually 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.

Only in Meket and Bugna *woredas*, North Wollo was transect recorded crop performance disappointing. In adjacent *woredas* in Weghamra Zone, sorghum yields were noted to be worse than the previous year's unusually good crop, however, the barley and wheat crops, already harvested at the time of the Mission, were reported by the BoARD and farmers whose cases were studied, to have been better than the previous year.

The resulting Amhara Region Meher cereal harvest is estimated at 4.848 million tonnes, 20 percent higher than the MoARD post-harvest estimate for *meher* 2005. Pulses from an area 16 percent greater, exhibit a 47 percent increase in production at 0.617 million tonnes. In 2006 maize contributed 1.09 million tonnes, sorghum 0.98 million tonnes, teff contributed 0.97 million tonnes, wheat 0.91 million tonnes, barley at 0.50 million tonnes and finger millet at 0.29 million tonnes towards the cereal harvest. Oats and rice at 0.03 and 0.05 million tonnes respectively, make up the remainder of the crop.

Cereal prices are similar to this time the previous year but are expected to come down in the next couple of months as the new crop comes onto the market.

As noted the previous year, livestock condition is universally good (cattle body condition scores 3-4) with pasture and water supplies currently satisfactory and crop residues plentiful. Livestock prices are stable at rates similar to or higher than this time the previous 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.

1.3 Southern Nations Nationalities and Peoples' Region (SNNPR)

Presently formed from 13 zones and 7 special *woredas*, the SNNP Region is the most culturally diverse 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 localities³⁰, resulting in a harvest of cereals and pulses estimated by the Joint MoARD/FAO Mission to be 1.488 million tonnes from an area reported to be two times greater than the previous year at 890 000 ha, the highest for many years. This substantial boost to local food security from cereals and pulses will have been augmented by contemporary harvests of potatoes and sweet potatoes.

Rainfall post-*belg* is reported also to have been good throughout the region, if somewhat heavy mid-season in some localities. Whereas the Mission notes a 6 percent decrease (76 000 ha) in *meher* cereal area to 1.27 million ha, area recorded to other crops has more than doubled (81 000 ha) and pulses area has gone up by 11 percent (27 000 ha). With such a substantial increase in *belg* crop planting, *meher* expansion through increases in late sown crops like pulses, sweet potatoes and potatoes is a logical development by farmers using their limited areas to the full. In the *enset* producing high and middle altitude zones of the region, the crop area has been extended to but no area data are available.

Presently the BoARD uses its own area and yield data collected by DAs in the way described earlier. CSA data may have been given to the Regional Office but were not circulated to the zones. As is the case elsewhere, area data from CSA present a different picture with regard to this *meher* season's farmed area. Table 12 summarises the two data sets for cereals and pulses by zone.

³⁰ Burji, Amaro, Gedeo, Sidama, Konso, Derashe, South Omo, Wolaita, Gamugofa, Kembata- Tembura, Hadiya and Dawro all had significant *belg* harvests in 2006.

Table 12 - Area differences in SNNPR by zone ('000 ha)

Zone	BoARD Cereals	BoARD Pulses	BoARD Cereal and Pulses	CSA Cereals	CSA Pulses	CSA Cereal and Pulses
Gurage	128	26	154	81	8	89
Hadiya	186	25	210	111	9	120
Kembata-T	63	8	71	23	4	27
Sidama	117	30	147	65	22	87
Gedeo	6	5	11	17	3	19
Wolaita	111	30	141	53	15	68
South Omo	33	2	35	30	5	35
Sheka	16	2	18	11	3	14
Kaffa	73	55	128	88	37	125
Gamugofa	178	22	200	96	14	110
Bench-Maji	55	6	61	35	6	41
Yem	9	3	12	13	3	16
Amaro	7	1	8	7	2	9
Burji	7	5	12	4	3	7
Konso	13	3	16	20	2	22
Derashe	34	7	41	14	1	15
Dawro	62	16	78	24	10	34
Basketo	8	1	9	4	4	8
Konta	13	9	22	9	3	12
Siltie	106	11	117	82	7	89
Alaba	38	0	38	25	2	27
Regional	1 270	269	1 539	811	158	969
Difference	+ 459	+ 111	+ 570	-	-	-

Note: Totals computed from unrounded data.

Notwithstanding the many extreme differences between the two data sets for some zones and small special *woredas*, others are identical so the mix seems particularly strange, given that the two methods are supposed to be standardised.

In general, area planted to cereals and pulses has been almost sustained at 98 percent of the previous year's adjusted estimates. When and when the planting of other annual crops (sweet potatoes and potatoes) is included, the field crop area increases beyond the previous year's total by some 50 000 ha, which implies that neither means of cultivation nor were seeds/planting material are in short supply.

Regarding inputs, local seeds provide most of the planting material for grains except for a firm market for hybrid maize, grown as cash crop and may of the zones and particularly in the maize belt south of Awassa. At the regional level, fertilizer use increased by 43 percent to 43 000 tonnes, lifting the market share from 9 percent to 11.5 percent due to improved distribution systems.

Pests and diseases were, again, noted to be minimal in 2006. Regarding migratory pests, the presence of migratory quelea quelea bird nesting sites were noted in Konso Special *Woreda* but no outbreaks ensued due to controlling measures undertaken by MoARD. Armyworm outbreaks occurred in most 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 were noted as mild; nevertheless, non-migratory vertebrate pests from the forests required an inordinant amount of farm labour to protect the fields and so avoided substantial losses. Storage pests were also noted to remain causes for concern.

Consequently, the Mission anticipates a *meher* cereal and pulse harvest 12 percent greater than the previous year at 2.51 million tonnes, comprising about 1.07 million tonnes of maize, 0.19 million tonnes of sorghum, 0.22 million tonnes of teff, 0.54 million tonnes of wheat, 0.22 million tonnes of barley and 0.25 million tonnes of pulses. Regarding other crops this *meher* season, areas to both potatoes and sweet potatoes have risen to around 30 000 ha each, so with mission expected yields of 12-15 tonnes per ha, their contribution to household food economies will be considerable at a further 200 000 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.³¹

Livestock condition in the zones and special woredas visited by the Mission team was recorded as good (cattle body condition scores 3-4) with no problems noted relating to pasture or water supply. Reports from South Omo, where the team did not visit suggest adequate pasture and water conditions prevail. Presently, livestock prices are higher than the previous year throughout the region.

1.4 Tigray

Tigray, the northernmost region of Ethiopia bordering Sudan and Eritrea, has a cultivated area of about 820 000 ha farmed by some 775 000 households and 406 investors, the latter 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, un-off based, peasant farming systems in the South Zone and from the fore-mentioned mechanized commercial enterprises in the western lowlands.

Six *woredas* in the South Zone usually produce a *belg* harvest, in 2006 the rains were late; nevertheless, a similar harvest to the previous year of c.11 000 t is reported by the Joint MoARD/ FAO Assessment Mission to have been achieved. Thereafter, in almost all zones, a timely start to the *meher* heralded a much better year than for many years in almost all *woredas*. Only in the western *woreda* of Kafta Humera and the Central Zone *woredas* of Mereb Lehe and Tanqua Abergele were rainfall conditions non-conducive for better production than usual. Elsewhere, timelier and better distributed rain during July and August and into September and beyond in the highlands of the South Zone, North-Western Zone, and many *woredas* in the Central Zone encouraged and sustained *meher* season production possibilities. 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 has been experienced in the past decade in Afar Zone 2. In the South Zone the fertile plains of Alamata and Raya-Azebo (Mehoni) benefited extensively from several run-offs and good rains in the middle of the season, supporting maize and sorghum production and continuing the long series of highly productive sorghum areas along the eastern lowlands of the country that in 2006 began in North Shoa- north of Debre Sina and continued to Cheffa (Oromia), through South and North Wollo to Alamata and finishing north-east of Mehoni.

Meher season rains in the north-west were timely and their onset was followed by good distribution and a late finish, supporting the extensive fields of later sown *wanza* sorghum in Shire that will be harvested in January.

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.

All the BoARD offices use data generated in Tigray by the BoARD 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. House-hold farm sizes have been registered during land-redistribution programmes throughout the region and offer a direct means of cross-checking assessments. CSA data, generated by the Mekelle CSA branch office, are *usually* markedly different and are not considered by the BoARD to represent farmed areas. The summaries of 2006 estimates are juxtaposed below in Table 13 by zone to highlight differences. In 2006, the overall difference between the two data sets is only 5 percent and all may be accounted for in the West Zone, where BoARD data include commercial farmers and settlers whose areas are not included in the CSA data base. Discounting such areas leaves the two estimates closer than in any other Region, except Amhara and Somali where CSA data have been adopted by the Regional Administration. In 2006, area planted to cereals and pulses, as reported by the Regional BoARD, has declined by 1 percent, seemingly due to increased planting of oilseeds, particularly sesame, in the West and North West Zones.

³¹ 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.

Table 13 - Area differences in Tigray by zone ('000 ha)

Zone	BoARD Cereals	BoARD Pulses	BoARD Cereal and Pulses	CSA Cereals	CSA Pulses	CSA Cereal and Pulses
West	117	5	122	58	2	60
North-West	169	3	172	170	7	177
Central	179	18	197	187	18	205
East	78	11	89	70	8	78
South	193	31	224	210	27	237
Regional	733	68	802	697	63	760
Difference	+ 37	+ 5	+ 42	-	-	-

Note: Totals computed from unrounded data.

Mission estimated yields derived by adjusting *woreda* data following transects, crop-cutting, and case-studies in 18 of the 34 *woredas*, are higher than the previous year for all crops due to improved estimates in Alamata, increased planting and better estimates in Mehoni, where sorghum yields of 30-40 quintal per ha³² were reported and confirmed, and better crop performances for all cereals and pulses in North-West and East Zones.

Fertiliser use dropped by 4 000 tonnes, a reflection of price increases.³³ Cereal seed supply in 2006 was almost entirely from farmer-saved stocks, local markets or seed banks. Regarding pests and diseases, no significant outbreaks of pests were noted in 2006, however, sorghum smut is noted to be a serious problem in the western investor and settler areas and in the spate schemes in Afar (Ab Alla). 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 the previous year, were unavailable to the investor farmer/traders at the time of the CFSAM due to a less permeable border. Farm gate prices of sesame were, nevertheless, firm but 10 percent lower than this time the previous year at 450 Birr per quintal. The regional oilseed area has increased again, this time by 18 percent to 234 000 ha as investors switched from sorghum to oilseeds and settled farmers in the West and North-West Zone joined the investors³⁴, resettlers³⁵ in growing more sesame.

The Mission estimates that Meher cereal and pulse production will be significantly greater in 2006 for all cereal crops with a harvest of 1.094 million tonnes. The cereal production estimate is some 14 percent greater than the previous year's Mission estimate and comprises 136 000 tonnes of teff, 130 000 tonnes of wheat, 50 000 tonnes of *hamfes*, 107 000 tonnes of barley, 165 000 tonnes maize, 397 000 tonnes of sorghum and 108 000 tonnes of finger millet. Estimates for pulses and oilseeds are 70 000 tonnes and 123 000 tonnes respectively.

Livestock condition in all the zones is noted to be good. No cattle herds predominantly exhibiting the poor body condition scores of 1 to 1.5 noted 2 years ago in south-east and eastern *woredas*. Such continued improvement is due to better pastures and drinking water supply and an absence of debilitating disease outbreaks. Presently, livestock prices are higher than the previous 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.

1.5 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, in 2006 rainfall has been better than the previous year in both amount and distribution, prompting planting and generally favouring the production of pasture and browse. Consequently, greater areas have been farmed and the premature movement of transhumant herds, noted by the CFSAM two year's ago, was not seen in 2006 by Mission teams in Afar and in the areas bordering Amhara and Tigray. On the negative side the rains and run-off brought floods affecting 5 000 families,

³² Maize and sorghum are noted to have performed very well in Alamata, Mehoni and in surrounding lowland areas. High yielding sorghum and wheat are noted in Ofia and Alage,

³³ This seemed to be unusually high in Taytay Koraro, North-West Zone.

³⁴ 406 investors farming c.120 000 ha of which 80 000 ha is in sesame.

³⁵ 2 resettle areas in West Tigray; 20 000 households and 14 000 ha.

damaging infrastructure, causing rivers to change course thereby disrupting irrigation schemes and damaging 1 365 ha of commercial cash crops.

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

- In Zone 2 where run-off from the eastern escarpment serves minor spate irrigation and facilitates production of sorghum, maize, and barley.
- In Zones 1, 3, 4 and 5 maize, sorghum, cotton and some pulses are grown under riverine irrigation schemes, several of which were disrupted in 2006 by changed river flows and floods. Elsewhere on the escarpments minor crops of wheat and barley are grown.

Area information collected from the Regional BoARD and from the Ab Alla *woreda* BoARD is compared with CSA data in Table 14.

Table 14 - Area differences in Afar Region ('000 ha)

Zone	BoARD Cereals	BoARD Pulses	BoARD Cereal and Pulses	CSA Cereals	CSA Pulses	CSA Cereal and Pulses
Region	34.9	0	34.9	17.6	0.2	17.8
Difference	+17.3	-0.2	+17.1	-	-	-

In 2006, improved reporting from the Region identified far greater areas of planting in Zones 1, 3, 4 and 5, without specifying the locations. The sites were not accessible to Mission teams. In Zone 2, however, the CFSAM team witnessed the harvesting of excellent maize crops with fields returning 2.6 to 4.0 tonnes per ha. Equally good sorghum crops, at a less advanced state of harvest completion were also noted. Both crops were supported by traditional spate irrigation practices involving the diversion of floods from the eastern escarpment, channelled through the three river systems that flow onto the Ab Alla plain. 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 2006, the CFSAM sampled sorghum crops producing 70 quintals per ha, very close to fields producing only 7 quintals per ha. The maize crop was, however, less variable. Similarly, earlier harvested barley crops were noted to have performed well across all the river systems.

Pests and diseases noted by and reported to the CFSAM included tree locusts (do not eat crops and are presently under observation by the DLCO); sorghum chafer and sorghum smut. The latter is worrying as smut was noted to have infested 30-40 percent of the crop in some fields. There needs to be a seed renewal programme in Ab Alla to break the cycle which is being presently being perpetuated by the traditional use of carry-over seeds.

1.6 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 Jigjigga 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 2006, the good rains both *in situ* and in the upper reaches of the water catchment caused widespread flooding in the Wabi- Shabelle. The Mission team visiting Jigjigga was unable to obtain any realistic information regarding the agricultural season except from Jigjigga and its immediate environs. Data from Somali is, therefore, woefully incomplete. Consequently, a short visit 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, the findings of which are included below.

Table 15 compares the CSA area data with the incomplete data obtained from the regional BoARD Office in Jigjigga.

Table 15 - Area differences in Somali Region ('000 ha)

Zone	BoARD Cereals	BoARD Pulses	BoARD Cereal and Pulses	CSA Cereals	CSA Pulses	CSA Cereal and Pulses
Region	68	1	68	68	1	68
Difference	-	-	-	-	-	-

General information suggests that fertiliser 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. Crop pests and diseases in 2006 included migratory quelea birds that were controlled by spraying. Stalk borer infestations of maize and sorghum are reported to have been ubiquitous.

1.7 Gode and Afder Zones

With regard to flooding, the team found that water is still standing inland of the western bank along 21 km of the Shabelle river in the southern parts of Kelafo woreda; along 30 km of the western bank and 15 km of the eastern bank in the northern parts of Mustahil woreda (between Mustahil Town and the boundary with Kelafo woreda). Many villages are still flooded in these areas. The team could not visit the southern reaches of the Shabelle because of security concerns.

With regard to cropping, the main crops grown in the *Deyr* season in the localities visited are maize and sorghum with some intercropping of cow-peas and sesame. In 2006, the *Deyr* rains began on time in October and were plentiful, encouraging and sustaining planting of local maize and sorghum seeds throughout the zone.

Floods in late October/ November effectively destroyed most of the first planting, however, the team noted limited areas of harvestable maize in Kelafo woreda and even more limited areas of maize being harvested in Gode woreda, which may be seen as "the exceptions that prove the rule" of general loss of first planted crops throughout the zone. As the floods receded and encouraged by continued good rain in November, a second round of planting of the same crops was undertaken by farmers in West Imi and Mustahil³⁶. No information was available from the *woreda* BoARD regarding the second round of planting in Gode *woreda* and the team saw no evidence of such replanting on the transects flown.

Areas replanted at the second round to mixed stands of maize and sorghum in West Imi and Mustahil were reported by the BoARD at 5 000 ha and 3 850 ha respectively. Unfortunately, more flooding eliminated significant proportions of the second planting in both *woredas*, causing the farmers to embark on a third attempt at planting.

As no more *deyr* rain is expected in the zones, the farmers are depending on obtaining production from this third planting from the residual moisture left in the clay-silt soils using classical "draw-down" farming techniques involving planting into the fertile silt, left on their farms, as the floods recede. The team notes significant areas of such planting, built up from a series of small individual farmer initiatives along the riverine and ox-bow banks in West Imi and Kelafo. In Mustahil, replanting was only observed in the interior areas away from the banks, where the floods had already receded. However, it was explained that community plans are being laid to replant/plant more fields in the "draw-down" fashion as soon as the floods go down, which is anticipated to be 5-15 days time.

The success of such draw-down farming remains a subject for speculation. The local short- cycle maize, sorghum and cow-pea varieties are known by the communities farming and they are clearly confident enough to be hand-weeding intensively following the minimal tillage planting (*dibbing* stick) already practised. Planting distances of 40 cm to 90 cm between holes suggest that there may be a range of expectations within the aura of confidence in the residual moisture to produce a grain crop, but many farmers are trying to get something from the season. Unfortunately, the plants will also be subject to pest attacks and may be particularly vulnerable to migratory pest attack when the natural vegetation in the zone declines, as the next dry season progresses.

Regarding livestock, notwithstanding the reported deaths of livestock during the floods and the immediate aftermath, the body condition of flocks and herd viewed by the team was very good. Forage was universally available and both browse and grasses were noted to be very green and leafy in the hills, lowland and

³⁶ And, apparently, in Kelafo woreda, although no "ground-truthing" was possible due to security concerns.

riverine (presently non-flooded) pastures. In West Imi and Mustahil, the good condition of the pasture was recognised by BoARD specialists and cabinet adviser and said to be one of the reason for the current good body conditions and high price of livestock.

Herd and flock counts aggregated from block counting herds and flocks during all aerial transects, suggests that a different ratio between domestic species pertains than was observed in 2001 CFSAM using a similar technique. Table 16 indicates the change noted and contrasts them with the Regional Government 1999 estimates.

Table 16 - Livestock Ratios

Source	Camel	Cattle	Sheep/Goats
Reg. BoARD, mid-1999	1	6	12
CFSAM 2001	1	3	12
Team Gode	1	2.5	10

In 2001, the ratios were interpreted as reflecting a greater loss of cattle during the years of drought preceding the analysis. Current figures, for Gode only, may reflect a slight increase in the camel population currently in area at the time of the team's visit, however, at the meeting with the BoARD Mustahil, the Woreda Cabinet Adviser for natural resources explained that because of the good pasture/water supply in the neighbouring hills most of the sheep and goats had been moved from the riverine area. Similarly, many of the cattle herds were presently grazing the plains in the hinterland. Such movements may be the most likely explanation for the differences noted.

Regarding the prognosis for livestock production in the coming few months, despite the generally acknowledged, much improved levels of browse and grazing, the performance may not be as greatly enhanced as might be expected. Conditions, very much wetter than normal, are likely to increase infections and infestations that thrive in a humid environment. Of particular importance in this regard are worm and fluke infestations. Such debilitating parasites are controlled by drugs, either drenched or injected, but the effects of such drugs will be multiplied many-fold if coupled with grazing rotations that move the animals away from the infested pastures (worms) until the risk of re-infecting is minimised.

With regard to the usual endemic diseases, stocks of vaccines for endemic bacterial and viral diseases need to be refurbished as necessary in preparation for any outbreaks.

1.8 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 2006, the *meher* rains began in June and were plentiful and well-distributed until they finished in September.

Local seeds were available in sufficient quantity to meet the seed requirement and fertiliser use increased to 1 500 tonnes of which 60 percent is urea and is presumably used on the well-organised chat fields.

In 2006 BoARD area estimates are down by 30 percent, apparently due to a switch of production to vegetables and fruits. CSA figures show no such decrease; indeed a 17 percent increase is noted. Area differences between BoARD and CSA, as shown in Table 17, are less than the previous year but are moving in different directions.

Table 17 - Area differences in Harari ('000 ha)

Zone	BoARD Cereals	BoARD Pulses	BoARD Cereal and Pulses	CSA Cereals	CSA Pulses	CSA Cereal and Pulses
Region	6	0	6	7	0	7
Difference	-1		-1	-	-	-

Production of cereals is estimated at 11 400 tonnes of which 27 percent is maize and the remainder is sorghum.

Livestock condition is noted by the Mission team to be good, with no disease outbreaks reported and very good grazing and plentiful water available for the settled stock in the area. Animal and grain prices are firm and higher than the previous year due to the emerging export trade.

1.9 Dire-Dawa

Sorghum, maize and vegetables are the main crops grown around the city of Dire-Dawa. In 2006 the *belg* rains began in March and fell until the end of April. *Meher* rain began in June and was heavy in July and August, continuing until September. In 2006 no replanting was necessary, local seeds were sown at greater than normal sowing rates to secure crop establishment. Area planted to cereals estimated by BoARD, as mostly sorghum, is placed at 12 500 tonnes. Differences between BoARD area data and CSA area data are shown in Table 18 below and elicit the same concern as indicated the previous year, viz "Why are the differences so great for such a small area?"

Table 18 - Area differences in Dire Dawa ('000 ha rounded)

Zone	BoARD Cereals	BoARD Pulses	BoARD Cereal and Pulses	CSA Cereals	CSA Pulses	CSA Cereal and Pulses
Region	12	0	12	8	0	8
Difference	+ 4	-	+4	-	-	-

Livestock condition noted by Mission teams was good and livestock prices are high due to a flourishing export trade.

1.10 Addis Ababa

The area planted to cereals and pulses in 2006 in Addis Ababa administration area is similar to the previous year at 10 000 ha. CSA and BoARD have similar area estimates as noted in Table 19.

Table 19 - Area differences in Addis Ababa ('000 ha)

Zone	BoARD Cereals	BoARD Pulses	BoARD Cereal and Pulses	CSA Cereals	CSA Pulses	CSA Cereal and Pulses
Region	9	1	10	8	3	11
Difference	+1	- 1	-1			

Good rainfall beginning in the *belg* season and continuing into *meher* was sustained until December, prompting widespread planting of pulses, supported crop growth and development throughout the season. Fertilizer use in 2006 was through private companies so no records were available.

In 2006, 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 17 000 tonnes of which 64 percent was wheat and 32 percent was teff.

1.11 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. As no Mission team visited Gambella in 2006, agricultural information is scanty comprising only data from the regional BoARD that appears to be incomplete as no extensive crop assessments have been conducted. No CSA data was provided for Gambella. Rainfall data is also incomplete. Information from BoARD sources indicates a slightly reduced harvest of Meher cereals and pulses of 17 000 tonnes from 16 000 ha of which 75 percent is maize.

1.12 **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 the previous year, in 2006 the rains were universally favourable, a timely start was followed by well-distributed rainfall that finished late in all five zones. Area differences between CSA and BoARD estimates are shown in Table 20.

Table 20 - Area differences in Benshangul-Gumuz Region ('000 ha)

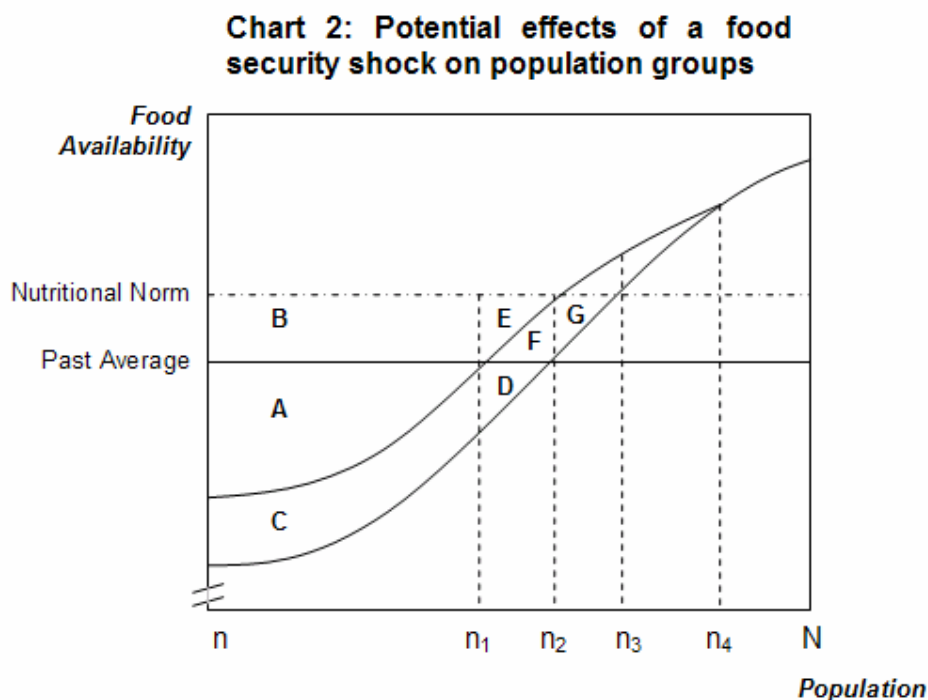
Zone	BoARD Cereals	BoARD Pulses	BoARD Cereal and Pulses	CSA Cereals	CSA Pulses	CSA Cereal and Pulses
Region	154	13	167	133	6	139
Difference	+21	+7	+28			

Given the good rains, normal farming practices were observed. Fertilizer use throughout the region is generally low as shifting cultivation is practised by both peasants and investors.

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 the previous year to reach the Meher estimated 217 000 tonnes of which 78 000 tonnes are sorghum, 68 000 tonnes are maize, 37 000 tonnes are finger millet, 13 000 tonnes are teff and the remaining cereals wheat, barley and rice are estimated to have produced 3 to 4 000 tonnes each. The total pulse crop is expected to produce around 11 000 tonnes and oilseeds 36 000 tonnes from 68 000 ha.

Analyzing Chronic and Acute Food Insecurity³⁷

Any EFSA must explicitly consider the relationship between chronic versus acute food insecurity. Chart 2 provides a conceptualization of this relationship.



Legend

Area A = Chronic food gap relative to the past availability average for population $n - n_1$
 Area B = Chronic food gap relative to nutritional norm for population $n - n_1$
 Area C = New food gap for population $n - n_1$ (deepening of chronic food insecurity)
 Area D = New food gap for population $n_1 - n_2$ who were food secure relative to the past average
 Area E = Chronic food gap relative to nutritional norm for population $n_1 - n_2$
 Area F = New food gap relative to nutritional norm for population $n_1 - n_2$
 Area G = New food gap relative to nutritional norm for population $n_2 - n_3$

In the above chart, food availability for a population in a given area, ordered from the lowest availability to the highest, is shown by the curved lines. The upper curve depicts a “normal” time situation and the lower curve shows the impact of a shock on food availability.

Chronic food insecurity is faced by the population from n to n_1 , if food insecurity is defined in relation to the past average food availability. If the reference is a nutritional norm (such as 2200 kilocalories), the population from n to n_2 is facing chronic food insecurity. Their average food availability level during a relatively long period of time is below the reference level. *Acute* food insecurity is faced by the population from n to n_4 due to a temporary sharp decline in food availability caused by a shock. For the population, n to n_2 , the shock results in deepening their already prevalent food insecurity; they as well as others facing acute food insecurity, will get back to the previous position after the effect of the shock is over.

A confusion about mixing up chronic food insecurity with acute food insecurity in EFSA arises because: (a) the chronically food insecure also face the impact of a shock which needs attention; and, (b) having nutritional objectives in providing relief assistance results in the inclusion of chronic deficits relative to the nutritional norm in estimating assistance requirements.

³⁷ This conceptual model was developed in the context of the on-going efforts to revise the guidelines for the joint FAO/WFP Crop and Food Security Assessment Missions.

In the process of assessing relief and chronic food security assistance needs, food deficits are estimated based on a nutritional norm. In this chart, the average food availability is shown to be lower than the nutritional norm, as could be normally expected in food deficit areas. An EFSA that is expected to assess the shock-induced food deficit relative to average availability level would take into account the deficits depicted by areas C and D, but with a nutritional norm as the reference, it will also include areas F and G. In order to provide a nutritional adequate diet through food transfers, it will also include areas A, B, and E to derive the total food deficit.

Where programmes are in place to address chronic food security needs, these are expected to take care of the food deficits faced by the population from n to n_2 in a normal year (areas A, B, and E). When a shock occurs, there is a danger that an EFSA would only focus on the food gap depicted by area G, those with transitory acute food security needs. However, EFSAs should continue to consider the affect of the shock on the population from n to n_2 (areas C and D) even when food security programmes are in place, as they are often not geared to fully meet the increased needs resulting from the shock. Furthermore, since EFSAs are concerned with those who are "affected" by the shock, they are likely to include the population from n_3 to n_4 as well. However, this group should not qualify for relief food assistance as their consumption remains above the nutritional norm.