

SPECIAL REPORT

FAO/WFP CROP AND FOOD SUPPLY ASSESSMENT MISSION TO MALAWI

20 June 2005

Mission Highlights

- Production of maize, Malawi's most important staple crop, is estimated at 1.25 million tonnes, the lowest in a decade and some 26 percent down on last year's relatively poor harvest.
- Aggregate harvest of roots and tubers, the second most important group of food crops in Malawi, is estimated at 3.8 million tonnes, some 9 percent down on last year's poor harvest and some 15 percent down on the five-year average production. This aggregate includes some 2.1 million tonnes of cassava, 1.27 million tonnes of sweet potatoes and 455 000 tonnes of Irish potatoes.
- Early and above average rains had led to optimism for a good crop, but hopes were dashed when rains failed at a critical time when the maize crop was at the stage of cob formation and pollination. It also coincided with cassava and sweet potato planting in some areas. In addition, heavy rains in late December and early January caused significant damage to crops through flooding and nutrient leaching.
- Mineral fertilizers were delivered too late to be of use to the main summer crops, while commercially very little fertilizer was available in the markets, which also significantly contributed to the reduced harvest.
- Aggregate domestic cereal supply, including roots and tubers in cereal equivalent, for the 2005/06 marketing year (April/March) is estimated at about 2.51 million tonnes. National utilization is estimated at 3.35 million tonnes, implying an overall cereal import requirement of 834 000 tonnes.
- Total maize import requirement is estimated at 767 000 tonnes. With commercial imports of maize, formal and informal, forecast at about 300 000 tonnes, and food aid quantities of 33 000 tonnes on hand and in pipeline, there remains an uncovered deficit of 434 000 tonnes, which will need to be imported with international assistance.
- The Malawi VAC estimates that a total of 4.22 million people, or over 34 percent of the population, have insufficient production or income to meet their minimum food requirements and will require assistance in food or cash amounting to about 270 000 tonnes in maize equivalent during the 2005/06 marketing year. The number in need of assistance could increase to 4.61 million if maize prices rise sharply.

1. OVERVIEW

An FAO/WFP Crop and Food Supply Assessment Mission (CFSAM) visited Malawi between 24 April and 15 May 2005 following a request by the Ministry of Agriculture, the Government of Malawi (GOM). Early indications showed that the country may face severe food shortages for the ensuing year and, therefore, the CFSAM Mission was requested to assess the situation and the impact of the perceived food shortages on the population at large and the vulnerable groups in particular. Officials from the Ministry of Agriculture, Irrigation and Food Security (MAIFS) accompanied the Mission, while a representative from the European Union (EU) participated as an observer.



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, ROME



WORLD FOOD PROGRAMME, ROME

The Mission held extensive discussions with the staff of MAIFS, the National Statistics Office (NSO), the National Food Reserve Agency (NFRA), the Agricultural Development and Marketing Corporation (ADMARC), the Ministry of Economic Planning and Development (EP&D) both at national and sub-national levels. In addition, the Mission consulted all relevant UN and other international and bilateral organizations and NGOs as well as private traders and other stakeholders. The Mission collected extensive documentation on factors affecting crop production this year, current crop assessments and forecasts, and reported food shortages prepared by governmental and non-governmental agencies at national and sub-national levels.

The Second-Round Agricultural Production Estimates by MAIFS, released mid-April, was cross-checked against information from extension officers in almost all districts, farmers, private traders, local NGO and donor project staff as well as against remote-sensing data and imagery from early warning systems.

Following initial briefing in the capital, the Mission split into two teams to cover as many areas as possible in the limited time available. Between them, they visited all of the country's eight Agricultural Development Divisions (ADDs) and all but two of its 27 districts (RDPs)¹. Methodological issues concerning crop estimates and local situation were discussed in detail with MAIFS and other government officials at ADD and RDP levels with a view to assess the validity of forecasts in the Second-Round Agricultural Production Estimates. In addition, the teams travelled extensively in the field to observe and evaluate standing crops and discuss with farmers their experiences of the summer cropping season, plans for the winter season, and perceptions of food security at present and for the coming twelve months. Various markets were visited throughout the country to observe the availability of agricultural produce and prices of staples. All major border trading posts were visited to evaluate the nature and extent of cross-border trade between Malawi, Mozambique, Zambia and the United Republic of Tanzania. Extensive discussions were held with small and medium sized traders with a view to assess market integration, unusual shortages and price movements. Upon returning to Lilongwe, the Mission briefed the government and donor agencies on preliminary findings.

The Mission found that the MAIFS second round crop estimates were generally acceptable at all levels. The sampling methods and coverage were found to be statistically sound, while area and yield measurements were fairly accurate and consistent throughout the country. However, some improvement in estimating crop area and yield was necessary when the main staples were intercropped. The Mission provided appropriate advice to the RDP extension officers on intercropped yield and area estimation. It was also noted that the extension officers in almost all RDPs had somewhat overestimated winter crops assuming increased areas planted with winter crops, following summer crop failure, and improved precipitation in April and May. Rains continued to fail during the winter crop planting season (March-May), significantly compromising winter crops.

Early and above average rains during the initial part of the cropping season (October-early December), encouraged optimism for a bumper crop. Exceptionally heavy rains in December and early January caused crop losses through flooding, crop washout and loss of nutrients through leaching, especially in the central and northern districts. However, rains failed during the critical period from late January to end of February, when the maize crop was pollinating and forming cobs. The dry spell also affected the development of later planted crops like cassava, sweet potatoes, beans and groundnuts.

Cereal production is the lowest in the past decade. Aggregate cereal production in 2004/05 is estimated at about 1.34 million tonnes, which includes some 1.25 million tonnes of maize (both summer and winter), 33 000 tonnes of milled rice, 54 000 tonnes of sorghum and millet and nearly 2 000 tonnes of wheat. Maize production this year is down by about 26 percent compared with last year's poor harvest and some 34 percent below the harvest in 2002/03, the most recent harvest considered slightly above average.

Aggregate root and tuber crop harvest is estimated at about 3.8 million tonnes, some 9 percent down on 2003/4 harvest, while cultivated area in the same period increased by 3 percent. This aggregate includes some 2.1 million tonnes of cassava, 1.27 million tonnes of sweet potato and 455 000 tonnes of Irish potato. Despite significant fluctuations, production and area planted have been continuously rising, indicating crop and diet diversification. Total legume output is estimated at about 434 000 tonnes, some 6 percent down on last year's poor harvest, while area planted this year is estimated at 825 000 hectares, some 16 percent up on last year. The main legumes are groundnuts (36 percent of area) and pulses (64 percent of area) – beans, pigeon pea, cowpea and bambara groundnuts.

¹ For the purpose of agricultural administration, Malawi is divided into eight Agricultural Development Divisions (ADDs), 27 Rural Development Projects (RDPs) and 154 Extension Planning Areas (EPAs). The ADDs also serve as general administrative divisions, and the boundaries of the RDPs and the politically based Districts have recently been made to coincide with each other.

Total maize stocks as of 1 April are estimated at about 57 000 tonnes, including 20 000 tonnes of NFRA and 10 000 tonnes with ADMARC 'commercial' maize stocks, 27 000 tonnes of NFRA stocks for humanitarian purposes. The EU and DFID have already pledged resources to procure an additional 29 000 tonnes of maize which may help replenish the targeted NFRA reserves of 60 000 tonnes.

Given the estimated national cereal and cereal equivalent availability of 2.511 million tonnes and utilization of 3.345 million tonnes, the total import requirement for the 2005/06 marketing year is calculated to be about 834 000 tonnes, the bulk of which (about 767 000 tonnes) being maize.

Between July 2004 to April 2005 FEWSNET/WFP recorded informal cross border imports at about 80 000 tonnes of maize, mainly from Mozambique. A recent study by DFID estimated that during a food crisis year like 2002 net imports from Mozambique into Malawi may range from 150 000 to 250 000 tonnes. Given that this year's total production is worse than that during 2002, the Mission estimates a total informal cross border maize imports of about 200 000 tonnes during the 2005/06 marketing year. The Mission visited most of the main border crossings and noted that significant quantities of maize were already being imported, given poor harvest in Malawi. An FAO/WFP CFSA Mission has reported that maize production in Northern Mozambique is favourable. Therefore, this level of imports from Mozambique (and Tanzania) is feasible.

Preliminary provisions have been made in the national budget to import an additional 100 000 tonnes of maize on commercial basis. Current foreign exchange reserves, estimated at about US\$90 million are a severe constraint on commercial maize imports. The IMF estimates aggregate foreign exchange requirement of about US\$80 million per month, which would make it very difficult for the government or the private sector to import additional quantities of maize. Therefore, national capacity to commercially import maize is forecast at about 100 000 tonnes of maize. In addition, private traders have traditionally imported rice and wheat from their own resources. The Mission, from various meetings with private traders, found that traders had sufficient internal and external resources to procure the amounts normally imported, 60 000 tonnes of wheat and 7 000 tonnes of rice.

Total commercial imports of maize, formal and informal, are forecast at about 300 000 tonnes. With food aid quantities of 33 000 tonnes on hand and in pipeline, there remains an uncovered deficit of 434 000 tonnes, which will need to be imported with additional international assistance.

The Malawi VAC estimates that a total of 4.22 million people, or about 34 percent of the population will experience a food or income deficit amounting to about 270 000 tonnes in maize equivalent between April 2005 and the next harvest in March 2006. In the worst affected areas in the southern part of the country, about 80 to 85 percent of the population will have a shortfall. The bulk of the emergency food or cash assistance will be required during the lean period from October 2005 to March 2006. However, in some districts where the deficits are largest in relation to yearly consumption needs, food or cash assistance will be required by poor households by July 2005 period.

The Malawi VAC projects an increase in the number of people requiring assistance to approximately 4.61 million people with a maize deficit equivalent of about 418 000 tonnes if the maize prices rise sharply during the 2005/6 marketing. The MVAC plans to closely monitor the situation and will issue regular updates of the present analysis throughout the year.

2. SOCIO-ECONOMIC CONTEXT

2.1 Macro-economic situation

Malawi is consistently placed among the poorest 10 percent countries in the world according to the UNDP Human Development Index (HDI). Poverty is widespread and severe with more than 65 percent of the population considered poor and just over 28 percent of the poor reportedly living in extreme poverty according to a recent government estimate. The level of inequality is highly significant with the richest 5 percent of the population consuming more than 26 percent of GDP and the bottom 20 percent consuming about 4.5 percent of GDP. Furthermore, consumption is unequally distributed with the Gini coefficient for urban areas estimated at 0.52 and for rural areas at 0.37. GDP comprises mainly agriculture (39 percent), manufacturing (11.2 percent) and services (43 percent). GDP per capita for 2005 is forecast at US\$199 and its growth rate over the past five years averaged just over 2 percent, below the officially estimated population growth rate of 3 percent. The agricultural GDP growth rate over the past 5 years has averaged about 2.27 percent. However, the forecast for 2005 GDP growth rate seems highly optimistic given the sharply reduced agricultural output this year; the growth rate may turn out to be negative.

Table 1: Malawi - Key economic indicators, 1998–2003

	1999	2000	2001	2002	2003	2004	2005 1/
GDP per capita in nominal US\$	195	187	184	208	195	197	199
GDP (in Kwacha, MK) growth rate (%) at 1994 factor cost	3.5	0.8	-4.1	2.1	3.9	4.2	4.8
Agricultural GDP growth rate (%) at 1994 factor cost	10.1	5.3	-6	2.7	5.9	2.6	3.1
Exchange rate MK/US\$ (period average) 2/	44.1	59.5	72.2	76.7	97.43	107	115
Trade Deficit in million US\$ 3/	226.4	161.4	157.9	305.7	227.5	n.a	n.a
Balance of Payment Deficit 3/	+15.8	10.8	31.5	156.5	47.7	n.a	n.a

Source: Ministry of Economic Planning and Development, National Statistical Office, Treasury and Reserve Bank of Malawi, www.rbm.malawi.net.

1/ Projected.

2/ As of late April 2004, the exchange rate was 115 MK/US\$ with the black market rate being at about 120 MK/US\$.

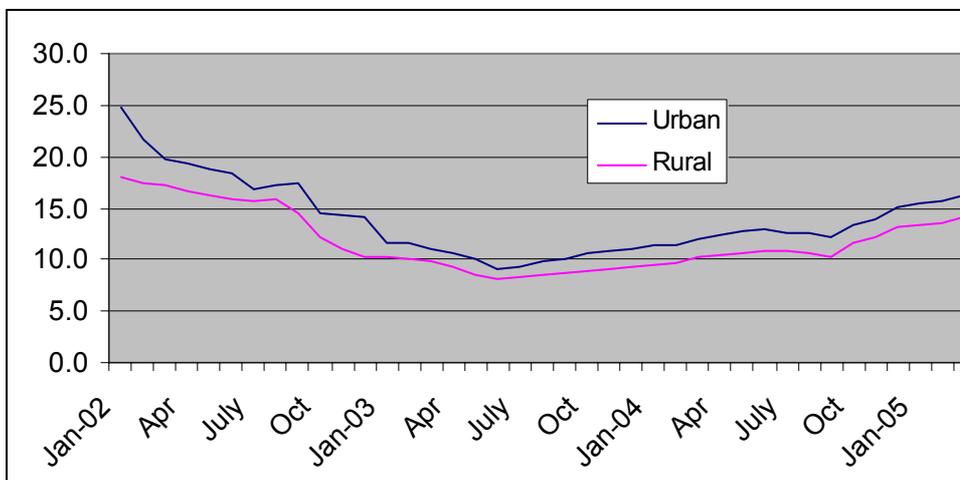
3/ Source Malawi Country Report, IMF December 2004.

The IMF tentatively forecasts foreign exchange reserves by the end of 2005 at about US\$150 million, provided that all regular contributions are made in time and revenue from tobacco does not fall significantly compared with last year. Current unofficial estimates put foreign exchange reserve at about US\$90 million, compared with US\$120 million in 2003 and US\$162 million in 2002. In view of the forecast decline in tobacco output, estimated at 13 percent, it is likely that the foreign exchange reserves will be lower than the current forecast. The IMF estimates that the foreign exchange requirement for the country is about US\$80 million per month, which means the current estimated reserves can meet just over a month's import requirement. This is a serious cause for concern. Foreign exchange constraints and debt servicing, currently estimated at about 21 percent of export earnings excluding re-export, will significantly diminish the government's ability to import the estimated food deficit. However, the debt service could be reduced drastically when the recently-announced G-8 decision to forgive debt of Malawi, as one of the highly indebted countries, is implemented.

Consumer price inflation has come down from nearly 45 percent in 1999 to the current level of about 15 percent, but this is up by 5 percent compared with the same time last year (Figure 1). Maize prices have been kept low mainly by increased informal cross border imports and to a certain extent by subsidised prices at ADMARC's retail points dotted around the country. Given the scale of the maize deficit, prices may shoot up if significant amounts are not imported. In addition, the depreciating value of the national currency (see Table 1) has naturally acted to raise the cost of imports, including agricultural inputs and grains, and may put upward pressure on prices.

The HIV/AIDS pandemic continues to be a major social and economic problem for the country. About 15 percent of the adult population is estimated to be infected, but only 3 percent of the population has been tested for AIDS. Loss of labour and increased food insecurity of HIV/AIDS-affected households is taking its toll on a large part of the population. The impact on the agricultural sector has been significant through the loss of labour.

Figure 1: Malawi - Urban and rural Inflation rates, (percent change, year on year for each month), January 2002-March 2005



Source: NSO's Consumer Price Index – www.nso.malawi.net

2.2 Performance of the agricultural sector

Agriculture is the most important sector of the economy, accounting for about 39 percent of GDP and employing some 85 percent of the workforce. It contributes to more than 90 percent of the country's foreign exchange earnings. Tobacco, tea and sugar which are the three main agricultural export products, make an average contribution of about 80 percent to Malawi's export earnings. Agricultural GDP grew at an average of 2.27 percent over the past five years with large swings ranging from -6 percent in 2001 to 5.9 percent in 2003 (see Table 1). The five-year average growth rate is below the officially estimated population growth of 3 percent.

The agricultural sector is dualistic, consisting of small-scale farmers and an estate sub-sector. The two sub-sectors have been historically distinguished on the basis of legal and institutional rules regulating land tenure, type of crops and marketing arrangements. The smallholder sub-sector is based on a customary land-tenure system and is primarily subsistence, providing the bulk of food production. Approximately 80 percent of the rural workforce is employed in the smallholder sub-sector and 11 percent on estates.

Average area cultivated over the past 5 years is estimated at about 2.7 million hectares. Roughly one million hectares of this total is held in some 30 000 estates with an average farm size ranging between 10-500 ha and the remainder 1.7 million ha is held in small holding farms averaging about 1 ha. Average farm size is about 0.1 ha in the South, 5-10 ha in Centre and 10-15 ha in the North of the country. However, these figures only take into account areas actually planted and not areas available for cultivation, potentially and in years with good precipitation.

The main staple food crop for most of the country is maize, with (bitter) cassava being preferred in parts of central and northern areas. Plantains are the main staple in a small area of the northern region and rice is important in the lakeshore and wetland areas. Sorghum, finger millet and bulrush millet are secondary staples, with sweet potatoes, Irish potatoes and (sweet) cassava being considered as "snacks", although planted areas and production have been increasing significantly over the past decade (see Fig. 2b). The Mission noted some efforts were being made to diversify crop production and sources of nutrition in various districts. The main export crops planted in the estates are tobacco, tea, sugarcane, cotton, coffee, macadamia nuts and high quality rice. Imported crop products include maize, wheat grain and wheat flour, as well as lower quality rice.

Figure 2a: Maize production and area 1993/94 - 2004/05, Malawi

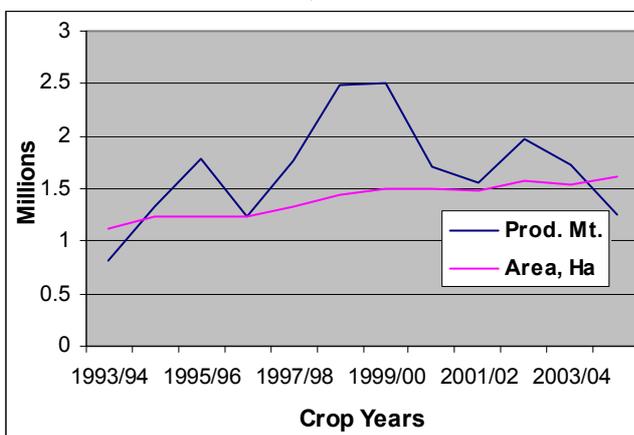
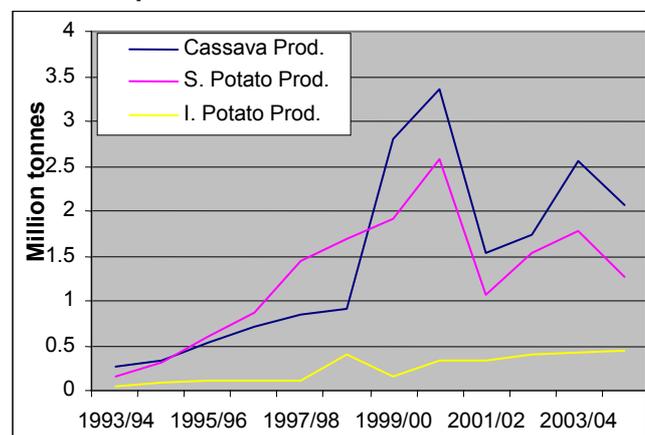


Figure 2b: Cassava, sweet and Irish potato production 1993/04 - 2004/05



A recent government strategy paper² correctly identifies five main factors contributing to the stagnation and underdevelopment of the agricultural sector.

- (i) Low irrigation development and poor water management: It is paradoxical to note that nearly a third of the country's body consists of fresh water, while highly fertile and easily irrigable lands are not cultivated for lack of water. The agricultural sector is highly weather dependent and production every few years is compromised either by droughts or floods. Agricultural production in the past decade has been characterised by large swings, bringing the country to the brink of starvation (see Fig. 2a-

² Ministry of Agriculture, Government of Malawi, "Road Map on agriculture Development in Malawi", Feb. 2005.

- b). The main reason for large swings in production has been drought, while floods have had more localised but equally devastating effects. Any long term food security strategy would need to carefully look into options for increasing cultivated areas and crop intensity.
- (ii) Inadequate extension services: The number of trained extension staff has been low and declining over the past few years. In addition, many of the extension staff find it difficult to move around the country, although some efforts have been made to provide extensions staff with motorcycles to improve mobility. The government has recently developed a coherent and well-balanced policy to address the inadequacy of the extension services.
 - (iii) Agricultural technology and farm power: The hoe continues to be the main farming tool in small holder agriculture, despite the fact that population has tripled since independence in 1964. Cultivation is continuously hampered by lack of improved farm power coupled with decreasing farm labour. The government is piloting with the introduction of draft power in some districts. However, conservation agriculture and other labour saving technologies also need to be considered as a long term strategy. There are some good examples of conservation agriculture in Malawi but unfortunately very limited and adaptation is hampered by lack of access to necessary inputs.
 - (iv) Agricultural inputs and markets: A vicious circle of low input- low output has characterised the agricultural sector for a long time. Farmers do not have access to adequate farm inputs and even if some have access, it is very risky to invest significant sums in purchased inputs as the whole sector, except the estates, is at the mercy of weather. Rural formal and informal credit is almost non-existent, while interest rates on formal credit (currently 27 percent-30 percent) are prohibitive for the majority of farm households. Agricultural marketing at the wholesale level is dominated by a few large traders, while the market intermediaries are too small and underdeveloped to engage in efficient market arbitrage. Furthermore, agricultural production is highly erratic and farmers are too small and too fragmented to attract medium to large market intermediaries. In many cases farmers are too small to have any bargaining power to influence prices they receive for their products. Government intervention in the markets through the parastatal ADMARC and misinformation on the government's intentions are said to be contributing factors to speculations and the underdevelopment of agricultural marketing systems. Price setting for the main crop, maize severely penalises maize producers in favour of urban consumers and some rural small holders.
 - (v) HIV/AIDS: The UNAIDS in 2003 estimated that 14.2 percent of the population aged between 15 and 49 were infected with HIV/AIDS. In the same year nearly 84 000 people in their most productive years died of AIDS with devastating effects on the affected farm families.

Furthermore, for many years the Government of Malawi has incurred large budget deficits and ever rising debt load. This has further resulted in the need to devote a large part of its annual expenditure to debt servicing. In turn, this has resulted in less financial resources being available to pay for recurrent expenditures, such as a well trained, fully equipped and staffed agricultural extension service. At a time when Malawi's farmers need to raise agricultural production, through the application of better technology, this has been a severe constraint. It is indeed unfortunate that much of the development efforts are directed at short term measures following recurrent drought and floods. Long term issues, some of which are discussed above, however, are not adequately addressed under agreed development strategy among various stakeholders.

2.3 Population

Population estimates remains a contentious issue with significant implications for national food balance sheet and policy agenda. The 1998 Malawi Population and Housing Census estimated the national population at 9.93 million and the 1987-98 inter-census annual growth rate was estimated at 2 percent. Previous 1977-87 inter-census population growth rate was estimated at 3.7 percent owing to influx of refugees from Mozambique. It is argued that the abnormally low population growth rate of 2 percent estimated from the last inter-census data was mainly as a result of the return of Mozambican refugees out of Malawi. In spite of the acknowledgment of the negative impact of HIV/AIDS on the population growth and the moderate population growth rates in the neighbouring countries, the NSO has prepared official population projections up to 2023 with annual growth rates in excess of 3 percent (details are available at the official web site – www.nso.malawi.net). Relevant international organisations in the country continue to use the official figures for reasons of consistency even if considered somewhat overestimate. Therefore, the official population estimate for mid-2005 is 12.34 million.

3. FOOD CROP PRODUCTION IN 2004/05

Last year's crop estimates for the 2003/04 season had been initially prepared by the National Statistics Office (NSO), but in 2004/05 crop estimates were entirely the responsibility of the Ministry of Agriculture and it was a prime objective of the 2005 CFSAM to verify their accuracy, as far as possible. Accordingly the

mission made a point in each of the districts, of visiting farms which had been chosen for measurement, together with the local Agricultural Extension Development Coordinator (AEDC), and checking his/her records and field sketches against the crops in field or farm stores. Discussions on the methodology were also held with senior MoA staff in Lilongwe and ADD offices and the mission concluded that the methodology for crop estimates was basically sound and that field staff were carrying out the measurement work conscientiously. Some districts did report staff shortages for the task, but it is not known how much of an effect this might have had on the exercise.

Briefly, the methodology for crop estimation entails random selection of sample farms to be measured in each of the Extension Planning Areas (EPAs), involving roughly 5-10 percent of households for the first and second round estimates, which are carried out in January and March respectively, reducing to 1-2 percent for the third round in June when the harvested crop is actually weighed.

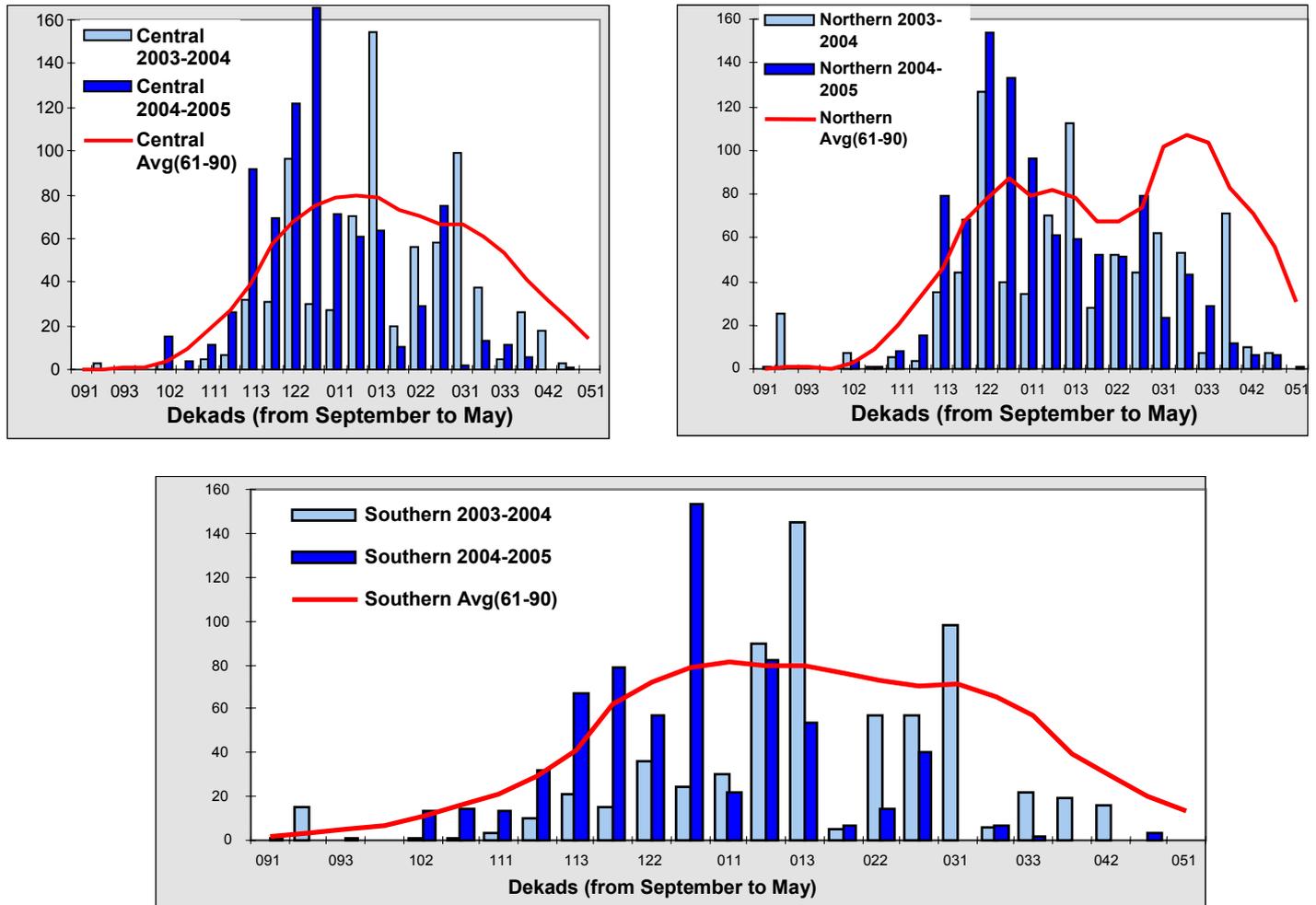
3.1 Main factors affecting production in 2004/05

Rainfall

The total amount of rainfall in 2004/05 would have been sufficient if it had been well distributed, but because of the poor distribution pattern this has been a bad year for crop production. The rains started earlier than usual over most of the country, even in October in some places with good planting rains by mid November, leading to optimism for the forthcoming season, although exceptionally heavy rains in December and early January caused crop losses through flooding, crop washout, and loss of nutrients through leaching, especially in the central and northern districts. Hailstorms also caused damage in some areas, especially to tobacco. However, the main problem was an extended dry period, from late January in most places, throughout the whole of February, with only very few isolated rainy days when heavy showers were received, but did little good. Figure 3 shows that the cumulative rainfall for 2004/05 during the main cropping season (October 2004 to March 2005) was 12 percent less than normal in northern region, 38 percent above normal in the central region (due to the heavy mid season rains) and 31 percent less than normal in the south. The rain pattern is highly correlated with crop performance in each region.

The late season dry period severely affected the maize crop at the time of pollination and cob formation, as well as the development of later planted crops like cassava, sweet potatoes, beans, groundnuts and others. Very early planted maize crops were less severely affected, as were the crops inter-planted with early maize at the same time. Cob formation on early planted maize was more advanced by the time the rains stopped. The effects of the late season drought on later planted maize crops included many stems without any cobs at all, as well as very small under-developed cobs, small shrivelled grains and premature harvesting.

Figure 3: Rainfall by dekad, by region, Malawi 2003/04, 2004/05, LTA 1961 – 1990



Source: NOAA/FEWS; FAO/SDRN-Agrometeorology Group and data collected from ADDs.

Area planted

Ministry of Agriculture Round 2 estimates (March 2005) of crop areas in 2004/05 were slightly higher than the previous year, about 6 percent for cereals (mainly maize), 3 percent for root crops and 16 percent for legumes. The reason appears to have been the early start to the rains in the case of maize, with inter-planted pulses like pigeon peas and beans, and the intensive distribution of cuttings to promote more planting of cassava and sweet potatoes as part of government's strategy to reduce dependence on maize in more marginal areas. Areas would have been considerably higher had the drought not curtailed planting in February, which actually appears to have resulted in a reduced sweet potato area, by some 17 percent from last year. Traditionally, most short duration crops like beans and sweet potatoes are planted in January - February, together with main cassava crop (as opposed to the cassava inter-planted with maize), but in much of the country planting had to be abandoned as the soil dried up. When groundwater levels fell, much of the early planted upland rice crop also died off, as well as some of the dambo or wetland rice crops.

Crop area estimates for the 2004/05 cropping season are summarised as follows:

- Cereals: 1 733 000 ha
- 93 percent maize, 2 percent rice (paddy), 3 percent sorghum, 2 percent millet and 0.1 percent wheat.
- Roots and Tubers: 312 000 ha
- 50 percent cassava, 39 percent sweet potatoes, 11 percent Irish potatoes.
- Legumes: 825 000 ha
- 33 percent groundnuts and 67 percent pulses (beans, pigeon peas, cowpeas, bambara groundnuts etc.)

It should be noted that crop areas do not equate to areas under cultivation. The MoA crop estimates methodology usually records inter-cropping as double the area. For example 1ha of maize inter-planted with pulses would be recorded as 2ha of crops (1ha maize and 1ha pulses). The only exception would be when only a small part of the main crop area is intercropped. During the Round 3 crop estimates, the actual weighing of produce should reflect the proportion of land occupied by the respective crops to give an accurate estimate of production. Therefore, when considering the yields per hectare given in the tables, it should be borne in mind that very often these do not refer to pure stands or full plant populations. Mixed cropping with beans, pigeon peas or cassava is common practice in the majority of maize fields and probably explains in particular, the apparently very large areas of legumes recorded. Even in the north where land is more plentiful, inter-cropping is seen a labour saving policy.

Very small areas of crops are considered as “minor crops” and are usually not recorded at all. Sorghum is often planted in single rows to demarcate plot boundaries and as such it is usually considered a minor crop and therefore unrecorded. It is therefore likely that the sorghum area is underestimated.

Crop Yields

Average maize yields for 2004/05 have been estimated at 0.8 t/ha, with smallholder yields for summer maize at 0.7 t/ha and 1.2 t/ha for winter maize (Table 3.). These yields reflect the effect of the late season drought and are some 30 percent less than the average of the past two years. Compare this with 1999/00 when the average maize yield was 1.7 t/ha, a year with good rainfall and substantial use of improved seed and fertilizers, made possible by the ASIP credit programme (now discontinued), as well as the Targeted Input Programme (in 2004/05 TIP inputs in most areas were distributed too late to be effective). Early planting of maize is closely correlated to the yield, with production potential reduced by 10 percent or so for each week of delay in planting from early November onwards. Even in this generally poor cropping year the Mission did find some farmers who had achieved reasonable yields because of early planting, made possible by having land prepared in advance of the rains.

Average cassava yields are estimated at 13.5 t/ha, a reduction from 15.5 t/ha from Round 2 estimates due to the adverse effect of the drought. Cassava yield estimates have always given rise to controversy, because planting can take place throughout the whole of the wet season and harvest is a continuous process throughout the year. A fair proportion of the cassava crop is intercropped with maize, especially in the south of the country, further complicating yield estimation. Cassava can take as long as 9-24 months to mature, according to the variety and growing conditions, but even the longer term varieties may be harvested at any time from 6 months or so, with a correspondingly reduced yield. However most of the crop is planted and harvested within a 12 month period and the current yield estimation of 13.5 t/ha is based on that assumption. A crop left in the ground for a full 18-24 months could yield 20t/ha or more.

Yield estimates (t/ha) for the major food crops grown in 2004/05 are summarised below:

<u>Cereals</u>		<u>Roots & tubers</u>		<u>Legumes</u>	
Maize (summer)	0.7	Cassava	13.5	Groundnuts	0.6
Maize (winter)	1.2	Sweet potatoes	10.4	Pulses	0.5
Rice	1.0	Irish potatoes	13.0		
Sorghum	0.5				
Millet	0.5				
Wheat	0.9				

Agricultural Inputs

The Targeted Input Programme (TIP), financed by the EU and DFID, was designed to provide a large number of the poorest farmers with small packs of inputs, free of charge. The package was increased in the 2004/05 season, from 10 kg to 25 kg of fertilizer (12.5 kg of basal & 12.5 kg for top dressing) and from 2 kg of maize seed (Open Pollinated Varieties (OPV) or hybrid), to 4 kg, sufficient for 0.2 ha of maize, plus small packets of seed of beans/soybeans/pigeon peas or groundnuts (depending on the location).

A total of 50 000 tonnes of fertilizer was allocated for the TIP in 2004/05 but this large increase had the unfortunate effect of tying-up stocks and causing a shortage for commercial requirements, which was particularly unfortunate because it delayed planting of maize crops which might otherwise have avoided the worst effects of the late season droughts. It was also reported that traders delayed selling and importing because of a rumour that a fertilizer subsidy might be declared. The distribution of inputs under the TIP was also delayed, arriving even as late as February in some areas, long after crops were well established, too late for basal dressing to be very effective, and any top-dressing would have been largely wasted because of

the lack of rain. Many farmers were said to have sold the TIP fertilizer, while others had kept it (and the seed) for winter planting or for the next summer crop. In general there was more fertilizer distributed to smallholders than last year, largely because of the increased TIP ration. However because of the delayed delivery the utilization of that fertilizer was reported to be much lower than last year.

By the end of March 2005, some 250 000 tonnes of various fertilizer types from imports and carry-over stocks had been made available for the 2004/05 cropping season (Table 2). IFDC did not have information on the destination of the fertilizer, but some around 100 000 tonnes was estimated to have been used by the large commercial tobacco, sugar, tea and coffee estates, with the balance going to smallholders, albeit not all used.

The shortage encouraged traders to increase prices of fertilizer so prices varied at around K3 000-K3 500 per 50 kg bag (US\$25-30). The high price is said to have discouraged fertilizer use and encouraged more use of crop residues and farm yard manure. The high cost encouraged some cross border trade in fertilizer from Tanzania in particular where it was cheaper, reportedly as a result of government subsidy there.

The high prices of hybrid and OPV maize seed are also proving deterrent to their use, although, as with the fertilizer, the ADDs reported higher deliveries because of the increased TIP ration, even if it was too late to be used. The price of hybrid maize seed is K174/kg (US\$1.45) and OPV maize seed is K75/kg (US\$0.60), and the price difference is encouraging more use of locally produced OPV seed, which they can retain and use for subsequent years. This year however, because of the delayed delivery, many farmers planted local varieties and even second generation hybrid seed, with correspondingly poor results.

A large number of government, donor aided and programmes and commercial companies were involved in the distribution of crop inputs. These included the following: the TIP, Chinese Maize Project, Sasakawa Global 2000, WVI, STC, OXFAM, RIEP, FAO/SPFS, Mirrium Foundation, CARE, ADRA, Concern, RAB Processors, CADECOM, CPAR, VEZA, EU, NASFAM, Maleza, LMC, Pride Malawi Cheetah, Clark Cotton and APIP.

Table 2: Fertilizer availability and consumption, 2004/05 (tonnes)

Type of fertilizer	Total fertilizer availability ^{1/}	Amount required for the Targeted Input Programme (TIP)	Amount available for commercial use available
Main Basal Compounds			
D Compound	19 439		19 439
Super D Compound	9 259		9 259
NPK	52 613	25 000	27 613
Main Nitrogen Top-dressing Fertilizers			
Calcium Ammonium Nitrate (CAN)	41 952		41 952
Urea	85 782	25 000	60 782
Ammonium Sulphate	12 758		12 758
Other Fertilizers	26 260		26 260
Total Fertilizers	248 063	50 000	198 063

Source: International Fertilizer Development Centre (IFC), 2005 Lilongwe, Malawi.

^{1/} Carryover stocks and imports.

Weeds, pests and diseases

Weeding is a labour intensive task and the prevalence of HIV/AIDS in the workforce will have made it even more arduous. The heavy rains in December/January were also said to have made weeding less effective. The major disease problem reported in maize was Downy Mildew, which was severe enough in some areas to prompt extension staff to recommend destruction and burning of infected crops to prevent carryover to winter maize. Cassava mosaic is still a major problem and said to have been spread to clean areas by distribution of infected cuttings by some of the NGOs engaged in crop diversification. The major insect pest of maize and rice appears to have been Army Worm, but the heavy mid-season, combined with spraying campaigns appears to have brought it under control.

3.2 Food crop production estimates

In most areas the effect of the drought was already evident by the time the Round 2 estimates were carried out in March 2005, and in general the field staff of the MoA did not foresee much change when the Round 3

final estimates are carried out in June. Some districts however had been more optimistic than others, especially in the south and it was agreed that some adjustment for winter maize would be realistic.

The estimate for winter crops could only be a forecast at Round 2 in March and there was evidence of farmers planning a substantial increase in the area of winter maize, in order to compensate for the poor summer crop. Some late rain showers in March had encouraged an optimistic Round 2 forecast for winter maize than last year. However, late rains were not significant and it was obvious that many dambo areas would not have enough residual soil moisture for a winter crop, and following discussions with MoA field staff, winter maize estimates were reduced by 30 percent from Round 2, resulting in a reduction of 5 percent in the estimated production for maize overall.

Cassava and sweet potatoes estimates were also reduced by 14 percent and 11 percent respectively, to take account of the adverse effects the drought was having on root and tuber development for crops planted in early 2005.

Food crop production estimates for the country, with details for each of the 8 Agricultural Development Divisions (ADDs), are given in Tables 3, 4 and 5, covering maize (summer and winter crops), rice, sorghum, millet wheat, cassava, sweet potatoes, Irish potatoes and legumes. Comparisons are made with production for last year, 2003/04, which was not a particularly good year, and also, in the case of maize, with the previous year, 2002/03, which is the most recent year to have had a reasonably good/normal cropping season. Total maize production from the 2004/05 cropping season is estimated at 1.25 million tonnes, which represents a 27 percent decrease from 2003/04 and a 34 percent decrease from 2002/03, which is the most recent "good" year.

Food crop production estimates for the 2004/05 cropping season are summarised as follows:

- Cereals: 1,34 million tonnes
- 92 percent maize, 4 percent rice (paddy), 3 percent sorghum and 1 percent millet.
- Roots and Tuber: 3.8 million tonnes
- 55 percent cassava, 33 percent sweet potatoes, 12 percent Irish potatoes.
- Legumes: 434 000 tones
- 36 percent groundnuts, 64 percent pulses (beans, pigeon peas, cowpeas, bambara nuts etc.)

3.3 Other crops

Cotton production had been declining due to low prices but prices have almost doubled since last season, from K14/kg to K 25/kg and the area planted has increased by 40 percent, from 63 447 ha in 2003/04, to 88 535 ha this year. Although cotton is more drought tolerant than most other crops, yields will be affected by the prolonged dry spell and are expected to be some 20 percent below normal. However, due to the increased area, production is expected to be 9 percent up on last year, from 53 582 tonnes to 58 241 tonnes. It is a particularly important cash crop in the Shire Valley where maize yields are frequently affected by drought. Many of the farmers met by the mission said that sales of cotton would provide their main source of cash to buy food.

Tobacco has also been adversely affected by the prolonged dry period, as well as the late availability of fertilizers, and production is likely to be 13 percent lower than last year and quality has also suffered, from premature ripening, low nitrogen content difficulty in conditioning leaf. Although most of the tobacco is grown on estates, especially the flue-cured crop, air-cured burley is a very important cash crop for many smallholders, particularly in the central region and lower returns this year may cause cash shortages for food purchase. Smallholder production for 2004/05 is estimated at 92 833 tonnes, down from 106187 tonnes last season.

Table 3: Malawi - Maize production 2004/05, summer and winter crops

Agricultural Development Division	Unit	Total Maize	Summer Maize Smallholder	Estate	Winter Maize Smallholder ^{1/}
Karonga	Area (000' ha)	41	36	0	5
	Yield (t/ha)	1.0	1.0	1.2	1.1
	Production (000' t)	40	35	0	5
Mzuzu	Area (000' ha)	142	132	3	8
	Yield (t/ha)	0.9	0.9	1.5	1.0
	Production (000' t)	131	119	5	8
Kasungu	Area (000' ha)	316	239	50	28
	Yield (t/ha)	1.0	0.9	1.4	1.5
	Production (000' t)	316	206	69	41
Salima	Area (000' ha)	62	56	1	5
	Yield (t/ha)	0.6	0.7	1.1	1.0
	Production (000' t)	43	37	1	5
Lilongwe	Area (000' ha)	347	310	1	36
	Yield (t/ha)	0.9	0.9	2.2	1.2
	Production (000' t)	318	272	3	43
Machinga	Area (000' ha)	371	363	6	2
	Yield (t/ha)	0.6	0.5	1.7	0.9
	Production (000' t)	207	195	10	2
Blantyre	Area (000' ha)	248	237	0	10
	Yield (t/ha)	0.7	0.6	2.6	1.2
	Production (000' t)	161	148	1	12
Shire Valley	Area (000' ha)	91	67	0	24
	Yield (t/ha)	0.4	0.2	0.0	0.9
	Production (000' t)	37	16	0	21
Malawi Total	Area (000' ha)	1 618	1 439	61	118
	Yield (t/ha)	0.8	0.7	1.4	1.2
	Production (000' t)	1 253	1 029	87	136

Source: Ministry of Agriculture & Irrigation - Round 2 Estimates (March 2005), with adjustments by the CFSAM

Note: Calculations computed from rounded figures.

^{1/} Winter maize crop estimates are only "as planned". Main planting will be July 2005.

Table 4: Malawi - Root and tuber production, 2004/05

Agricultural Development Division	Unit	Total Roots & Tubers	Cassava	Sweet Potatoes	Irish Potatoes
Karonga	Area (000' ha)	18	14	4	0.07
	Yield (t/ha)		10.1	10.7	10.14
	Production (000' t)	185	144	40	0.71
Mzuzu	Area (000' ha)	43	29	12	1.80
	Yield (t/ha)		20.9	11.8	10.33
	Production (000' t)	766	602	145	18.6
Kasungu	Area (000' ha)	37	13	18	5.35
	Yield (t/ha)		15.3	11.3	11.70
	Production (000' t)	477	206	209	62.6
Salima	Area (000' ha)	28	24	4	0
	Yield (t/ha)		15.2	8.4	0
	Production (000' t)	402	368	34	0
Lilongwe	Area (000' ha)	57	15	19	22.64
	Yield (t/ha)		11.1	10.8	12.96
	Production (000' t)	673	170	209	293.4
Machinga	Area (000' ha)	43	22	20	0.40
	Yield (t/ha)		10.8	11.3	9.20
	Production (000' t)	471	239	228	3.7
Blantyre	Area (000' ha)	78	34	39	5.16
	Yield (t/ha)		9.8	9.2	14.71
	Production (000' t)	764	335	353	75.9
Shire Valley	Area (000' ha)	7	1	6	0
	Yield (t/ha)		9.5	9.8	0
	Production (000' t)	67	12	56	0
Malawi Total	Area (000' ha)	312	154	122	35
	Yield (t/ha)		13.5	10.4	13
	Production (000' t)	3 805	2 075	1 274	455

Source: MAIFS - Round 2 Estimates (March 2005), with adjustments by CFSAM
 Note. Calculations computed from rounded figures.

3.4 Livestock

Livestock contribute about 12 percent of total agricultural productivity in Malawi and cattle numbered about 700 000 head in 1997, when the last estimate was made, some 12 000 of which were recorded as dairy animals. Most cattle are found in the Northern Region where more land is available for grazing. Goats are found throughout Malawi and pigs are also kept by smallholders in all districts. Sheep are rare. Meat and milk consumption is low, at an estimated 6.3 kg/person/year and 4.5 lit/person/year, respectively.

Livestock numbers are generally said to have declined, for several reasons. An increase in cattle theft and dwindling farm sizes are two of the factors responsible, as well as the high cost of feed, poor health and low productivity. Conserving fodder from crop residues and hay is not practiced and despite dwindling farm sizes, free-range grazing, especially for goats, is a common practice. The possibility to increase fodder availability throughout winter is significant and hence the number of animals held by individual households. The numbers of oxen have also fallen, which has implications for crop production, putting limitations on the area that can be cultivated. Farmers who do not have their own oxen will often hire from neighbours and this often means a delay in planting, which has yield implications for maize. Both oxen and donkeys are used for pulling carts.

Livestock is an important buffer for consumption smoothing when crops fail. Some ADDs have reported that families without adequate food had already started selling goats and chickens to buy maize, but in general the prematurely harvested maize is still providing food for most, and livestock sales have not increased significantly as yet. This situation is not expected to last long and many farmers will be forced to sell some of their livestock soon. Prices will then fall drastically, resulting in even less cash to buy food. Poultry are common in all homesteads but generally only sold when cash is badly needed, but losses from Newcastle Disease were reported by many of the farmers met by the Mission, depriving the families of a much needed source of cash and protein.

The current selling price for a goat in the south is rather low, at K400-600 each. An average price for most of the year would be K1 000. Chickens are selling at K50 each in the south but up to K350 each in the north. A cow is fetching K20 000 in the north and a goat K900. Some livestock are being exported to Mozambique.

4. SITUATION BY AGRICULTURAL DEVELOPMENT DIVISION (ADD)

Karonga

Karonga ADD is in the far north of Malawi and consists of two districts; Karonga and Chitipa. It received good planting rains before the end of November 2004, some 3 weeks earlier than last year but also experienced a prolonged dry spell from late January which reduced the expected maize yield by some 40 percent. Unlike the south, the maize harvest is not yet complete. The ADD also experienced some flood damage in mid season. The main staple food crops are maize and rice with plantains in one small area. Maize is usually inter-planted with beans and/or cassava. The quality of the rice is very high and much of it is exported. Winter rice planting will be down because of lack of water in the dambos.

Mzuzu

Mzuzu ADD is also in the north and is made up of four districts; Rumphi, Mzimba, Nkhata Bay and Likoma. Rains also started in mid November and continued until mid January, when they dried up by the end of February, reducing expected maize production by 17 percent. Mzuzu is the country's largest cassava growing area, growing some 25 percent of the total, which is the staple food crop for most of the lake shore area. Bitter varieties of cassava predominate because they store better and are less attractive to baboons and other wild animals. Being the main staple, it is generally grown as a pure stand. Finger millet is also an important food crop and Mzuzu produces around 23 percent of Malawi's tobacco crop.

Kasungu

Kasungu ADD is the third ADD making up the northern region and also consists of four districts; Kasungu, Mchinji, Dowa and Nchisi. It experienced a similar rainfall pattern to the rest of the country and maize production is expected to be some 12 percent less estimated at Round 1, carried out in January before the long dry spell began. Kasungu leads in tobacco production with almost 30 percent of the country's crop although area and yield projections are down on last year by 17 percent. Cassava is also important but maize predominates as the main staple.

Salima

Salima is a lake shore ADD with two districts; Slaima and Nkhotakota. The weather pattern was the same as the north with rain up to the end of January and maize production estimates are down nearly 40 percent from Round 1. However maize is a relatively minor crop in this ADD growing less than 100 000 ha. Cassava is the major staple and Salima is Malawi's second largest producer, with some 20 percent of the production. Cotton is also important and the planted area increased by 40 percent over last year.

Lilongwe

Lilongwe ADD, in the central part of Malawi is made up of three districts; Lilongwe, Ntcheu and Dedza. Rains started very early, in mid October but were not really significant until mid November. The dry spell also started later than other areas, around the end of the first week in January, but the subsequent drought still led to a 20 percent decrease in production estimates from Round 1 to Round 2. This is very important since this ADD is the largest maize producer in the country, growing around 30 percent of the national crop. It is also a major tobacco area with some 28 percent of the Malawi crop, although drought has reduced estimated production by 17 percent. Lilongwe is the largest producer of Irish potatoes, with 60 percent of the national crop, produced mostly in the Dedza highlands.

Machinga

Machinga ADD, part of southern Malawi, consists of four districts: Machinga, Balaka, Mangochi and Zomba. The late season drought severely affected all the ADD area with possibly less impact in the highland areas. Maize estimates were revised down by 27 percent from Round 1, and cassava, which is equally important, is down by 24 percent. Machinga is also the main rice growing area in the country, producing over 30 percent of national production. Round1 estimates indicated a huge expansion in rice of over 70 percent compared with last year but Round 2 reduced this by 36 percent to reflect the influence of the drought.

Blantyre

Blantyre ADD, also in southern Malawi, is made up of seven districts; Blantyre, Chiradzulu, Mwanza, Neno, Thyolo, Mulanje and Phalombe. Some of the higher altitude parts were less affected by the drought, but generally the drought has hit most of the area hard, and estimated maize production is down by 35 percent from round 1. Cassava is an important cash crop as well as food crop and "sweet" varieties tend to predominate, being marketed as a "snack" food in the urban areas. Blantyre ADD is also the major producer of sweet potatoes, wheat and sorghum in Malawi.

Shire Valley

Shire Valley ADD is in the far south of Malawi and is made up of only two districts; Chikwawa and Nsanje. These districts were particularly hard hit by the drought and the maize crop was forced into early maturity. Virtually all the maize had been harvested at the time of the Mission's visit and it was possible to see in their maize stores, just how little most families had. The total harvest had been less than 200 kg per family in most cases. The ADD is not a major producer of food crops, apart from sugar, it being home to a 20 000 ha sugar estate, but it is the major cotton growing ADD with 26 percent of the national crop and, although the yield is down by 57 percent from that estimated at Round 1, it will still be an important source of cash to buy food. Livestock are also important in the south and will be needed to generate cash for food in the coming year.

5. FOOD SUPPLY SITUATION

5.1 Market conditions

Markets in Malawi are fairly well integrated with market price differentials, by and large, explained by transportation and handling costs. However, in some relatively remote and small markets, price transmissions are lagging during certain periods of the year and price hikes are not explained by transportation costs. The road networks are fairly well developed with almost all EPAs connected through a feeder road and most of the villages are located 5-10 km from a paved road. Therefore, physical access to markets is not seen as a significant impediment. The increasing number of bicycles has made market access very easy and many farmers and rural consumers increasingly find it easy to access various district markets. The mission found that bicycles had made it possible for many farmers to participate in a number of weekly/monthly markets in various parts of the district, which were not accessible to them without bicycles.

Informal cross border trade with neighbouring Mozambique, Zambia and the United Republic of Tanzania is highly significant totalling some 100 000 tonnes of maize in 2004. The most important trade partner in maize is Mozambique followed by Zambia, while rice from Northern Malawi is exported to Tanzania and some maize and low quality rice is imported from the latter. A large number of small traders are engaged in informal cross border trade using bicycles, small boats and rafts across the porous borders. In recent years the informal trade has been the main source of maize price stabilisation, particularly in the frontier districts.

Formal external trade is dominated by a few large traders. Wholesale and some retailing extend only to relatively large urban areas, whereas retailing in remote areas is financially unviable under the circumstances. Uncertain government pricing policies and intentions to intervene in the market has discouraged traders to engage in imports of maize, while stocks of fertilizers and other commodities are kept at inadequately low levels to avoid the risk of losses due to unannounced government policy change. Tenders are usually issued at short notice and inadequate time is allowed to supply the tender, which over stretches the transportation capacity and at times may be detrimental if it coincides with harvest or planting seasons when transportation is in high demand. The private traders also had concerns over government contract obligations and payments, which could take up to six months from the time of supply. The private sector has inadequate storage facilities while some traders found it difficult to rent from ADMARC.

Farmers are too small and fragmented to have any bargaining power and most of the time have to accept whatever is offered by intermediaries. In addition, the smallholder products are usually below standards and in small quantities. Traders find it difficult and unprofitable to collect such small and non-standardised quantities of produce from small and scattered producers. Furthermore, lack of adequate market information, credit and prohibitively high interest rates, both to farmers and traders, are major impediments to the development of an efficient agricultural marketing system.

ADMARC, a parastatal, was initially designed in 1971 to assist in the development of small holders through the provision of a market access, both for inputs and outputs, as well as storage and market facilities through an extensive network across the country. Following financial sustainability concerns and the crowding out of private traders to engage in successful market arbitrage, ADMARC has come under tremendous pressure to

reform. A number of restructuring stages have already been implemented, which have seen many of ADMARC's functions erode over the years. Additional reforms are under way, which may further reduce the role of ADMARC in agricultural marketing. A recent World Bank study³ and many other observers, including the Mission, see ADMARC as a contributing factor in crowding out the private sector's involvement in agricultural marketing and its underdevelopment. Notwithstanding this, the WB study and the Mission found that many households in relatively remote areas still depend on ADMARC, while complimentary institutions have sufficient time to develop and are capable of providing the necessary services for an efficient marketing system.

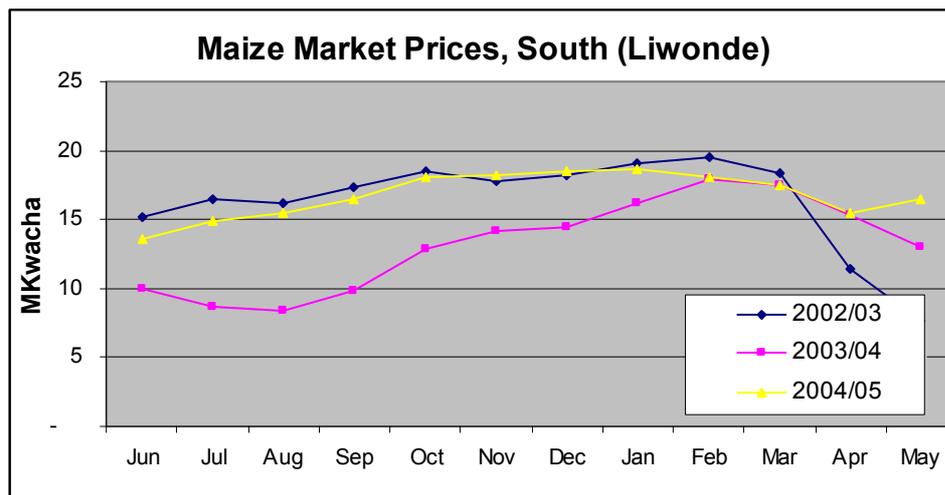
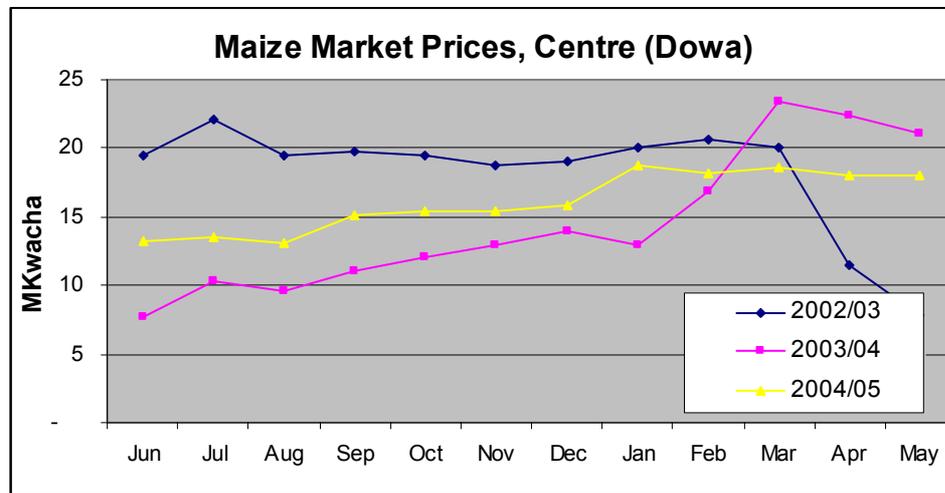
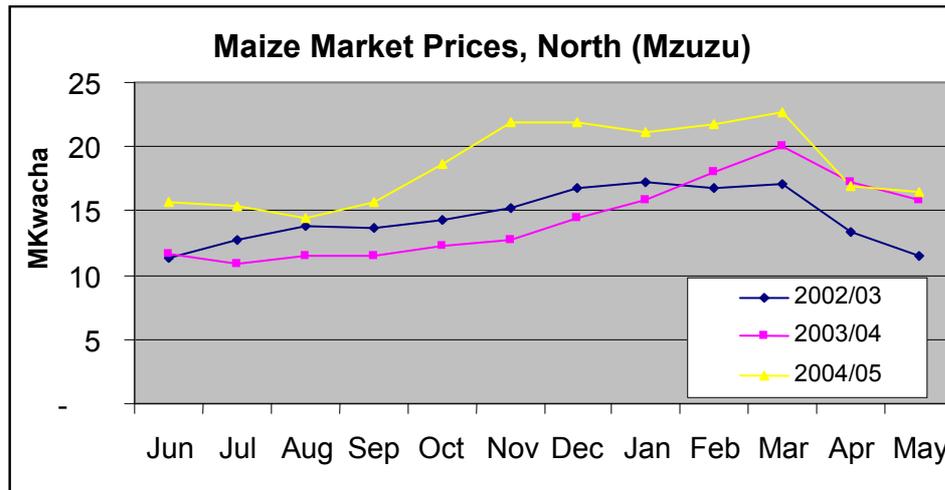
ADMARC is no longer considered a buyer of last resort and most of the procurements are done by the National Food Reserve Agency (NFRA). Last year, ADMARC purchased some 7 500 tonnes of maize from local markets, which is only 0.5 percent of the total small holder production, compared with 1 percent in 2001 and nearly 8 percent in 1997. In addition to local purchases, last year ADMARC withdrew 20 000 tonnes of maize from the NFRA for distribution through its network of markets, but was only able to sell a total of 17 800 tonnes. Stocks remaining with ADMARC as of late April is estimated at about 9 500 tonnes.

The NFRA maize reserves, by legislation, should stand at 60 000 tonnes, but current stocks are at 27 000 tonnes. It is anticipated that 29 000 tonnes of maize will be commercially procured under an open tender with the assistance from DFID and EU and 4 000 tonnes of maize will be donated from the WFP carryover stocks to replenish the NFRA reserve by the end of this year. The NFRA target reserve is earmarked for humanitarian purposes. In addition, the NFRA holds 20 000 tonnes of maize stocks for commercial purposes. Preliminary provisions have been made to procure an additional 100 000 tonnes of maize, which is to be sold through the ADMARC market outlets. The Mission forecasts that an additional 200 000 tonnes of maize will be imported through the informal cross border trade, mainly from Northern Mozambique where maize harvest is relatively favourable.

Figure 4 shows that market prices for the main staple, maize, is on average higher than the past two years, but not significantly. Real prices, given the rates of inflation (Figure 1), are on par or lower than prices in the past two years. In the South maize prices this year are higher than the same time last year while in the Centre it is the contrary. In the Centre early harvest locally has kept maize prices relatively low compared with last year. In the North and South low harvest, even if unusually earlier and expected shortfalls have pushed prices slightly higher than prices last year. Retailers in various markets and the cross border traders showed some concern that maize from within the country and across the border had arrived in the market earlier than usual, which may mean that maize would not be available later in the lean season.

³ "Reforming the Malawi ADMARC: Synthesis Report of the Poverty and Social Impact Analysis", The World Bank, December 2003.

Figure 4: Retail prices of maize in selected markets, June 2002–May 2005



Source: Ministry of Agriculture, Irrigation and Food Security/FEWS-NET and CFSAM. April and May prices were collected by the Mission.

5.2 Food supply/demand in marketing year 2005/06

The projected cereal balance sheet for 2005/06 marketing year (April–March) is summarized in Table 5 below and is based on the following parameters and assumptions:

- Cereal production in 2005/06 marketing year is estimated at 1.34 million tonnes of cereals consisting of 1.25 million tonnes of maize, 1 770 tonnes of wheat, 53 000 tonnes of sorghum and millet and 32 000

tonnes of milled rice. In addition, a harvest of 3.8 million tonnes of roots and tubers is estimated, which is 1.11 million tonnes in cereal equivalent using nutrition conversion factors. This total includes some 840 000 tonnes of cassava, 386 000 tonnes of sweet potatoes and 88 000 tonnes of Irish potatoes in cereal equivalent (see conversion factors under Table 5).

- The opening stock of cereals on 1 April 2004 totalled some 60 000 tonnes consisting of small quantities of wheat and rice and 57 000 tonnes of maize. These include commercial maize stocks of 20 000 tonnes of NFRA and 10 000 tonnes of ADMARC and food security stocks of 27 000 tonnes of NFRA.
- Aggregate food consumption in 2005/06 marketing year is forecast using the population and apparent per capita consumption parameters as follows:
 - a. The officially projected mid-2005 population of 12.341 million by NSO as discussed in Section 2.3.
 - b. As in previous CFSA Missions, an annual per caput consumption of cereals of 163 kg has been considered, comprising 150 kg of maize and 13 kg of rice, sorghum, millet and wheat combined.
 - c. Substantial quantities of cassava, sweet and Irish potatoes, the major root and tuber crops, are produced and consumed in Malawi. Although not likely to be very accurate, the approximate annual per capita apparent consumption during 2003/04 at the national level was found to be about 100 kg of cassava and 87 kg of sweet potatoes on fresh weight basis, or 32 kg and 24 kg on cereal equivalent basis, respectively. In addition, about 6.5 kg per person per annum apparent consumption of Irish potato is considered. Identical consumption of cassava, sweet and Irish potatoes is assumed for the 2005/06 marketing year.

Production and apparent consumption of the three main roots and tubers have been steadily rising over the past decade (see Figure 2b.), national diet composition is bound to have somewhat diversified. A recent household food and nutrition survey, the results of which are still pending, will hopefully provide more accurate estimates of household diet composition. The Mission, however, found that households did replace maize by cassava and sweet potatoes in at least one meal a day, when maize is not available or prices are prohibitive. In the main cassava consuming areas of the North, which also happens to be a surplus cassava producing area, households eat more cassava and sell their surplus maize when prices are favourable. Fresh cassava in itself is not traded beyond 50 km. However, while processing with available technology is highly labour intensive, during times of substantial maize shortages marketing of cassava dried chips or cassava flour is possible. The mission recommends that a comprehensive study be undertaken on cassava production, consumption and marketing in Malawi.

- The non-food use of food crops in 2005/06 marketing year is estimated at 528 000 tonnes with the following assumptions:
 - a. Post-harvest losses of the total production: 15 percent for maize, 10 percent for sorghum, millets, and 2 percent for wheat and milled rice. Losses are set at 25 percent for cassava and sweet potatoes, lowered from the previous years' estimate, more in line with preliminary results from a recent Government household survey. This assumption needs further verification pending the final results of the mentioned survey.
 - b. Total seed use is calculated by using area planted (both summer and winter) multiplied by the seed rates recommended by the MAIFS (on per hectare basis – 25 kg for maize, 40 kg for rice or 61.5 kg in paddy terms, an average of 5 kg for sorghum and millets, and 100 kg for wheat).
 - c. The non-food maize use also comprises of about 20 000 tonnes as feed primarily for the small but growing chicken industry, plus quantities used for brewing clear beer.
- The NFRA has a stated target of 60 000 tonnes of maize for its strategic grain reserve. Current NFRA humanitarian stocks stand at 27 000 tonnes, which shall be replenished to the stated target by the end of this year. The NFRA is in the process of acquiring some 29 000 tonnes of maize made possible with the help from the EU and DFID, while WFP has pledged an additional 4 000 tonnes of maize from its carryover stocks in the country to replenish the reserve. The NFRA target reserve is earmarked for humanitarian assistance. It is assumed that 30 000 tonnes or half of the NFRA target maize reserve will be held as closing stocks by the end of the marketing year. Small quantities of wheat and rice stocks (mostly private) are included as closing stocks (these are the same as the opening stocks), implying that the usual operational stock position is being maintained.
- Anticipated commercial imports:

Between July 2004 to April 2005 FEWSNET/WFP recorded informal cross border imports at about 80 000 tonnes of maize, mainly from Mozambique. A recent study by DFID estimated that during a food deficit year like 2002 net imports from Mozambique into Malawi may range from 150 000 to 250 000 tonnes. Given that this year's total production is worse than that during 2002, the Mission estimates a

total informal cross border maize imports of about 200 000 tonnes during the 2005/06 marketing year. The Mission visited most of the main border crossings and noted that significant quantities of maize were already being imported, given crop failure in Malawi. An FAO/WFP CFSA Mission has reported that maize production in Northern Mozambique is favourable. Therefore this level of trade is feasible.

Preliminary provisions have been made in the national budget to import an additional 100 000 tonnes of maize on commercial basis. Current foreign exchange reserves, estimated at about US\$90 million, are a severe constraint on commercial maize imports. The IMF estimates aggregate foreign exchange requirement of about US\$80 million per month, which would make it very difficult for the government or the private sector to import additional quantities of maize. Therefore, national capacity to commercially import maize is forecast at 100 000 tonnes of maize. In addition, private traders have traditionally imported rice and wheat from their own resources. The Mission, from various meetings with private traders, found that traders had sufficient internal and external resources to procure the amounts normally imported, 60 000 tonnes of wheat and 7 000 tonnes of rice.

- The uncovered food deficit in maize equivalent is estimated at a hefty 434 000 tonnes, just over 13 percent of the total domestic cereal and cereal equivalent requirement. Detailed balance sheet is shown in Table 5 below.

Table 5: Malawi - Cereal balance sheet for the period 1 April 2005–31 March 2006 ('000 tonnes)

	Maize	Rice milled ^{1/}	Sorghum/ Millet	Wheat	Cassava in cereal equiv. ^{2/}	Sweet potatoes in cereal equiv. ^{3/}	Irish Potato in cereal equiv. ^{4/}	Total in cereal equiv.
Domestic availability (1)	1 310	34	54	4	657	359	93	2 511
Opening stocks	57	1	-	2	-	-	-	60
Production	1 253	33	54	2	657	359	93	2 452
	2 077	41	54	64	657	359	93	3 345
Total utilization (2)								
Food use	1 851	37	62	62	395	296	80	2 783
Feed and industrial uses	20	-	-	-	-	-	-	20
Seed	38	2	5	-	-	-	1	46
Post-harvest losses	188	1	5	-	164	90	14	462
Closing stocks	30	1	1	2	-	-	-	34
Cross commodity substitution	-50	0	-19	0	98	-27	-3	0
Import requirements (2 - 1)	767	7	-	60	-	-	-	834
Informal cross border imports	200	-	-	-	-	-	-	200
Expected Commercial Imports	100	7	-	60	-	-	-	166
Food aid on hand/in pipeline	33	-	-	-	-	-	-	33
Uncovered deficit	434	-	-	-	-	-	-	434

Note: Cereal equivalent based on calorie content taken from FAO's publication - Food Composition Tables for International Use, available at [http://www.fao.org/documents/...](http://www.fao.org/documents/)

Note: Calculations computed from rounded data.

^{1/} Paddy rice converted to milled rice at a milling rate of 65 percent.

^{2/} Fresh cassava cereal equivalent of 32 percent. Production based on the area harvestable within the 12 months of this marketing year.

^{3/} Sweet potatoes cereal equivalent of 28 percent.

^{4/} Potato cereal equivalent of 20 percent.

6. EMERGENCY FOOD REQUIREMENTS

6.1 Food security background

The main underlying cause of food insecurity in Malawi is chronic poverty, with two thirds of the population living below the poverty line. Over 86 percent of the poor live in rural areas. The densely populated southern areas have the highest percentage of people below the poverty line. The high prevalence of HIV/AIDS in recent years has adversely impacted on food security through the loss of productivity, erosion of coping capacities and an increase in malnutrition.

Adverse climatic conditions have affected food and cash crop production in four of the last five growing seasons. Emergency food assistance has been required for 15 to 30 percent of the population in 2001/02, 2002/03 and in the recently concluded 2004/05 season. Food security has steadily deteriorated especially in the southern and part of central regions of the country where problems of access to food are traditionally more acute.

As stated earlier the domestic food supply for the 2005/06 marketing year is considerably poor, the lowest in the last decade. Food access problems are particularly bleak for Southern and Central regions that are experiencing reduced food supplies for a second consecutive year as the coping capacity of a large part of the population has been severely eroded.

6.2 Vulnerability and coping mechanisms

Sources of livelihoods and livelihoods patterns⁴

Malawi is primarily rural. The majority of the population relies on agriculture for their livelihood. Most of the agricultural production, however, is concentrated in the hands of the better-off household who have relatively large areas of land, own cattle and have access to credit. Sources of food for poorer households are own production and casual labour in exchange for either food or cash. Hence, crop failures and significant fluctuations in prices and availability of food in the market can have serious negative effects for households with few assets to rely on.

A description of coping mechanisms that poor, food deficit farmers are likely to engage in is given below:

Ganyu will continue to be the main source of income and/or food for the majority of poor households. Attempts to expand ganyu will be pursued by poor and middle-income households this year, but there is little evidence that work opportunities increase in a bad year. Labour migration to towns, neighbouring districts or countries such as Zambia and Mozambique is likely to intensify. However, payment rates in either food or cash are expected to go down due to increased demand for casual labour. Therefore, poor households will have to work more hours than normal to earn the same amount of cash.

Sale of cash crops is a regular source of income for many households, including poor households. The dry spell has also severely affected most cash crops including tobacco. Cotton production has suffered less. In aggregate, the income of poor farmers from the sale of cash crops is likely to be lower this year compared to last while the amount and price of the food required to meet minimum household needs is expected to rise sharply.

Sale of livestock such as chickens, goats, and cattle is another important source of income for middle and better-off households especially in the lean period from December to March. But very few poor households own livestock. Prices are likely to fall sharply as more households sell to obtain cash to purchase staple food. Cattle are mostly owned by the well-off households and are rarely sold.

Many rural households are involved in small-scale businesses, like selling of firewood, charcoal, and simple products like mats and baskets. These are normal activities in any year, which have little scope for expansion as an intermediate coping mechanism.

Fishing is an important source of both food and income for many along the shore of Lake Malawi and also along the Shire River. There seems to be room for expansion of this activity, but it is limited to households in proximity to the lake and river.

The expansion of cultivation of root crops such as cassava, sweet and Irish potatoes has continued this year. These crops are an important cash and food reserve in difficult times especially in the north, but less so in the south where food shortages are expected to be more severe. Poor households are likely to switch from maize to cheaper root crops. But the extent of this substitution will be limited by the availability of these cheaper products in markets in the southern districts.

⁴ This section draws from: Malawi Vulnerability Assessment Committee (MVAC): "Malawi Baseline Livelihood Profiles", May/June 2003 and "Provisional Harvest Outcome Assessment Results, May 2005"

6.3 Health and nutritional status

Nutritional Status

Nutritional screening using the mid upper arm circumference (MUAC), was carried out on children between one and five years in all the vulnerable TAs in December 2004. Analysis undertaken by MVAC showed no correlation between areas with high acute malnutrition rates and those at risk of food insecurity during that season. The MVAC attributed this to the presence of a timely and coordinated humanitarian response (largely through WFP/JEFAP food aid) in the areas of greatest need. However, the data showed that areas with a high proportion of children at risk of being malnourished were also worst affected by prevailing food insecurity. The MVAC also stressed the need for providing assistance to the drought-affected areas to prevent the deterioration of nutritional status.

Morbidity

Malaria is the most common cause of sickness followed by diarrhoea and respiratory tract infections among children below 30 months old. High levels of morbidity are reported from all survey-areas.

6.4 Assessment of population in need of emergency food (or cash) for 2005/06

Assessment Methodology

The methodology used by the Malawi VAC is a livelihood-based approach, more specifically the household food economy approach. It takes into account both food availability and access issues. The basic principle is that analyzing local livelihoods is essential for a proper understanding of the impact – at household level – of shocks or hazard such as drought, conflict or market dislocation. A failure of food crop production (e.g. due to drought) does not automatically lead to food shortage and famine. Likewise, food may be available, but many people may still go hungry if they do not have the means to access it (e.g. food prices are too high and household incomes too low).

There are four steps in a household food economy analysis. The first two are concerned with dividing the population into groups of households that share similar characteristics in terms of their access to food and income, and preparing a livelihood zone (LZ) map and a wealth breakdown in each zone (poor, middle-income and rich). The third step involves developing a baseline of food access, income and expenditure for each wealth group in a “normal” or typical non-crisis year. The fourth and final step (outcome analysis) is to combine information on baseline access with that on hazard and response for a particular year in order to generate projections of future access to food and income and of food (or cash) deficits so that decisions can be taken about the most appropriate types of intervention (including food aid) to mitigate the effect of the hazard.

Assumptions and scenarios of the assessment

The estimates of food aid/cash assistance needs for the 2005/06 marketing year (April/March) are based on a number of assumptions and two maize price scenarios.

1. The assumptions include the following: Prices for most commodities, except maize, will remain stable. However, a rise in line with present inflation rates would be expected..
2. Households will maximize their opportunities to obtain income or food in order to meet their minimum energy requirements, and they will not reduce food intake.
3. Opportunities for labour (*ganyu*) in neighbouring countries are exploited
4. The coming agricultural season, starting from October 2005, *will be on time and normal*
5. The official mid-2005 population estimates of 12.34 million people reflect the actual number of people on the ground in 2005-2006

The extent to which the Government of Malawi/Donors actions will meet the national cereal deficit this year is currently uncertain. Hence the MVAC has used two maize price scenarios.

Scenarios:

1. Maize prices will remain stable, apart from a rise in line with current inflation rates. This implies that there will be a regular flow of maize imports to meet the national food deficit and that there will not be shortfalls that drive up prices. It also implies that exchange rates remain stable. Under this scenario

the price of maize to the consumer would average between MK19 to MK23 per kg. in the 2005/06 marketing year.

- The national maize deficit will be entirely covered through commercial imports and supplies will be sold at the equivalent import parity price, plus an allowance for storage and distribution costs and a small mark up. Currently the price of South African maize landed in bulk in Malawi is around US\$220 per ton. With the additional local costs and mark-up, the price of maize to the consumer would average between MK32 and MK40/kg during 2005/06 under this Scenario.

Considering the planned Government imports and the expected donor contributions, scenario 1 is most likely.

This analysis exclude households in areas not affected by the drought, but who may nevertheless have some characteristics that would make them vulnerable, for instance households with chronically ill members. The estimate of deficit is a gross figure as it excludes all ongoing or already announced interventions, such as food aid, public works programmes or income transfer projects. The MVAC estimates are preliminary and may be subject to revision at any time at the discretion of the MVAC.

Estimates of population affected and their requirements for emergency food/cash assistance

For the second consecutive year, the worst affected areas are the densely populated southern parts of the country. MVAC estimates that 80 to 85 percent of the total national food deficits are in the southern districts (Table 6). In these districts, poor households are facing deficits of 50 to 70 percent of their annual food requirements. Under Scenario 2, food deficit households include both the poor and the middle-income households.

In the Central regions, 18 to 20 percent of the population are severely affected, with household food deficits of 5 to 30 percent of annual requirements. For Malawi as a whole, 24 out 27 districts and 96 Extension

Table 6: Estimated affected population and food deficits in maize equivalent during 2005/06 marketing season by livelihood zones and two scenarios

Livelihood Zones	Total population	Scenario 1			Scenario 2		
		Affected population	Affected (%)	Cereal deficit (tonnes)	Affected population	Affected (%)	Cereal deficit (tonnes)
SOUTH							
Lake Chilwa & Phalombe Plain	1 061 400	849 100	80	69 970	849 100	80	90 070
Lower Shire	642 957	533 700	83	60 780	533 700	83	89 390
Middle Shire	628 176	540 200	86	54 250	540 200	86	66 070
Phirilongwe Hills	204 752	55 300	27	1 710	55 300	27	3 790
Rift Valley Escarpment - Shire highlands	340 306	292 700	86	4 450	292 700	86	16 140
Thyolo Mulanje Tea Estates	1 160 777	383 000	33	25 210	711 500	61	42 840
Subtotal South	5 695 630	3 156 500	55	229 470	3 485 000	61	340 720
CENTRE							
Kasungu-Lilongwe Plain	1 935 004	468 900	24	16 540	468 900	24	23 630
Rift Valley Escarpment	393 839	338 700	86	15 180	393 800	100	34 270
Southern Lakeshore	297 604	148 800	50	5 090	148 800	50	13 040
Subtotal Centre	5 177 965	956 400	18	36 810	1 011 500	20	70 940
NORTH							
Central Karonga	72 277	3 500	5	310	7 700	5	350
Chitipa Maize & Millet	113 084	15 300	13	980	15 300	13	1 120
Nkhata Bay Cassava	75 082	21 400	28	180	21 400	28	550
Northern Lakeshore	150 825	49 800	33	870	49 800	33	2 800
Western Rumphu	58 457	21 600	37	1 000	21 600	37	1 830
Subtotal North	1 467 575	111 600	8	3 340	115 800	8	6 650
TOTAL MALAWI	12 341 170	4 224 400	34	269 610	4 612 300	37	418 300

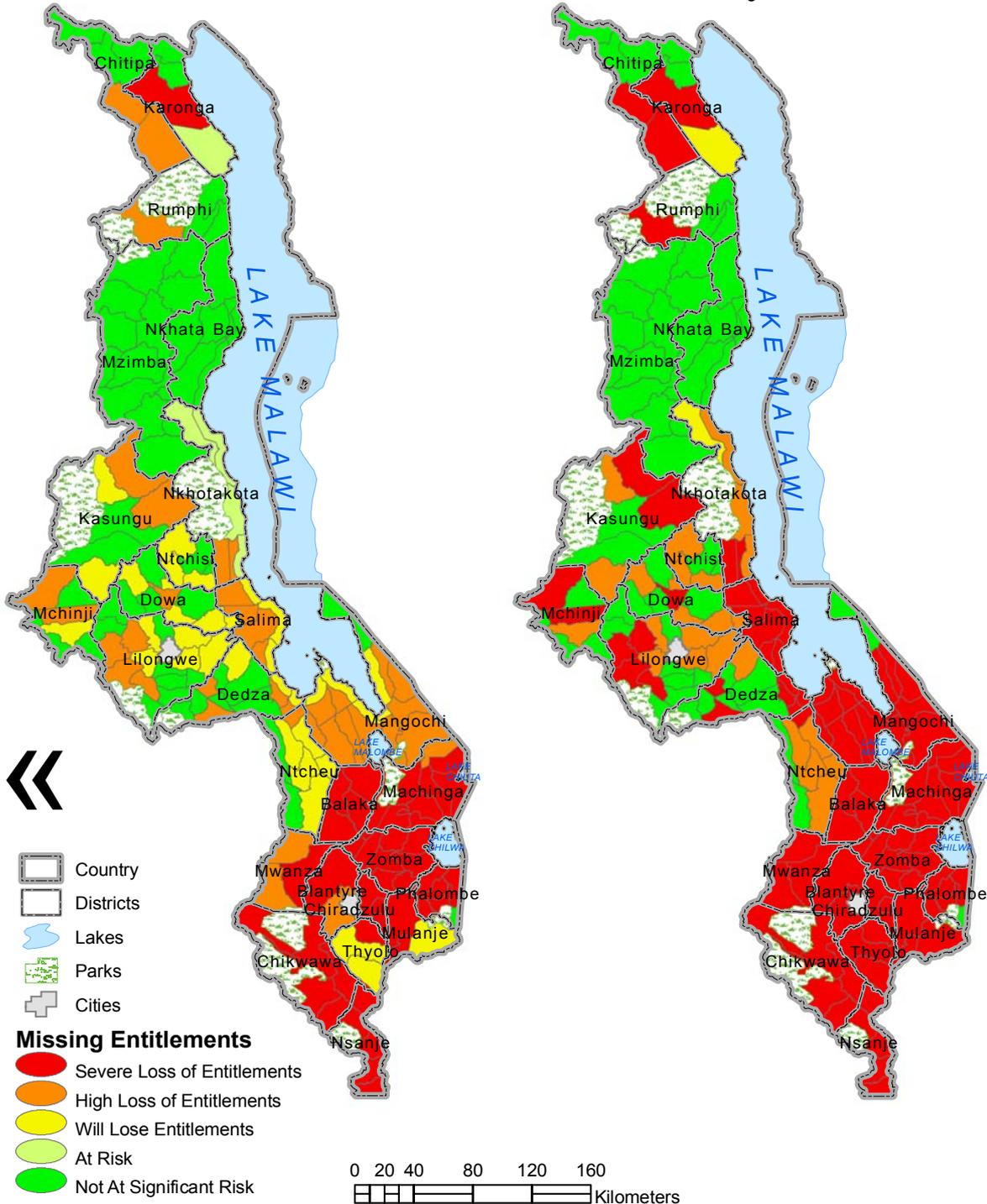
Source: MVAC 2005

Planning Areas (EPA) are facing severe food shortfalls during the 2005/06 marketing year (see Figure 2 below, Table 7 in the annex and the MVAC Report 2005).

Malawi Areas at Risk of Food Insecurity for the Agricultural Consumption Year April 2005 to March 2006

Scenario 1: Maize prices adjusted at current
average inflation rates
K19-K23/kg

Scenario 2: Maize landed in Blantyre at \$220/MT,
consumer price adjusted for storage, distribution
and 5% mark up
K32-K40/kg



In **Scenario 1**, the most likely scenario, a total of 4.22 million people, or over 34 percent of the national population will experience a food deficit (or missing entitlements⁵) amounting to about 270 000 tonnes in maize equivalent in the 2005/06 April-March marketing year (Table 6). Under **Scenario 2**, the number of people would increase to 4.74 million (or 37 percent of national population) and the food deficit would rise to about 418 000 tonnes. The sharp increase (of about 55 percent) in the tonnage of food required under Scenario 2 reflects the much higher maize price assumption, which would further reduce the ability of households to purchase food. Affected households will have larger deficits and would require assistance much earlier in the year.

The MVAC also expresses the deficit in food entitlements as a percentage change from the minimum food requirement for each individual income group. The deficit can be expressed in kilocalorie or in kilograms of maize equivalent. An assumption is that the deficit will be met by food aid or through cash assistance. The total cash requirement to replace the missing food entitlements in 2005/06 is estimated at about US\$53 million under Scenario 1 and US\$158 Million under Scenario 2.

The bulk of the food emergency needs will be required during the lean period from October 2005 to March 2006. However, in some districts where the deficits are largest, food or cash assistance will be required as early as July 2005. This would be the case for many EPAs in Southern districts.

Informal cross-border trade is expected to play a very important role in stabilizing the food supply, as was the case during the last season. Most of the informal cereal trade imports are likely to be from northern Mozambique where a substantial surplus maize production is reported to exist also this year. But much will depend on the ability of households to earn sufficient income.

6.5 Possible strategies for food assistance, July 2005-March 2006

Current WFP activities

WFP Malawi is currently implementing the following programmes:

1. The Country Programme, which provides support to 210 000 children in ten districts and 24 000 vulnerable children and pregnant and lactating mothers a month and a, distribution about 16 000 tonnes of food
2. A Refugee Protracted Relief and Recovery Operation (PRRO) supports 10 900 refugees through Food-for-Work activities with 2 133 tonnes of food is expected to be distributed in the year 2005.
3. A Regional Protracted Relief and Recovery Operation PRRO 10310.0, January 2005 – December 2007, with the following activities:
 - a. Therapeutic feeding
 - b. Nutritional support
 - c. Targeted food distribution
 - d. Food for work
 - e. Support to HIV/AIDS affected households

WFP Malawi aims at continuing the safety nets support of food insecure populations in 2005/06 through its ongoing Country Programme and Regional PRRO 10310.0, which aims at mitigating both short term and chronic food insecurity. The current PRRO will be revised to address the increased needs due to the 2004/5 crop failure.

6.6 Overview of logistics capacity and constraints

The port of Beira in Mozambique continues to be the main corridor for the receipt of food imports for Malawi. The port of Dar-es-Salaam in Tanzania may also be used as complementary corridor should there be a need to receive large quantities as during 2002/03. However, a rail route from RSA through Botswana to Lusaka and then by road to Malawi is another option as large volumes of cargo is expected for Zimbabwe. For emergency food supplies in case of sudden onset of heavy traffic, the Malawi Government permission to use third-party vehicles, the extension of working hours at the border posts, and faster customs processing would be required.

⁵ The missing food entitlement is the total amount of food in maize equivalent that is needed to ensure that households are able to meet their minimum food energy requirement of 2100 calories per person per day

Relief supplies are usually delivered to trans-shipment points in Lilongwe, Blantyre, and Liwonde and further to the Extended Delivery Points (EDPs). In general, storage facilities in various sizes are largely available countrywide in Malawi. In addition, main commercial points such as Lilongwe and Blantyre have commercial storage capacities. However, security and safety aspects problems exist to ensure the proper food storage management of large volumes of food. Due to the monopoly warehousing market structure of parastatal agencies contractual flexibility is constrained and therefore costs remain high. WFP has an agreement with the other UN Agencies to provide warehouse services in order to ensure the optimal use of warehousing space.

The secondary transport capacity in Malawi is very limited in terms of small trucks required to deliver relief supplies to the rural remote areas. This is a serious problem, particularly during the rainy season when these areas become inaccessible to commercial transporters. The WFP/IFRC TSP truck fleet plays a vital role in covering the areas where commercial transporters cannot access. Transport costs need to be closely monitored. These constraints could be minimized through a tendering process, back stopping of transporters and by collaborating with NGOs to explore possible secondary warehousing and transport alternatives.

Table 7: Deficits (missing entitlements in maize equivalent) and affected rural population per district for the sampled areas (Scenario 1)

District	Total population	Affected population	Affected population (%)	Deficits (tonnes) ^{1/}
Balaka	304 969	247 457	81	24 849
Blantyre Rural	358 940	236 267	66	21 252
Chikwawa	437 678	348 186	80	40 170
Chiradzulu	282 158	128 519	46	10 424
Chitipa	157 872	15 251	10	984
Dedza	602 696	103 704	17	4 261
Dowa	483 110	48 441	10	1 599
Karonga	236 748	16 634	7	458
Kasungu	608 917	98 471	16	3 858
Lilongwe Rural	1 125 998	170 368	15	5 817
Machinga	425 609	234 436	55	19 016
Mangochi	732 653	221 253	30	10 667
Mchinji	409 590	55 518	14	2 268
Mulanje	522 893	398 522	76	26 518
Mwanza	167 956	135 749	61	8 581
Nkhotakota	283 761	130 324	46	3 935
Nsanje	228 656	185 468	81	20 604
Ntcheu	459 331	292 663	64	4 447
Ntchisi	215 501	47 217	22	1 070
Phalombe	290 042	170 511	59	14 050
Rumphi	149 486	21 629	14	1 072
Salima	319 947	203 124	63	8 711
Thyolo	556 700	396 607	71	10 683
Zomba	574 720	318 108	55	26 690
Grand Total Sampled Areas	9 935 931	4 224 427	43	269 610
Total Malawi	12 341 170	4 224 500	34	269 610

^{1/} Missing entitlements in maize equivalent.

This report has been prepared by Aziz Arya, Hector McKilligan, and Raffaello Marsili 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.

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