



This is the first in a series of Key Facts sheets that IFPRI has produced based on the fifth Malawi Integrated Household Survey of 2019/20. The purpose of the series is to present data relevant to key policy issues on agriculture, food systems, and development topics in Malawi.

## Highlights

- Four out of five Malawian households engage in some crop production. Rural households are most likely to farm – nine out of ten do so. However, even in towns and cities, almost one-third of urban households engage in some farming.
- However, only 60 percent of households engaged in farming reported selling any of what they harvested – while almost 70 percent of farming households in the Central region sell some of their harvest, just under 60 percent in the Northern region and 45 percent in the Southern region do so.
- The commercial importance of the crops produced by farming households differ:
  - Maize, sorghum, finger millet, pearl millet, and cassava predominantly are grown for own consumption.
  - Soyabean, tobacco, cotton, and Irish potato are produced primarily for sale.
  - Rice, groundnut, pigeonpea, bean/cowpea, and sweet potato are all important for subsistence, while also sold. Trends are seen of increased shares of farming households both producing and selling several of these crops.
- Farming households in the Southern region are much less likely to sell the maize they produce than households in the other two regions.
- A slightly greater share of the maize consumed by Malawian households is purchased rather than own-produced.
  - While this is the case for urban households, as expected, it also holds for rural households.
  - Greatest reliance on the market for maize by rural households occurs in the months up to January. For the period October 1999 to February 2020, about 70 percent of all maize consumed by Malawian households, whether in rural communities or in urban centers, was obtained from the market.

## Background to the Integrated Household Surveys

This document presents information on selected dimensions of agricultural commercialization in Malawi – the production of crops for sale by farming households, the amount of harvested crops sold, and the consumption of purchased maize, the principal staple food in Malawi. This presentation draws primarily from the fifth Integrated Household Survey (IHS) for Malawi, as well as from the fourth survey round. The IHS is conducted by the Government of Malawi's National Statistical Office (NSO). IHS5 was conducted between April 2019 and April 2020 and covered 11,434 households, while IHS4 was conducted over 13 months between April 2016 and April 2017 and involved 12,447 households. The surveys use four questionnaires: (1) household, (2) agriculture, (3) fisheries, and (4) community. Once appropriately weighted, the IHS surveys are representative at national, district, and urban/rural levels. All values presented in this Key Facts series have been adjusted using the sampling weights provided by the NSO.

When eliciting information on agricultural production from survey respondent households, the agriculture questionnaire of the IHS refers to the last completed rainy and dry seasons, using different modules for the two seasons. The main rainy growing season in Malawi lasts approximately from November to May, and the dry, or *dimba*, off-season from June to October. Irrigated production takes place during the *dimba* season. For information on crop sales, the questionnaire modules refer to sales made by the survey household of crops harvested in the last rainy or *dimba* seasons, respectively. Information on production and sales of cassava, the growth pattern of which is not necessarily seasonal, is collected in agriculture questionnaire modules on the cultivation of and sales of produce from permanent crops or trees. Information on food consumption is collected in the household questionnaire. This was used to determine the source of maize consumed. The reference period for food consumption is the week prior to the date of interview.

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## Commercial agricultural production

For all households in Malawi, Table 1 presents the percentage share that engage in any crop production, with this information further disaggregated by rainfed and dry season production. For households that engage in such farming, information is then presented on the share that reported selling any of the crops that they produced. We see that agriculture remains a central livelihood strategy for Malawian households – four out of five households engage in some crop production. Rural households are most likely to farm – nine out of ten do so. However, even in towns and cities, almost one-third of urban households engage in some farming.

Table 1: Households engaged in crop production and crop production for sale, both rainfed and dimba, 2019/20

	National	Urban	Rural	Northern region	Central region	Southern region
<b>Any crops</b>						
Grew any crops, % of all households	80.0	31.6	89.4	79.4	79.4	80.7
Sold any crop, % of households growing any crops	60.5	37.1	62.1	62.4	71.4	50.1
<b>Rainfed crops</b>						
Grew any rainfed crops, % of all households	78.0	30.3	87.3	73.8	78.2	79.0
Sold any rainfed crop, % of households growing any rainfed crops	56.5	34.1	58.0	58.8	68.4	45.0
<b>Dimba (dry-season, irrigated) crops</b>						
Grew any dimba crops, % of all households	17.6	3.6	20.3	16.4	21.5	14.4
Sold any dimba crop, % of households growing any dimba crops	65.2	60.3	65.3	70.9	64.4	64.4
Observations, all households	11,434	2,092	9,342	2,176	3,952	5,306

Source: Weighted analysis of 2019-20 Malawi Integrated Household Survey.

However, commercial agricultural production to earn cash income is not necessarily the principal reason Malawian households produce crops. Only 60 percent of households engaged in farming reported selling any of what they harvested. The other households used their harvests exclusively for consumption within their own household. We see further in Table 1 that urban farming households, more so than rural households, are primarily motivated to produce crops for subsistence use – only just over one-third sold any of their production. We also see differences in the commercial orientation of farming households across regions – almost 70 percent in the Central region sell some of their harvest, compared to just under 60 percent in the Northern region and 45 percent in the Southern region. While *dimba* farming is much less common than rainfed farming, crops produced in the dry season are somewhat more likely to be sold than are crops produced in the rainy season.

Table 2: Crop-specific production and sales, both rainfed and dimba, 2019/20, national

Crop	Produce crop, % of all crop producing households	Reported any sales of crop, % of those producing crop	Mean portion of harvest sold for those selling crop, % of harvest
Maize	93.0	21.0	30.6
Local varieties	53.1	15.1	29.8
Hybrid, recycled hybrids, or improved open-pollinated varieties	47.4	25.0	34.3
Rice	6.5	63.4	60.3
Sorghum	9.3	9.9	47.2
Finger millet	1.3	22.9	44.1
Pearl millet	1.4	0.0	0.0
Groundnut	26.8	57.5	59.7
Pigeonpea	29.1	39.4	59.6
Bean or cowpea	25.5	28.4	66.8
Soyabean	15.6	82.9	81.1
Tobacco	5.3	95.3	94.8
Cotton	0.9	97.0	91.7
Sunflower	1.2	85.5	85.1
Sweet potato	8.4	46.3	65.2
Irish potato	3.6	87.9	78.2
Cassava	12.3	24.1	46.0
Observations	9,022	varies by crop	varies by crop

Source: Weighted analysis of 2019-20 Malawi Integrated Household Survey.

The relative importance of the various crops grown by farming households in Malawi both overall and commercially can be assessed using the information in Table 2. Maize is predominantly grown for own consumption by the producing household –

less than a quarter of maize producers sell any of the maize they harvest. Sorghum, finger millet, pearl millet, and cassava are similarly grown primarily for subsistence. Of farming households that sell some of these food crops, the average portion of their harvest that they sell is less than 50 percent, reflecting their importance for the household food basket. In contrast, soyabean, tobacco, cotton, and Irish potato are produced primarily for sale. The first three are not used within Malawian households – generally all of these crops that households produce will be sold, although some households may store the crops to obtain better prices, which accounts for the unsold portion of the harvests of these crops shown in the rightmost column of Table 2. The strong commercial importance of Irish potato shown in the IHS5 data is somewhat surprising, as the crop also could be consumed by the producing household. The other crops listed in the table – rice, groundnut, pigeonpea, bean/cowpea, and sweet potato – similarly are traditionally important for subsistence, while also potentially providing sufficient cash returns to producers who bring their harvests of those crops to market. Increased productivity of these crops could provide both improved dietary and cash benefits for the producing households.

*Table 3: Production of specific crops, as percentage share of all crop producing households, and whether sold any of specific crop produced, as percentage share of households producing specific crop; rainfed and dimba, 2019/20, national and rural/urban*

Crop	National		Urban		Rural	
	Produced	Sold	Produced	Sold	Produced	Sold
Maize	93.0	21.0	90.9	18.2	93.2	21.2
<i>Local varieties</i>	53.1	15.1	41.0	9.8	53.9	15.4
<i>Hybrid, recycled hybrids, or improved open-pollinated varieties</i>	47.4	25.0	55.3	23.5	46.9	25.1
Rice	6.5	63.4	3.6	63.8	6.7	63.4
Sorghum	9.3	9.9	3.3	0.0	9.8	10.2
Finger millet	1.3	22.9	0.9	0.0	1.4	24.0
Pearl millet	1.4	0.0	0.1	0.0	1.5	0.0
Groundnut	26.8	57.5	15.8	38.7	27.5	58.3
Pigeonpea	29.1	39.4	20.5	22.3	29.7	40.3
Bean or cowpea	25.5	28.4	27.3	14.4	25.4	29.5
Soyabean	15.6	82.9	10.9	73.1	15.9	83.4
Tobacco	5.3	95.3	1.2	100.0	5.6	95.3
Cotton	0.9	97.0	0.0	0.0	1.0	97.0
Sunflower	1.2	85.5	0.1	100.0	1.3	85.5
Sweet potato	8.4	46.3	5.0	45.8	8.6	46.3
Irish potato	3.6	87.9	1.9	62.4	3.7	88.8
Cassava	12.3	24.1	5.6	24.8	12.7	24.1
Observations	9,022		821		8,301	

Source: Weighted analysis of 2019-20 Malawi Integrated Household Survey. Note: Observations on sales vary by crop

Table 4: Production of specific crops, as percentage share of all crop producing households, and whether sold any of specific crop produced, as percentage share of households producing specific crop; rainfed and dimba, 2019/20, region

Crop	Northern region		Central region		Southern region	
	Produced	Sold	Produced	Sold	Produced	Sold
Maize	85.7	26.6	95.4	28.4	92.9	12.6
Local varieties	40.1	19.0	47.5	21.6	61.7	9.9
Hybrid, recycled hybrids, or improved open-pollinated varieties	51.2	31.0	53.5	32.1	40.9	14.5
Rice	9.1	70.3	3.4	78.9	8.6	55.9
Sorghum	0.5	68.1	0.7	22.2	19.7	9.1
Finger millet	1.9	50.6	1.2	30.8	1.3	5.3
Pearl millet	0.0	0.0	0.0	0.0	3.1	0.0
Groundnut	29.6	47.0	35.5	72.2	18.0	36.0
Pigeonpea	1.5	55.2	2.3	39.7	61.1	39.3
Bean or cowpea	22.9	35.5	28.8	36.8	23.3	17.0
Soyabean	18.0	51.7	29.4	90.1	2.3	67.8
Tobacco	9.1	95.1	8.9	95.4	1.1	95.6
Cotton	0.4	100.0	0.5	97.9	1.5	96.5
Sunflower	4.1	89.0	0.7	65.8	0.9	94.7
Sweet potato	13.8	28.0	8.1	52.7	7.1	49.5
Irish potato	3.5	85.4	7.1	88.2	0.4	89.1
Cassava	23.0	25.3	3.9	29.5	16.9	22.5
	1,586		3,135		4,301	

Source: Weighted analysis of 2019-20 Malawi Integrated Household Survey. Note: Observations on sales vary by crop

The information in the first two data columns of Table 2 is disaggregated by rural/urban in Table 3 and by region in Table 4. Given that most Malawian households reside in rural communities, information on crop production and sales by rural households is similar to that presented at national level. However, for urban farming households, it is evident that their principal motivation for engaging in farming is to contribute to their household's food needs, particularly for maize. While almost all urban farming households grow maize, the two other crops most commonly grown by urban farming households, bean/cowpea and pigeonpea, are only grown by about one-quarter of such households. Less than one-quarter of urban households producing these three crops sell any of their production.

Disaggregating this information by region shows that the geography of overall production and the geography of commercial production are not necessarily the same for all crops. Given the importance of cassava as a staple crop alongside maize in lakeshore areas of Northern region, we find that a lower share of farming households there grow maize. However, those that grow maize are as likely to sell it as farming households in Central region are, where almost all farming households grow some maize. In the Southern region, while most farming households grow maize, those that do are much less likely to sell any, compared to farming households in the two other regions.

Some notable patterns for crops other than maize include groundnut, which is both more likely to be grown and to be grown for sale in Central region. Pigeonpea is shown to be primarily grown in Southern region. Similar shares of farming households grow bean/cowpea by region, but those in the Southern region are much less likely to sell any of their production. The share of farming households in the Southern region that produce tobacco is considerably lower than the shares that do so in the other two regions. Farming households in the Northern region are most likely to produce sweet potato, but sweet potato producers in the other two regions are more likely to sell some of their crop.

Table 5: Trends in crop-specific production and sales between 2016/17 and 2019/20, selected crops both rainfed and dimba, national

Crop	Produce crop, % of all crop producing households		Reported any sales of crop, % of those producing crop		Mean portion of harvest sold for those selling crop, % of harvest	
	Percentage point change since		Percentage point change since		Percentage point change since	
	2019/20	2016/17	2019/20	2016/17	2019/20	2016/17
Maize	93.0	-2.1	21.0	5.0	30.6	-4.0
Local varieties	53.1	8.1	15.1	3.7	29.8	-1.4
Hybrid, recycled hybrids, or improved open-pollinated	47.4	-4.9	25.0	6.3	34.3	-2.4
Rice	6.5	2.2	63.4	-3.6	60.3	2.8
Groundnut	26.8	11.3	57.5	0.3	59.7	1.3
Pigeonpea	29.1	6.7	39.4	4.3	59.6	0.6
Soyabean	15.6	5.4	82.9	0.7	81.1	4.3
Tobacco	5.3	-1.1	95.3	4.0	94.8	2.3

Source: Weighted analysis of the 2016/17 and 2019-20 Malawi Integrated Household Surveys.

Note: Observations for "Produce crop" – 2016/17: 9,157; 2019/20: 9,022. For other columns, observations vary by crop.

Changes in the production, sales, and share of production sold by farming households between 2016/17, when the IHS4 survey was conducted, and 2019/20, when the IHS5 was done, for selected crops are shown in Table 5. For maize, rice, and tobacco, few changes are seen. While there is a reduction in the share of farming households growing hybrid maize and an increase in those growing local maize varieties, this pattern likely reflects a reduction in the scale of the Farm Input Subsidy Programme with the number of beneficiaries being reduced from 1.5 million households in the 2016/17 cropping season to 900,000 households in the 2019/20 season.<sup>2</sup> For many farming households, their access to hybrid maize seed is dependent on the input subsidy programs of the government. Without the subsidy program, the maize they produce will be local varieties.

However, relatively large increases are seen in the share of farming households producing groundnut, pigeonpea, and soyabean between 2016/17 and 2019/20. For soyabean, as a cash crop, this increase is probably linked to improvements in the soyabean market. However, for groundnut, we do not see any strong accompanying increase in the share of producers selling or in the amount of the harvest those who do sell bring to market. What is driving the increase in farm households producing groundnut is not clear. In contrast, for pigeonpea, the share of farming households producing and the share of producers that sell has gone up over this period, even though the share of harvest sold by producers has not changed much.

### Reliance on markets for maize consumption by Malawian households

Historically, rainfed, low-input subsistence production has been the primary means by which households in Malawi met their food needs. But with rising population pressures on a limited land base, it is evident that Malawian households must increasingly depend on the country's markets for an important share of their food. While most observers of agriculture in Malawi continue to characterize the production of most farming households to be driven primarily by subsistence objectives, this assumption may increasingly be becoming inaccurate. Here we examine the degree to which all Malawian households are reliant on markets for their maize consumption by drawing on information from the IHS5 and IHS4 surveys. We also examine seasonality in the source of the maize households consume and in maize prices for consumers.

Table 6: Source of maize consumed, 2019/20

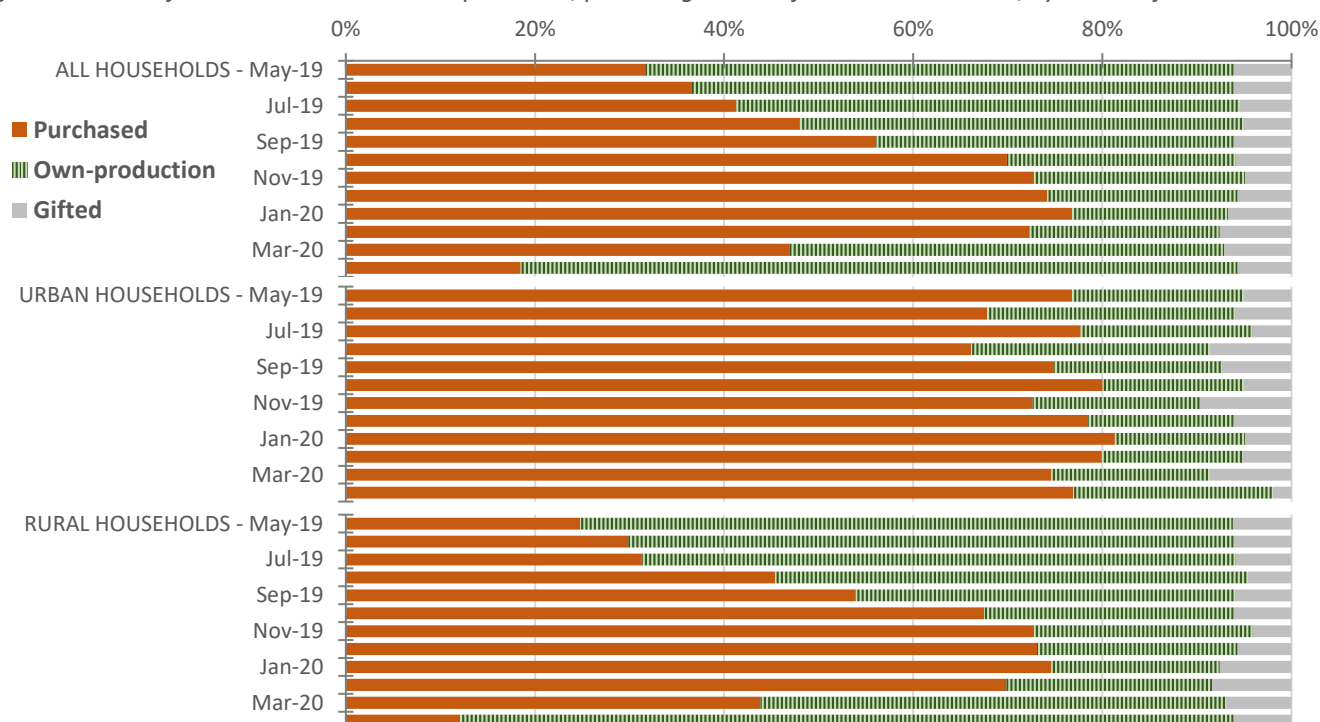
Characteristic	All households	Urban	Rural	Northern region	Central region	Southern region
Maize consumption in past week, % of households	97.6	98.8	97.4	94.2	99.2	97.1
For households reporting consuming maize:						
Maize consumed in past week, kg per capita	2.80	2.39	2.88	2.97	2.81	2.74
Purchased, percentage share of maize consumed for those consuming	53.9	76.1	49.5	47.0	53.4	56.2
Own produced, percentage share of maize consumed	40.0	17.8	44.4	47.3	40.9	37.1
Gift, percentage share of maize consumed	6.1	6.1	6.1	5.7	5.7	6.6
Observations	11,294	2,068	9,226	2,124	3,916	5,254

Source: Weighted analysis of 2019-20 Malawi Integrated Household Survey. Analysis of households reporting food consumption between May 2019 and April 2020 – excludes households surveyed for IHS5 in April 2019.

<sup>2</sup> The current Affordable Inputs Programme when launched in the 2020/21 season to replace the Farm Input Subsidy Programme sharply increased the number of beneficiaries nationally to 3.4 million households.

Most Malawian households consume maize weekly (Table 6). Rural households consume somewhat more per capita than do urban households, which likely reflects a greater diversity of alternative staples to maize in urban centers. With regards to the source of maize consumed, in contrast to the general assumption that most Malawian households will produce most of it, data from the IHS5 shows that a slightly greater share of the maize consumed is purchased than produced by the household. While this is the case for urban households, as expected, it also holds for rural households. By region, households in the Northern region obtain the maize they consume from the market and from their own production in equal shares, while those in the Central region and, especially in the Southern region, obtain a considerably larger share from local markets.

Figure 1: Source of maize consumed over the past week, percentage share of all maize consumed, by month of interview



Source: Weighted analysis of 2019-20 Malawi Integrated Household Survey. Analysis for households reporting any maize consumption between May 2019 and April 2020: 10,884 households; 2,030 urban; 8,854 rural.

However, reliance on the market for maize for the household shows a sharp seasonal pattern for rural households (bottom graph, Figure 1). Greatest reliance on the market for maize occurs in the months up to January. In January, the next crop is in the field, but is not yet ready for harvest. Reliance on the market declines starting in February when green maize can be obtained from a household's own fields, particularly in the South, and then falls sharply in March and April as the main maize harvest is brought in. For urban households, the share of maize consumed that was purchased generally is around three-quarters for all months, with the balance made up by own production by urban households that farm or through gifts of maize from other households or agencies (middle graph, Figure 1). It is worth noting that for the period October 1999 to February 2020, about 70 percent of all maize consumed by Malawian households, whether in rural communities or in urban centers, was obtained from the market. Strong, reliable maize markets are equally as critical to the food security of Malawian households as is the maize productivity levels that farming households achieve.

Table 7: Trends in source of maize consumed between 2016/17 and 2019/20, percentage share of maize consumed for households reporting consuming maize

	All households			Urban		Rural	
	2019/20	Percentage point change since 2016/17	2019/20	Percentage point change since 2016/17	2019/20	Percentage point change since 2016/17	
Purchased	53.9	0.0	76.1	-4.2	49.5	1.8	
Own produced	40.0	6.5	17.8	3.9	44.4	6.3	
Gift	6.1	-6.5	6.1	0.3	6.1	-8.0	

Source: Weighted analysis of the 2016/17 and 2019-20 Malawi Integrated Household Surveys. 2019/20 analysis of households reporting food consumption between May 2019 and April 2020: 10,884 households; 2,030 urban; 8,854 rural. 2016/17 analysis of all survey households: 11,697 households; 2,129 urban; 9,568 rural.

Whether reliance on markets for the maize households consume is shifting over time is considered in Table 7 by comparing the situation for 2016/17 based on IHS4 with that in 2019/20. We see no change in the share of maize consumed that was purchased between the two years. However, there is a significant reduction in 2019/20 in the share of maize consumed that was received by the household as a gift. This is matched by an increase in the share of maize consumption from own-

production. This pattern primarily stems from poor maize production levels in the 2015/16 cropping season, the season prior to the implementation of the IHS4 survey, rather than to longer-term trends. Due to drought in the southern half of Malawi, maize production was estimated for the 2015/16 season to be 30 percent below long-term national production levels. In consequence, a large humanitarian food relief program was implemented starting mid-2016. Many farming households surveyed for the IHS4 would have obtained maize harvests insufficient to meet their maize consumption requirements. To bridge this gap, they would have relied upon both the market and on gifts or allocations of maize from other households or agencies involved in the humanitarian response. This explains the pattern in Table 7 for all Malawian households.

In sum, given the special maize production circumstances in the 2015/16 cropping season before the IHS4 was implemented, it is unclear whether Malawian households, particularly in rural communities, are increasing their dependence on the market for their maize consumption over time. However, the patterns shown in Table 7 further confirm the assertion drawn from the patterns shown in Figure 1 that markets certainly are a critical component of the food security of Malawian households. Assuming that most farming households in Malawi are primarily subsistence oriented in their production and unlikely to engage with the market to meet some of the food needs is incorrect.

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