



This is the second in a series of Key Facts sheets that IFPRI is producing based on the third (2010/11) and fourth (2016/17) Integrated Household Surveys (IHS). The purpose of the series is to present data relevant to key policy issues on agriculture, food systems, and development topics in Malawi. Other Key Facts Sheets are available on our website at [massp.ifpri.info](http://massp.ifpri.info).

### Highlights

- A dramatic decline in household food security status and households' perception of their own food adequacy occurred between 2010/11 and 2016/17, such that more than half of households (61%) were defined as having "very low food security" in 2016/17.
- Households employed coping mechanisms to deal with food insecurity more frequently in 2016/17 than in 2010/11, primarily relying on less preferred or expensive foods, limiting portion sizes, and reducing the number of daily meals eaten daily.
- The percentage of households that reported consuming fish, meat, and pulses in the week prior to their interview declined between 2010/11 and 2016/17, suggesting reduced intake of protein-rich foods.
- While the prevalence of stunted children aged 6-59 months, a measure of chronic undernutrition, declined between 2010/11 and 2016/17, the percentage of children who were wasted or underweight increased.

### Background to the Integrated Household Surveys (IHS)

This analysis draws from the third and fourth Integrated Household Surveys (IHS3 and IHS4), conducted by the Government of Malawi's National Statistical Office (NSO). The IHS3 was conducted between March 2010 and March 2011, covering a total of 12,271 households, while the IHS4 was conducted between April 2016 and April 2017, covering 12,447 households. Both surveys used four instruments: (1) household, (2) agriculture, (3) fisheries, and (4) community questionnaires. Once appropriately weighted, the IHS surveys are representative at national, district, and urban/rural levels. Using the survey sampling weights provided by the NSO, all values presented in this Key Facts series are representative of the population of Malawi.

### Defining food and nutrition security

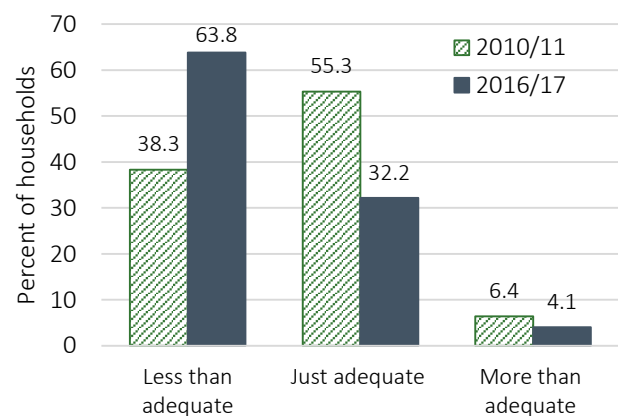
Food security is the condition in which all people at all times have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life. The four dimensions of food security are *availability, access, stability, and utilization*. Food security is a necessary, but not sufficient, condition of nutrition security, which is defined by secure access to an appropriately nutritious diet, comprising all essential nutrients and water, coupled with a sanitary environment and adequate health services and care to ensure a healthy and active life for all household members.

### Availability

The first pillar of food security, *availability*, emphasizes that there must be enough food to provide all with adequate calories and nutrients. While availability is usually assessed at the national or international level, indicators of availability range from national crop production estimates to experience-based scales of households' perceived food security.

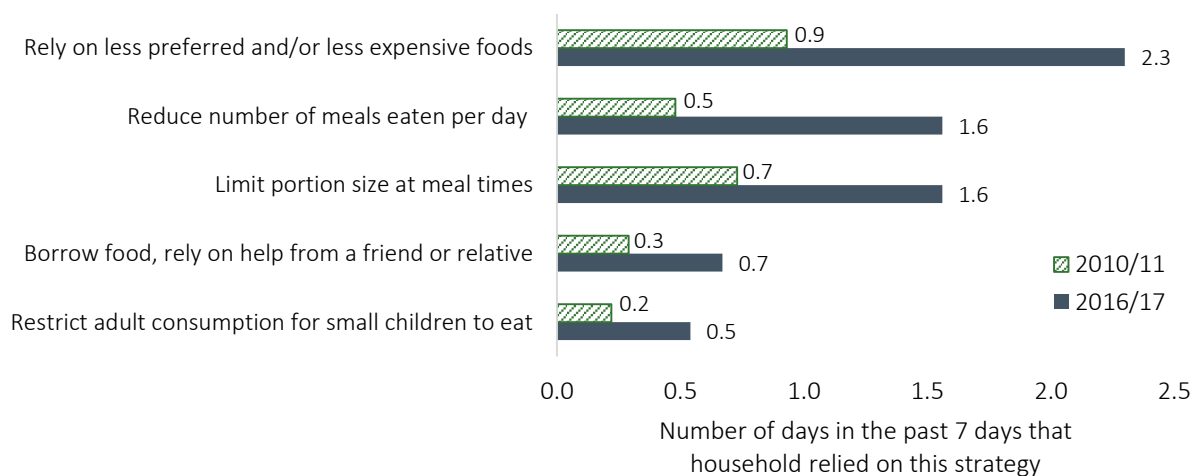
In 2016/17, a majority of households (64%) reported that their food consumption in the month preceding the interview was "less than adequate" to meet the household's minimum consumption needs. While slightly more than half of households felt their food consumption was adequate in 2010/11, only 32 percent thought so in 2016/17 (Figure 1). Similarly, 63 percent of households reported having worried about not having enough food in the past 7 days in 2016/17. When asked about the past 12 months, an even higher percentage of households (73%) reported experiencing situations in which there was not enough food to feed the household.

Figure 1. Subjective assessment of food adequacy



The average number of days households reported relying on various food insecurity coping mechanisms increased between 2010/11 and 2016/17 (Figure 2). The most frequently used coping strategy was to rely on less preferred or less expensive foods, which was used around two days a week on average and by 64 percent of households. Half of all households surveyed said they ate less preferred or expensive foods for two or more days out of the past seven.

Figure 2. Average number of days households engaged in different food insecurity coping mechanisms in past week



Reliance on coping mechanisms can also be used to construct experience-based food insecurity scales, which serve as a measure of food availability and capture the psycho-social effects of food insecurity. According to the NSO, very low food security is defined by multiple indications of disrupted eating patterns and reduced food intake, as well as reductions in food quality, variety, quantity, and frequency of food consumed. Low food security is indicated by concern about having inadequate food access and a reduction in the quality and variety of food consumed, rather than reductions in quantity.

Dramatic declines in household food security occurred between 2010/11 and 2016/17 following poor harvests in both 2015 and 2016 (Table 1). The number of households classified as having very low food security nearly doubled during this time period. Almost three-quarters of households experienced low or very low food security. There was also a sharp decline in the percentage of households experiencing high food security – these are households that did not experience any concerns about accessing enough food, and they did not alter the quality, variety, and quantity of food eaten or otherwise changed their eating patterns.

Table 1. Food security status by region (percent of households)

	North		Central		South		Total	
	2010/11	2016/17	2010/11	2016/17	2010/11	2016/17	2010/11	2016/17
Very low	27.8	57.6	29.0	60.8	34.9	62.8	31.6	61.4
Low	9.4	15.1	4.3	13.0	11.0	10.5	8.1	12.0
Marginal	0.8	3.4	2.1	2.9	2.6	2.1	2.2	2.6
High	61.9	23.9	64.6	23.3	51.5	24.6	58.1	24.0
N (households)	2,302	2,491	4,217	4,219	5,752	5,736	12,271	12,446

In 2016/17, the Southern region experienced the highest prevalence of very low food security (63%), followed by the Central and Northern regions, following the same trend as in 2010/11. Households in the Central region saw the largest increases in food insecurity (very low and low food security) between 2010/11 and 2016/17, with an increase of 41 percentage points, compared to 36 and 27 percentage points in Northern and Southern regions, respectively.

## Access

The second pillar of food security, *access*, addresses both physical and economic access to food and nutrients, primarily at the household level. Distance to markets and prices, for example, can impede physical and economic access to particular foods, even if they are physically present and available in markets.

Figure 3 shows the percentage of households that ate at least one item in each food group in the past seven days. Between 2010/11 and 2016/17, there were declines in the percentage of households that reported consuming fruits, roots and tubers, sugar, and meat. Declines in root and tuber consumption were driven by a sharp decline in the percentage of households consuming cassava, from 43 percent in 2010/11 to 25 percent in 2016/17.

Figure 3. Prevalence of household consumption of food groups in the past week

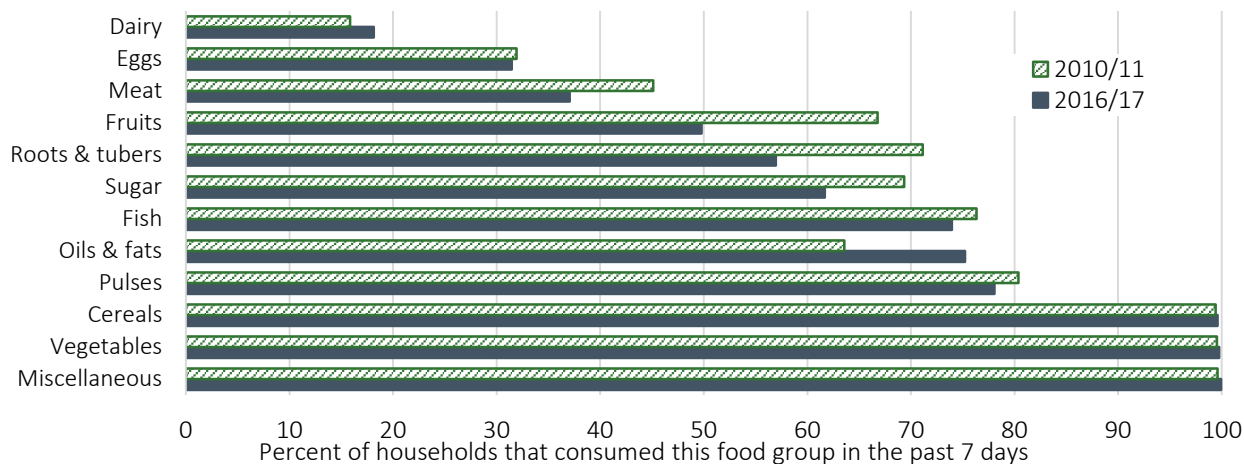
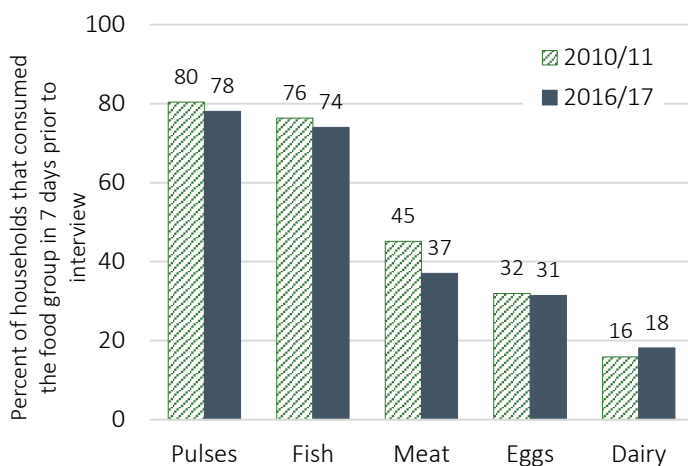


Figure 4. Prevalence of protein-rich food consumption



The percentage of households that reported consuming animal-source foods declined between 2010/11 and 2016/17, with the exception of dairy products (Figure 4). The increase in dairy consumption was driven by increases in the percentage of households consuming powdered milk. The decline in meat consumption, combined with smaller declines in consumption of pulses and fish, suggests decreased protein intake.

Information about the food groups a household consumed can also be used to construct a household dietary diversity score (HDDS) and a food consumption score (FCS), both of which are used as a proxy for access to food, and energy in particular, at the household level.

The HDDS is calculated based on individual food items the household reports having eaten in the past 7 days, aggregated into a total number out of 12 food groups in total consumed by all members of the household. The 12 food groups used in constructing the HDDS are those in Figure 3. On average, household dietary diversity decreased between 2010/11 and 2016/17, both nationally and in each region of Malawi (Table 2). Average dietary diversity scores fell from 8.19 in 2010/11 to 7.82 in 2016/17. Female-headed households had lower dietary diversity scores than male-headed households in both years. We see that dietary diversity scores increase alongside food security status. Regional differences are also evident in household dietary diversity scores.

Table 2. Average Household Dietary Diversity Scores (HDDS) and Food Consumption Scores (FCS)

	2010/11		2016/17	
	HDDS	FCS	HDDS	FCS
<b>Malawi</b>	8.2 (0.05)	48.0 (0.36)	7.8 (0.06)	43.6 (0.31)
<b>Region</b>				
North	8.4 (0.09)	48.2 (0.73)	8.2 (0.11)	47.7 (0.64)
Central	8.2 (0.08)	47.8 (0.58)	7.9 (0.08)	43.0 (0.52)
South	8.1 (0.07)	48.2 (0.55)	7.7 (0.07)	43.5 (0.42)
<b>Food security status</b>				
Very low	7.6 (0.07)	42.3 (0.44)	7.2 (0.05)	38.7 (0.30)
Low	7.9 (0.10)	45.0 (0.73)	8.0 (0.09)	43.6 (0.55)
Marginal	7.8 (0.15)	44.2 (1.26)	8.7 (0.14)	49.8 (1.17)
High	8.6 (0.05)	51.7 (0.42)	9.2 (0.07)	55.5 (0.62)
<b>Sex of household head</b>				
Male	8.4 (0.05)	49.3 (0.38)	8.1 (0.05)	45.0 (0.34)
Female	7.6 (0.07)	44.0 (0.51)	7.2 (0.06)	40.2 (0.41)

**Notes:** N = 12,271 households (2010/11); N = 12,447 households (2016/17). HDDS are calculated using 7-day dietary recall data and include foods eaten outside the home (prepared by vendors). Range: 0-12. FCS is calculated using a food frequency questionnaire. Range: 0-112. Standard errors of the mean are presented in parentheses.

The FCS is calculated using a similar methodology as the HDDS, but uses only eight food groups, the consumption frequencies of which are weighted based on their nutritional importance. The eight food groups are staples; pulses; vegetables; fruits; meat, fish and animal products; milk; sugar; and oils and fats. An FCS of less than 21 signifies “poor” consumption, while an FCS between 21 and 35 is categorized as “borderline” consumption, and a score above 35 is considered “acceptable.” Nearly three-quarters of all households (74%) had “acceptable diets” in 2010/11, falling to 63 percent in 2016/17.

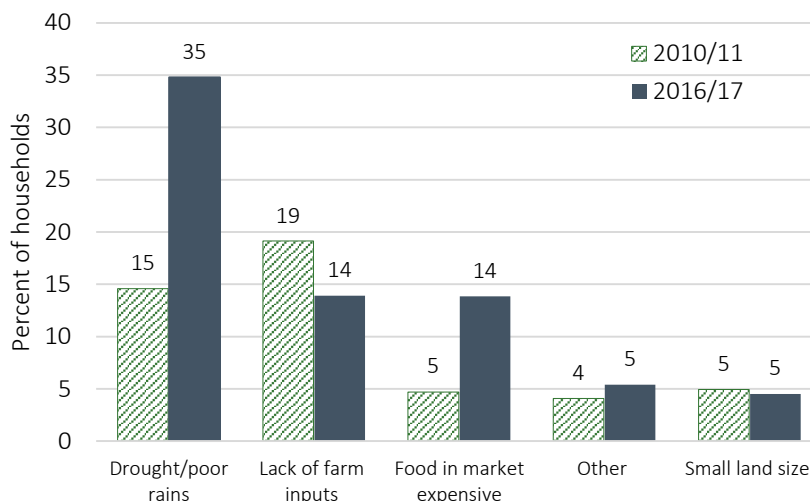
### Stability

*Stability* has a temporal component that considers inadequate availability of, access to and utilization of food on a periodic basis. Adverse weather conditions, political instability, or economic factors (i.e. unemployment or rising food prices) may have an impact on a household’s food security status.

Households were asked whether they had faced a situation in which they did not have enough food to feed the household in the past 12 months. In 2010/11, just under half of households (48%) had faced such a situation, compared with 73 percent of households in 2016/17.

Households without enough food to feed the household at some point in the last 12 months were asked to list the main causes of this situation in order of importance. In 2016/17, 35 percent of surveyed households reported that drought or poor rains had been the primary cause of their lack of food at some point in the last year, followed by insufficient food stocks from lack of access to farm inputs (14%) and food in the market being too expensive (14%) (Figure 5).

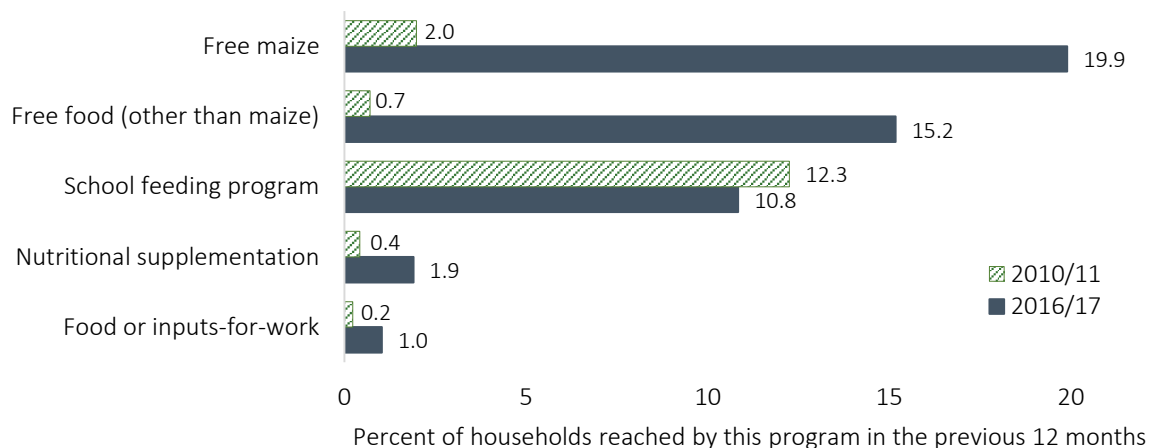
Figure 5. Self-reported primary cause of insufficient food to feed household in the last 12 months



Note: N = 12,271 households (2010/11); N = 12,447 households (2016/17). The “other” category includes floods and waterlogging, pest damage, no food being available in the market, and transport costs to the market.

Access to social safety net programs can help protect households from both sudden shocks and cyclical events that would otherwise impede stable access to adequate food and nutrition. In 2016/17, 20 percent of households reported receiving free maize, and 15 percent reported receiving other foods for free (Figure 6). While the number of individuals who benefitted from free food, nutritional rehabilitation programs for children, and food/input-for-work programs all increased between 2010/11 and 2016/17, there was a decline in the number of households who reported having children that benefitted from school meals and feeding programs. Increased reliance on such programs was likely due in large part to weather stresses and the resulting poor agricultural year, and the increased reach of programs implemented as part of the 2016/17 Food Insecurity Response Programme.

Figure 6. Percentage of households receiving food or nutrition social safety net programs

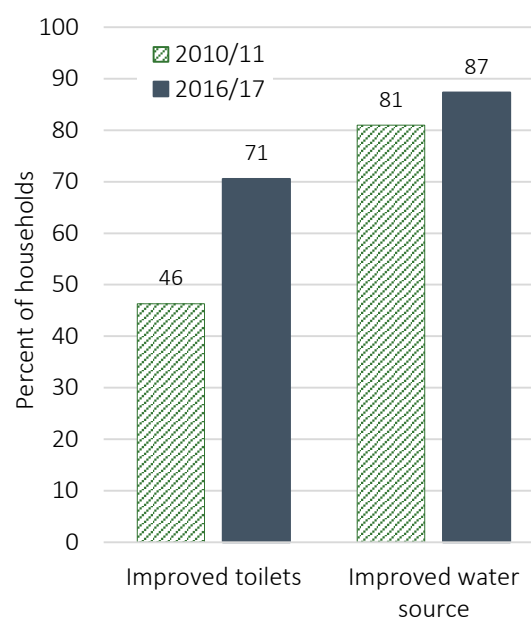


## Utilization of nutrients

*Utilization*, another pillar of food security, is commonly understood as the way the body makes use of various nutrients. Good care and feeding practices, food safety, diversity of the diet and intra-household distribution of food are integral to proper biological utilization of the food individuals consume. For example, nutritional status is affected by access to clean water, sanitation, and health care, as disease can hamper the body's ability to absorb and utilize nutrients even if they are consumed.

Access to improved toilets, defined as having a public sewer connection, septic system, or an improved, unshared latrine, increased nearly 25 percentage points between 2010/11 and 2016/17 (Figure 7). The percentage of households whose primary water source was considered "improved" also increased slightly between 2010/11 and 2016/17. These increases were driven by increased use of boreholes as households' main water source, which accounted for 63 percent of all water sources in 2016/17. Just under 10 percent of households had water piped into their own compound or directly into their homes.

Figure 7. Access to improved toilets and water



## Prevalence of child malnutrition

Anthropometric measurements collected in the IHS include children's weight and height/length. Coupled with children's age, these measurements can be used to calculate the prevalence of stunting and wasting, and whether infants and young children are underweight or overweight. Stunted children are defined as being too short for their age (a measure of chronic malnutrition), while wasted children are too light for their height (a measure of acute malnutrition). Children classified as overweight are too heavy for their height, while underweight children are too light for their age. Underweight children may suffer from acute or chronic malnutrition, or a combination of the two.

According to the IHS, the prevalence of stunting declined between 2010/11 and 2016/17. In 2016/17, 29 percent of children between 6 and 59 months were too short for their age (Table 3). While the decline in the overall prevalence of stunting was modest, dramatic declines in severe stunting occurred during this time period. Large declines in the percentage of children that are overweight was also observed between 2010/11 and 2016/17.

However, the prevalence of both wasting and underweight increased considerably during the same time period. As being underweight can result from either chronic or acute malnutrition, this suggests that acute malnutrition increased among infants and young children due to the poor harvest and low household food security in 2015/16.

These figures show a similar though less dramatic downward trend in the prevalence of stunting than the 2015/16 Malawi Demographic and Health Survey, as well as lower rates of stunting, although the DHS calculates these values for all children under 5 years old. According to the 2015/16 DHS, 37 percent of children under age 5 were stunted, 3 percent were wasted, 12 percent were underweight, and 5 percent were overweight.

Table 3. Prevalence of malnutrition in children aged 6 to 59 months

	2010/11 % children	2016/17 % children
Stunting	31.3	28.9
Severe stunting	14.3	1.8
Wasting	3.5	6.1
Severe wasting	1.0	1.6
Underweight	6.4	10.3
Overweight	12.0	4.7

**Notes:** Calculations based on 2006 WHO child growth standards. Biologically implausible z-scores have been excluded. Children whose height-for-age Z-score is less than two standard deviations (-2 SD) below the median of the reference population are stunted; those who are three standard deviations (-3 SD) below are considered severely stunted. The same cut-off points are used for wasting and severe wasting.

## Summary

Household food security decreased markedly between 2010/11 and 2016/17, both as defined by the NSO and in households' own perceptions. In 2016/17, a majority of respondents reported worrying about feeding their household, being faced with a situation in which they did not have enough food in the past 12 months, and were classified as having "very low food security." Households felt that insufficient household food stocks due to drought or poor rains, and a lack of farm inputs, as well as food in the market being too expensive, were the primary reasons they had insufficient food at some point in the past 12 months.

On average, households relied on less preferred or less expensive foods two days out of the past seven, and limited portion sizes and reduced the number of meals eaten per day nearly as frequently. Households reported an increased reliance on restricting consumption by adults in order to feed small children. The median number of meals eaten per day by adults declined, even as households relied more heavily on food-related social safety nets in 2016/17; 20 percent of households received free maize and 15 percent received free food other than maize. Children in 11 percent of households benefited from various school feeding programs.

Dietary diversity also declined across the country; on average, households ate foods from a smaller number of food groups than in 2010/11. While fewer households reported sugar consumption, they also reported less consumption of fruits, roots and tubers, and protein-rich foods such as fish, meat, and pulses. Across protein-rich food groups, small but consistent declines occurred in the prevalence of consumption of any food item in that food group by any household member in the week preceding the interview (with the exception of dairy). This may signify declining protein intake and is further evidence of households relying on less expensive and preferred foods to cope with food insecurity. In 2016/17, female-headed households, households with very low food security status, and households in the southern and central regions, all reported eating less diverse diets than their counterparts, and compared to 2010/11.

While the prevalence of stunting, a measure of chronic undernutrition among children under five, declined between 2010/11 and 2016/17, the percentage of children who were wasted and underweight increased, suggesting that acute malnutrition increased despite declining chronic malnutrition.



For further information contact us  
at:

[ifpri-lilongwe@cgiar.org](mailto:ifpri-lilongwe@cgiar.org)

Visit us online at:

<http://massp.ifpri.info>