



Comprehensive food security
and vulnerability analysis
(CFSVA) and nutrition assessment
Malawi December 2012



MALAWI 2012 – PRICE RISES, CROP FAILURE AND GROWING RURAL POVERTY

From 2004 Malawi enjoyed uninterrupted solid growth for five years, averaging about 7% a year and peaking at 9.7% in 2008. But since then growth has slowed to a projection of less than 3% in 2012, way below Africa's average projected growth of 4.8%.¹

It is now set to fail to realise four of the UN's Millennium Development Goals by 2015, - poverty, gender inequality, universal primary education and maternal mortality.

More than half of its estimated 15 million people live in poverty (IHS3). Some 28% of rural Malawians are considered 'ultra poor'² - a rise from 24% in IHS2 - meaning that they live in such dire poverty that they cannot even afford to meet the minimum standard for daily-recommended food requirement.

Although it is well endowed naturally, with fertile land, a generally clement climate and abundance of water, Malawi is prone to natural disasters primarily related to climate variability and change. Improved resilience to climate risks is extremely important for the majority of rural households who depend on the fragile natural resource base for their livelihoods.

Forest cover is reported to have decreased at an alarming rate - from 41% in 1990 to 35% in 2001. The number of districts classified as flood prone has risen from nine in 2001 to 14. Some 15% of the population live on the fringes of high flood risk areas. Meanwhile prolonged dry spells can cause 20-30% losses of total yields per hectare (UN Malawi country Assessment Report, November 2010).

After a crash in the prices of tobacco – Malawi's main export earner – and the withdrawal of Western donor financial support for political reasons, forex was in short supply in early 2012. This led to severe fuel shortages and rocketing prices of fuel, food and other commodities. According to official figures released by FEWSNET maize prices started climbing from October 2011 to reach unprecedented high price levels in early 2012 throughout the country, in spite of a maize production surplus of 1.2m MT³ in the previous season. March retail prices for maize were 40% higher than the five-year average.

These price hikes combined with prolonged dry spells and flash floods in the south created grave food insecurity, especially among the poor who have no buffer against food shortages and price rises. Some 201,854⁴ were assessed to be at high risk of food insecurity and be dependent on food aid in parts of southern Malawi.

Data analysis and sources

The primary data analyzed in the CFSVA come from the third integrated household survey (IHS3) conducted from March 2010 to March 2011. The government of Malawi implemented it and the LSMS-ISA project of the World Bank supported the work.

It collected information from a sample of 12,267 households statistically designed to be representative at both national and district level and providing reliable estimates for these levels.

¹The World Bank

²The population with total consumption below the cost of a food bundle to provide the necessary energy requirements per person a day (MWK 22,956 per person a year)

³The Malawi Vulnerability Assessment Committee (MVAC), Bulletin March 2011

⁴The Malawi Vulnerability Assessment Committee vulnerability forecast April 2011 – March 2012

In spring 2012, in an effort to tackle the country's grave economic woes, the Malawi kwacha was devalued by 49%. But the devaluation, coupled with inflation of 20%, significantly increased the price of basic goods and services and lowered consumer purchasing power. Headline inflation was up to 25% in August 2012 from 10.3% in January 2012 compared to single digit figures in 2010.

Large parts of Malawi are again expected to

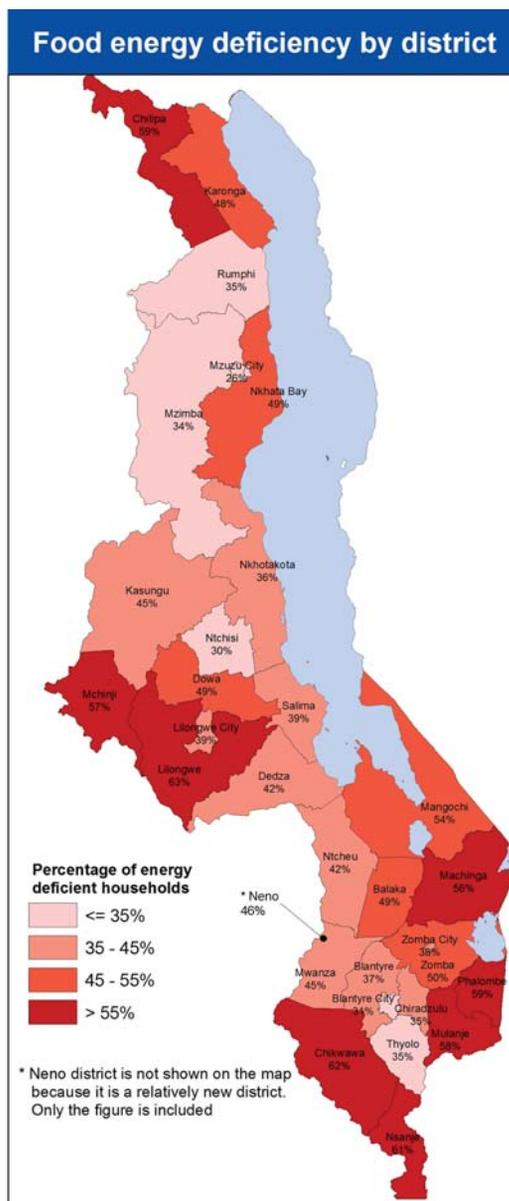
suffer from food insecurity this year. Agricultural production estimates for the 2012 harvest season show a decrease in maize production by as much as 40% in some areas, following poor onset and erratic distribution of rains in the country. The Malawi Vulnerability Assessment Committee (MVAC) October 2012 report estimated that 1.97 million people in 15 mainly southern districts would require humanitarian assistance to meet basic food needs between October 2012 and March 2013.

AN EXTREMELY PRECARIOUS FOOD SECURITY SITUATION

The destruction of crops by lack of rain and floods combined with spiralling food and fuel prices create a perfect storm for severe food insecurity at certain times of the year, particularly for southern Malawians. Household food shortages are seasonal with the lean season starting from November when rural household supplies run dry, households become market dependent and prices rise.

Half of Malawian households (49%) faced food shortages in the year preceding the survey.⁵ The rural south experienced the gravest deficits (57% vs 39% in the rural north).

Nationally almost half of Malawians are food energy deficient i.e., their regular diet fails to provide them with the minimum dietary energy requirement each day⁶ to lead an active and healthy life. In five southern districts (Phalombe, Chikwawa, Nsanje, Machinga and Mulanje) and in the central district of Lilongwe the proportion is even higher.



⁵Households were asked whether they had faced a situation in the last 12 months when they did not have enough food to feed the household and the cause of this.

⁶Population with daily energy consumption below daily energy requirements (based on age/sex/activity level of HH members) according to FAO 2004.

Nationally one in four households or 3.1 million people have inadequate food consumption, which means they don't consume enough nutritious foods to maintain an active and healthy life. The proportion with inadequate food consumption is above 40% in the southern districts of Chikwawa and Phalombe. Nationally almost half a million (about 100,000 households) have poor consumption - they are mainly surviving on *nsima*⁷ with sparse amounts of vegetable relish to flavour it, barely consuming pulses, meat, fish, eggs, fruit, dairy, oil or sugar.⁸

Again there is a marked contrast between rural and urban areas. Some 29% of rural households have inadequate food consumption compared with just 7% of urban.

Dietary diversity has improved in the last seven years especially in urban Malawi. Still, in rural Malawi a third of households have low diversity (i.e., they consumed food from fewer than five out of seven food groups in the week leading up to the survey).

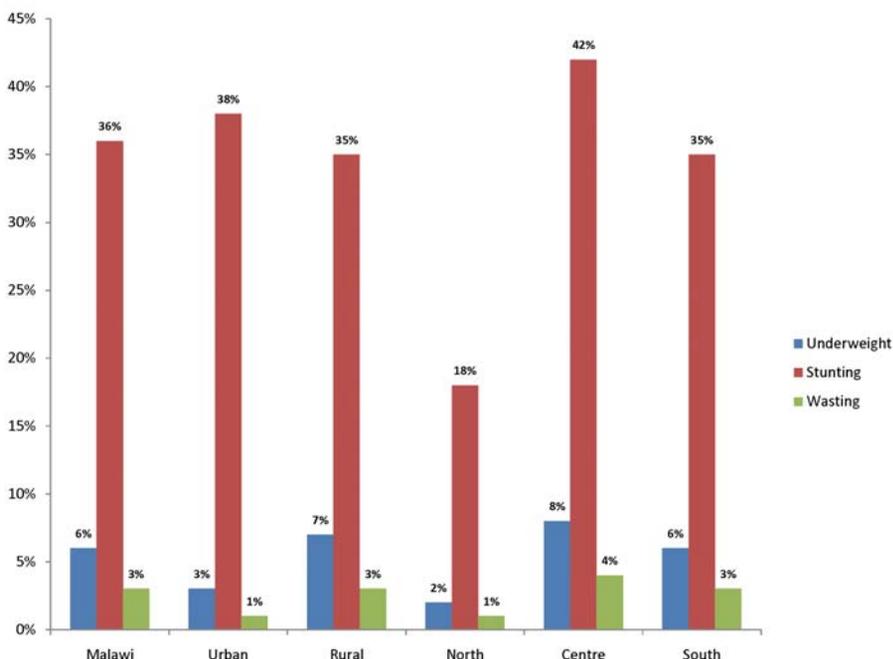
STUNTING IS 'CRITICAL' IN CENTRAL MALAWI

Although stunting is much improved since the IHS2 recorded a rate of 43%, levels are still serious by WHO standards with more than one in three children too short for their age, implying that he/she cannot reach full mental and physical capacity. Stunting does not always go hand in hand with inadequate food consumption in

Malawi. It is slightly higher in urban areas than rural (38% vs 35%) and is particularly severe in Lilongwe city (45%) and Zomba (47%) although the prevalence of inadequate food consumption is low in urban areas.

It is considered critical (by WHO standards) in eight out of 10 central districts - overall some 41% of under fives in central Malawi are stunted.

Figure 1 Prevalence of stunting, wasting and underweight



The prevalence of global underweight (7% for rural and 3% for urban Malawi) is only truly concerning in the central district of Salima where a fifth are classified as such: this is deemed 'serious' by WHO standards. Similarly wasting levels are fairly negligible at 3%, though high enough to be considered 'poor' in the central districts of Kasungu, Salima, Lilongwe, Didza and southern districts of Mwanza, Phalombe and Neno.

⁷Nsima is a staple food in Malawi and made from ground maize flour

⁸The food consumption score (FCS) is calculated from a household's food diversity, food frequency and the relative nutritional importance of different food groups. Three categories of food consumption are used: poor (FCS of 21 or less); borderline (FCS between 21 and 35) and acceptable (FCS higher than 35). Inadequate consumption is the combination of poor and borderline i.e., less than 35.

MAJOR REGIONAL DIFFERENCES FOR FOOD DEFICITS

A third of households had worried about not having enough food in the week running up to the survey (33% rural vs 20% urban). The percentage was considerably higher in the south (38%), and lower in the centre (24%) and north (27%).

In 15 out of 27 districts more than half of households reported having had a time when they didn't have enough food in the year preceding the survey with shortages peaking in February 2010. Some districts fared even worse. In Chikwawa and Nsanje more than 80% said they experienced food shortages in the past 12 months while in Dowa, Dezna and Balaka the proportion was over 70%.

For southern households it is overwhelmingly climatic shocks that cause food shortages - chiefly prolonged dry periods often coupled with destructive flash flooding. In Chikwawa and Nsanje around 85% of households suffered shortages that they attributed almost exclusively to rainfall deficits (95%).

But the household level food shortages in central Malawi, where more than half say they experienced times when they didn't have enough to eat in the year before the survey, cannot be overlooked, particularly in the districts of Dedza (71%), Ntchisi, Salima and Ntcheu. Here householders point the finger at lack of farm inputs (77% of the households that faced shortages), especially in Ntchisi (93%).

Land size (coupled with lack of farm inputs) is a major issue in several districts, particularly in the southern districts of Chiradzulu and Blantyre, where 42% and 39% respectively of food deficit households pinpointed this shortcoming as the reason for them. Farming very small parcels

of land prevents farmers from achieving the economies of scale necessary for investment in inputs to increase yields or diversify crops.

Although food shortages are not as severe in urban Malawi as rural still almost a third (30%) experienced them. In Zomba, Blantyre, Lilongwe and Mzuzu cities, where people are far more likely to buy their food than produce their own, price increases are the main driver of scarcity (46%).



SHOULD MALAWI LESSEN ITS HIGH DEPENDENCE ON MAIZE?

Malawians are highly maize dependent with three quarters of their food energy coming from nsima. Almost 60% of rural Malawians derive 'a very high share' (more than 75%) from belly filling staples (chiefly maize) with little in the way of protein. With 97% of farms growing maize in 2011, it is no surprise that Malawi is believed to consume more of the cereal per capita than any other country on earth.⁹ It is often said they will only diversify their diet when faced with far greater affluence or complete starvation.

Unless the diet is balanced with proteins and vitamin-rich fruit and vegetables, a heavy reliance on maize is a recipe for malnutrition, especially amongst young children. What's more continual growing of maize in an unbroken cycle of fertilizer-rich soil (leaving land fallow on small farms is impractical) is depleting soil quality. The degraded soil craves ever more fertilizer. Although it is potentially the highest yielding grain crop, it requires a substantial amount of water, but has little resilience to weather

extremes of flood, drought and high temperatures. It is susceptible to several diseases and post harvest losses are heavy as it is often damaged by weevils or fungi when stored in traditional woven granaries.

Hybrid varieties, which are drought resistant and can produce 6mt/ha, are prohibitively expensive for smallholders who cannot afford the seeds, appropriate fertilizer applications, irrigation and pest/disease control.

For southern Malawi, water requirements for maize just about equal the average rainfall for the region, so rain dependent maize farmers have little margin to avoid serious impacts on the crop yield if there are water deficits during the key planting and growing stages .

This maize bias means Malawi may be losing out on the potential in national and regional markets for other commodities such as tobacco, sugar, coffee, legumes, groundnuts, tea, cotton, rice, livestock, fisheries and horticulture.

THE POOREST ARE MOST AT RISK OF FOOD INSECURITY – AND RURAL POVERTY IS DEEPENING

The poorer the household the more likely it is to have faced hunger in the year running up to the survey with 72% of the poorest fifth having faced shortfalls compared with 23% of the wealthiest fifth.

The less wealthy the household the more likely it is to be food energy deficient, to have low dietary diversity and have poor or borderline

food consumption. As figure 2 shows, almost half of the lowest wealth quintile have inadequate food consumption by comparison with 5% of the wealthiest. Children from poor households are more likely to be stunted, underweight and wasted.¹⁰

Poverty is the root cause of food insecurity because poor households lack the resources

⁹Smale 1995, p820

¹⁰For these food insecurity correlations the wealth index is used as a proxy for measuring long term living standards because the poverty data was not available at the time the analysis was carried out. It is based on data from the household's ownership of consumer goods, dwelling characteristics, type of drinking water source, toilet facilities and other characteristics related to household socio economic status. According to this index 46% of rural Malawians are in the lowest two quintiles.

How poverty is analysed in IHS3

The measure of welfare used is the total annual per capita consumption reported by a household in Malawi Kwacha deflated to February/March 2010 prices.

The food poverty line represents the cost of a food bundle that provides the necessary energy requirements per person per day (2,400 kilocalories). The non-food poverty line represents an allowance for basic non-food needs of the population whose food consumption is close to the food poverty line.

The total poverty line is the sum of the food and non-food poverty lines (MWK 37,002 per person a year for IHS3).

The population that has total consumption below MWK 37,002 is deemed poor and the population with total consumption less than the minimum food consumption (MWK 22, 956) is considered ultra-poor.

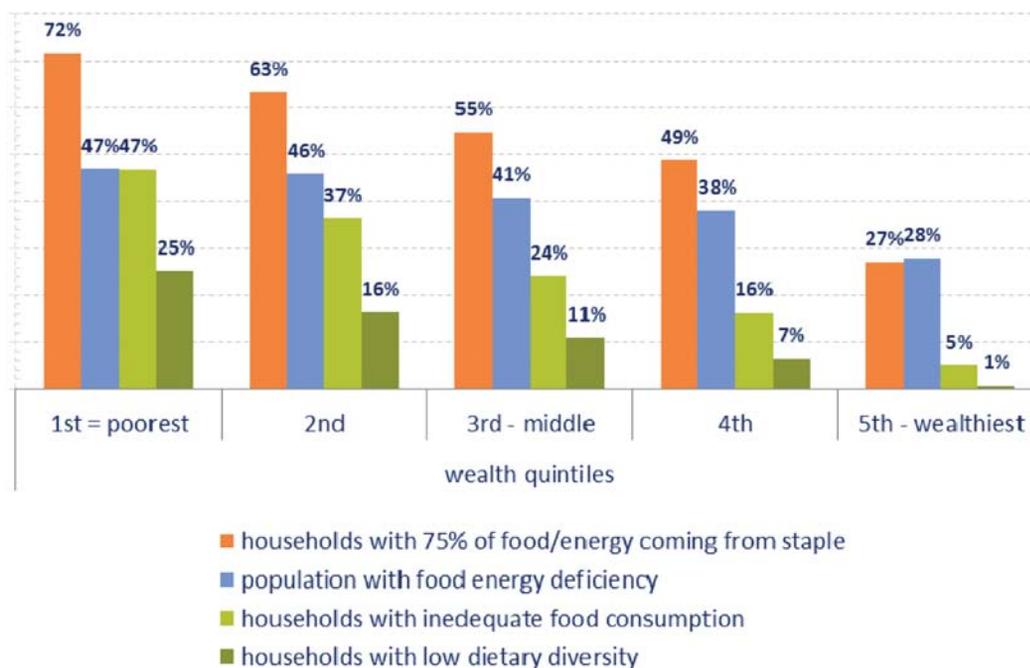
required to access enough nutritious food to live a healthy active life. They are unable to invest in the inputs required to boost their own yields. Poor farmers have to sell any surplus soon after harvest to earn income and repay debts, at once exposing themselves to fluctuating market

prices. When food prices rise, their ability to purchase food is curtailed, as is their capacity to buy other goods and services essential for their health and welfare, including water, sanitation, education, healthcare and adequate shelter and clothing. The extreme poor have no financial buffer to protect them from the consequences of the recurrent climatic shocks in southern Malawi.

Around half of the Malawian population is poor (50.7%). While the poverty rate has fallen in urban Malawi from 25% in IHS2 to 17%, it has risen slightly in rural areas to 56%. Lilongwe city has the highest proportion of urban poor (22%). The proportion of ultra poor has risen markedly across all rural regions from 24% in IHS2 to 28% in IHS3, while the percentage of ultra poor in urban areas has fallen from 7.5% to 4.3%.

The rural south has the highest poverty rate (63%) and the percentage of southerners living in ultra poverty has risen from 32% in IHS2 to more than a third today (34%). But it is in the two most food insecure districts where poverty is deepest. Some four out of five people (81%) in the southern districts of Chikwawa and Nsanje are poor and almost three in five people (59% and 56% respectively) are living in ultra poverty compared with 32% and 44% in 2004.

Figure 2 Food security indicators by wealth quintiles



THE VULNERABILITY OF HOUSEHOLDS HEADED BY WOMEN

Women headed households are more likely to be food insecure than those headed by men: a third have inadequate food consumption compared with about a quarter of those headed by a man. They are twice as likely to have poor food consumption. More than one in four have low dietary diversity (fewer than one in five for male headed). They are considerably more likely to have faced shortages than those headed by men (57% vs 47%).

Again this comes down to poverty. About 55% of rural households headed by men are poor vs 63% of female-headed rural households. The reasons for more engrained poverty amongst women may be:

- They are more dependent on more insecure, low paid livelihoods such as ganyu and subsistence farming and much less on wage labour by comparison with men.
- They are more likely to be elderly (over 65 years old) and therefore less able to work.
- They are more likely to be caring for a sick member and/or for dependents, making them less available to carry out paid work. Some 38% of women who head households are responsible for the care of at least one orphan compared with 10% of male headed households. Many are both: widowed grandmothers with responsibility for their orphaned grandchildren.
- More than two in five female household heads have never attended school and 60% of women who run the household are illiterate. Of course lack of education locks people into a cycle of poorly paid work and perpetuates poverty.

WHO ELSE IS FOOD INSECURE?

Agricultural workers and those dependent on ganyu for income

In rural Malawi 68% of workers are employed in agriculture and 12% depend on informal daily labour known as ganyu. There is a strong correlation between poverty and both these livelihood strategies. People engaged in these types work are more likely to have inadequate food consumption and be deficient in energy. More than 70% of those with poor or borderline food consumption work in agriculture.

Households with a high number of dependents and those with an orphaned child

In the rural south more than a fifth of households have a high number of dependents (i.e., more than 70% of the household is a dependent). Having such high dependency almost doubles the chances of not having an adequate diet (a quarter of households with inadequate food consumption have a high number of dependents compared with 14% of those with acceptable food consumption).

Overall 16% of Malawian households have an orphan and such households are significantly more likely to have inadequate food consumption. The rural south, where almost one in five households is caring for an orphaned child, has the highest proportion. In Phalombe the percentage is as high as 27.5%. Overall urban households have a higher prevalence than rural.

Children are most likely to be orphaned following the death of their father but a fifth of all orphans have lost both parents. According to the DHS 2010 3% of children under 18 have lost both parents and 19% of all children are not living with a biological parent.

POOR EDUCATION AND HIGH ILLITERACY LEVELS PERPETUATE POVERTY, HUNGER AND MALNUTRITION

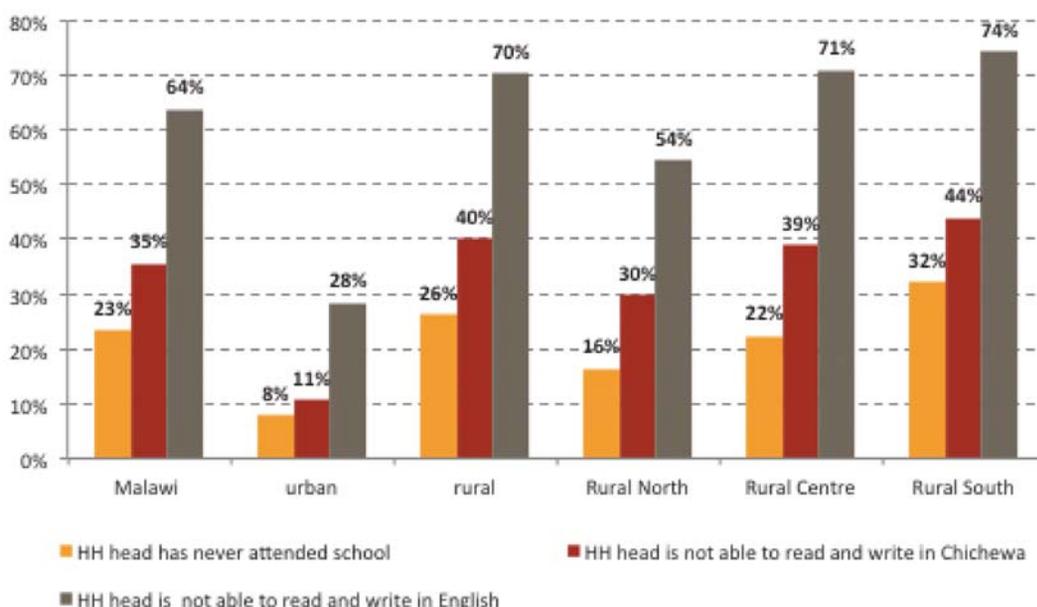
Households whose head is illiterate or never attended school tend to have lower dietary diversity, are more dependent on staples, and are more likely to have food energy deficiency and inadequate food consumption. The higher the level of education of the household head the less likely it is to have inadequate food consumption or calorific intake.

Children in households headed by someone who never attended school and/or doesn't speak or write English or Chichewa are more likely to be

stunted, wasted and underweight. More than a quarter of rural household heads never attended school and some 70% of household heads cannot read or write English, rising to 85% in Mangochi and Dedza districts.

The rates are worst in the south where a third of household heads have never been to school and three quarters cannot read or write English. Poor education levels are particularly acute in women headed households.

Figure 3 Education levels by region



FARMING PRACTICES KEEP YIELDS LOW



While the average Malawian has access to 0.51 acres, those with inadequate food consumption have access to, on average, 0.45 acres per capita and those with food energy deficiency 0.41 acres. Those with food energy deficiency and inadequate food consumption are also more like to farm less than 0.2 acres per capita. Land is more scarce in the south where poverty rates

are highest. Having such low acreage means most smallholder land is continuously cropped, with little replenishment of the nutrients, leading to soil mining and low productivity.

There is also a correlation between agricultural production value and food insecurity - and as expected the wealthier the household the more it earns from crop sales. The annual per capita crop production value is lower for those with food energy deficiency, for those who derive more than 75% of their energy from staples and for those with inadequate food consumption.

Land degradation, deforestation, inappropriate farming methods and limited incentives to promote land and water conservation techniques have increased the incidence of erosion, run-off and flash floods, so high loads of sediment are deposited in reservoirs and flood-plains and reduce agricultural productivity.¹¹ A UNDP-UNEP Poverty Environment Initiative estimated that unsustainable natural resource use costs Malawi US\$191m or 5.3% of GDP each year, chiefly from loss of agricultural activity as a result of soil degradation.

Add to this the dependency on rain fed cultivation, which cuts the crop growing period to just six months (according to the IHS3 just 0.5% of land is irrigated), use of low-yielding seed varieties, limited access to inputs, credit or training and poor land management (eg weeding is rarely practised). And the population of the country is growing by 3.1%¹², putting further pressure on the land.

Despite several years of bumper maize harvests in which a healthy surplus has been produced - chiefly thanks to a government programme of fertilizer subsidies - 80% of smallholders are still net buyers of maize (Makombe et al, 2010).

¹¹The World Bank

¹²World Bank 2011 estimate

CONCLUSION

Finding solutions to Malawi's grave food security problems is highly dependent on getting the macro economy back on track so that forex inflows increase and the cost of fuel, food, medicine and other necessities stabilize. At the same time measures to protect the poorest must be taken.

As discussed Malawi's people are highly vulnerable to natural disasters – prolonged dry spells coupled with flash floods destroy crops, livelihoods and lead to greater poverty and food insecurity. There needs to be a shift from a disaster response culture to the integration of disaster risk into sustainable development planning and programming.

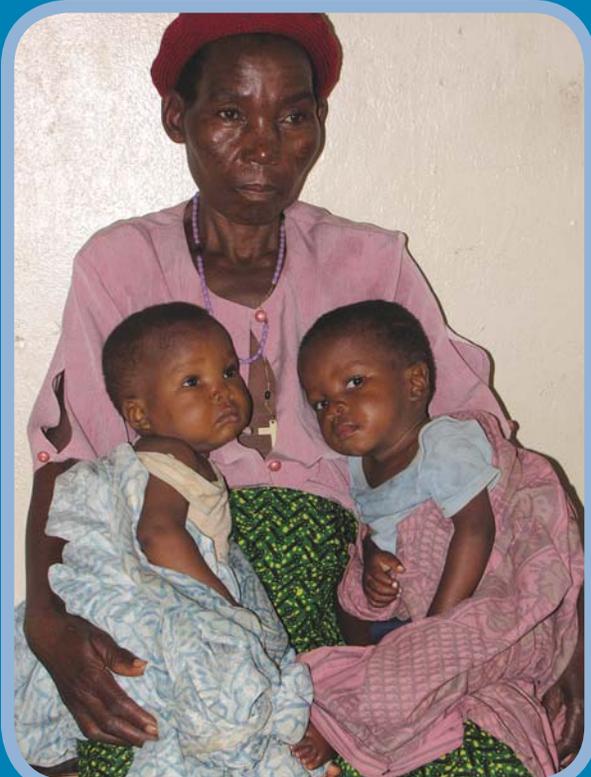
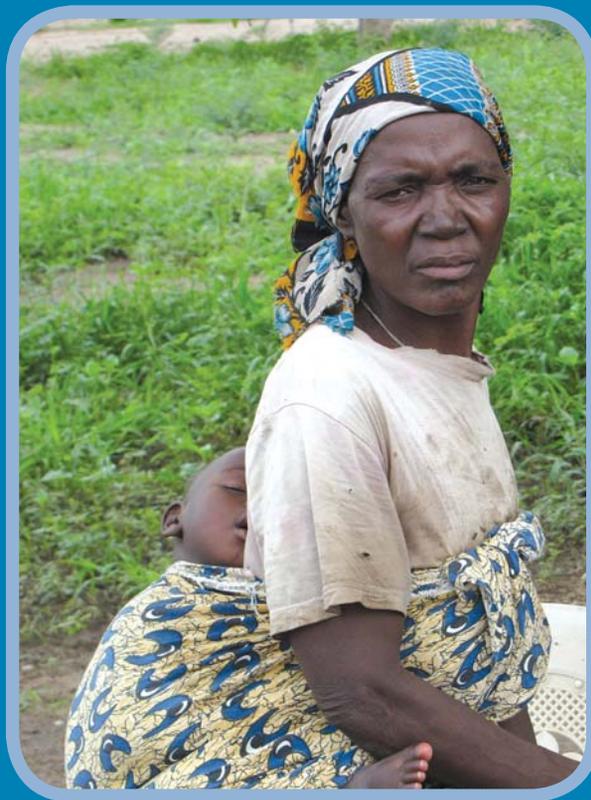
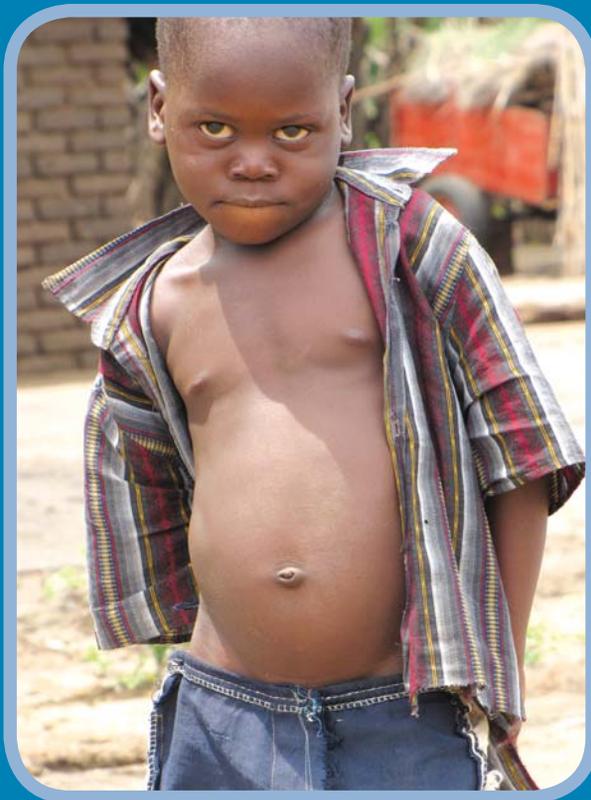
The south requires most food aid because it faces severe seasonal deficits, but it's in the centre that childhood stunting is most severe. Outdated agricultural practices, lack of inputs and small land size are preventing central farmers from increasing their yields and exposing them to food deficits.

Malawi's high dependency on maize is unsustainable from a nutrition view point unless the diet is balanced with proteins and vitamin-rich fruit and vegetables. Since it is so sensitive to water deficits, maize is not necessarily the crop most suited to the south because its high water requirement just about equals the average rainfall for the region - unless heavy investments are made in irrigation systems.

Consumers will naturally lessen their reliance on maize if they move out of poverty: those in the higher wealth quintiles are less reliant on consuming maize, opting for a more varied diet that includes more protein, fruit, oil and sugar.

The design of the Government's fertilizer subsidy (FIS) programme, also needs improving. This programme has driven rapid growth in the smallholder farming sector. A model for determining the economically appropriate rate of subsidy per FIS participant and length of stay in the programme should be devised. It should focus on targeting farmers with potential to succeed in the FIS, and there needs to be an incentive package for motivating graduation of successful farmers out of the programme. The fertilizers being provided need to be targeted to variable soil and rainfall conditions around the country. The adoption of more sustainable farming practices including conservation farming must be promoted to improve the efficiency of fertilizer and water use and increase the profitability of each kilogram of input used.

At the heart of improving food security in Malawi is education. The system requires an overhaul, not only to provide a higher standard of teaching but also to vastly improve school attendance levels, particularly in the south and for women. Training institutions need to be strengthened to ensure that Malawians are able to access specific and standardised skills training.



**World Food
Programme**

For questions please contact:

Daniel Barelli, WFP Malawi
daniele.barelli@wfp.org

Lazarus Gonani, WFP Malawi
lazarus.gonani@wfp.org

Astrid Mathiassen, WFP Rome
astrid.mathiassen@wfp.org

Shelton Kanyanda, NSO Malawi
skanyanda@hotmail.com