

Components of Income Aggregate: “Integrated Household Survey, Malawi 2011”¹

*Prepared for the Rural Income Generating Activities (RIGA) Project*²

of the Agricultural Development Economics Division,

Food and Agriculture Organization

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This document provides the survey-specific details associated with the income aggregate construction. For more information about the RIGA project, please refer to <http://www.fao.org/es/esa/riga>. For additional detail regarding the overall RIGA income aggregate construction approach, please refer to Carletto, et al (2007), “Rural Income Generating Activities Study: Methodological note on the construction of income aggregates,” found on the RIGA website.

The Malawi Integrated Household Survey (IHS-3) survey was carried out for twelve months from March 2010 through to March 2011³. The sample for IHS-3 was drawn using a two-stage stratified sampling procedure from a sample frame using the 2008 Malawi Population Census enumeration areas (EAs) and is nationally representative.

The total sample includes 12,271 households. An average household size in Malawi is 4.5 persons.⁴ All money amounts are in Malawi Kwacha (MK). In 2011, the official exchange rate⁵ was MK 156.5 = \$1.0. **The income aggregates are calculated at the household level and all aggregates are annualized.**

In the original datasets, the various modules of the IHS-3 data households can be linked by the five key variables, namely; DISTRICT, PSU, TA, HHID, CASE ID, and QUESTNUM. In order to allow merging at household level case_id was included in the original data to create a unique household identifier. For consistency this has been renamed to “hh” to allow merging across RIGA data sets, and for comparison across different RIGA surveys.

¹ The information provided in this document relies substantially upon the Data User’s Guide, provided with the 2011 Malawi IHS

² The RIGA Project is a collaboration between FAO, the World Bank and American University in Washington, D.C. Original data can be obtained from the World Bank’s Living Standards Measurement Study by visiting the LSMS website at: <http://www.worldbank.org/lsms>.

³ Source: 2011 Malawi IHS

⁴ Based on RIGA calculations

⁵ Exchange rate used comes from the World Bank World Development Indicators database.

In the original datasets, “reside” is the variable that identifies urban households from rural households. There are 10,038 rural households and 2,233 urban households in the original dataset.

The variable “URBAN” is constructed based on the variable “RESIDE” in order to differentiate urban and rural areas in a consistent manner across different surveys. The urban stratum includes the four major urban areas: Lilongwe, Blantyre, Mzuzu, and the Municipality of Zomba. All other areas including Bomas are considered as rural areas.⁶

Regarding income from different sources, revenues and costs were disaggregated when such information was available. The disaggregated sources for each income component are summarized in output variables column of Table 1. The net variables and the data files included in the final total income aggregate (Income.dta) are in **bold**. **Unless otherwise noted, all variables included in the aggregate income variable are net of costs**

Comments

- In all sections, the raw data undergoes a transformation (it is annualized, aggregated, taken from person – household level, etc) before a check for outliers takes place.
- In the Crop Production section, the reference period is the 2003 season including both the dry and rain-fed part. Two total crop income variables are created. Cropincome1 includes estimates of own crop consumption based on the crop section of the household questionnaire. Cropincome2 includes estimates of own crop consumption based on the food expenditure section of the questionnaire.
- In the Livestock section the reference period is twelve months.
- In the Other Income section the reference period is the duration of receiving other income in the last 12 months.
- In the Transfer section, the reference period is the duration of receiving transfers in the last 12 months.
- In the Wage section, the reference period is the duration of employment as specified in the questionnaire for both full-time and part-time jobs in the last 12 months.
- The industry codes used for classifying wage employment follow the United Nations International Standard Industrial Classification (ISIC) 1992 standards. Given the survey classification of each employed household member by industry, the employment sectors include: Agriculture and fishing, Mining, Manufacturing, Electricity and utilities, Construction, Commerce, Finance insurance and real state, Services and Unknown.
- Jobs are divided into skilled, unskilled, and other based on the employment classification in the IHS-3 Basic Information Document. All income from the part-time jobs is considered “ganyu” labor income and is classified as agricultural unskilled work.
- The wage is net plus all benefits in cash and in kind that the household member received from his or her employer.
- The Self Employment (Selfemp) section accounted for income from non-farm enterprises owned by the household. For expenditures, the reference period was the last month. For revenues, the reference period is the last month. Both revenues and expenditures are annualized by multiplying the monthly amounts by the number of months the enterprise has been in operation in the last year.

⁶ Malawi IHS-3 Basic Information

- The classification of non-farm enterprise activities into industries categories follows the same classification system as the employment section. Given these standards, the non-farm enterprise sectors include: (1) Agriculture, Livestock, Hunting and Fishing, (2) Mining, (3) Manufacturing, (4) Electricity and Utilities, (5) Construction, (6) Commerce, (7) Transportation, Storage and Communications, (8) Finance, Insurance and Real Estate, (9) Services and (10) Other Industries.
- For all sections, whenever information was available regarding the share of a business, enterprise, or any other income activity owned by the household, the income earned from that activity was weighted by the share owned by the household.
- A final outlier check is imposed at the end of the Aggregateincome.do file in which households with income shares from any given activity greater than or less than 3 (300%) are dropped from the final income aggregate. Using these criteria, 230 households are dropped from the analysis.
- Only information on present household members is considered in the final income aggregate. Present is defined as a having been absent from the households for 6 or fewer months in the previous 12 months for non-head household members. Household heads are included regardless of their location status since they can still serve as primary income sources.
- Participation and income share variables for all income components are included in the final income aggregate

The programs that calculate each household's income aggregate component are summarized in Table 1. Tables 2 and 3 summarize the results from the created income aggregate.

Table 1

do file	input dta files	output dta files	output variables
Prices.do	sec_p sec_s sec_i	prices.dta	pricedata1 pricedata2 pricedata3 pricedata4 pricedata5 pricedata6 pricedata7 pricedata8
Food.do	prices.dta sec_i.dta sample.dta	Fooddown.dta Food.dta	foodpurchimp fooddownimp foodnonpurchimp
Rentagric.do	sec_n.dta sec_o.dta sec_r.dta Filters.dta sample.dta agrrentexp1.dta agrrentexp2.dta Rentagric.dta	Rentagric.dta agrrentexp1.dta agrrentexp2.dta Rentagricnet.dta	farmrntincimp farmrntexp1imp shrcropexp1imp farmrntexp2imp shrcropexp2imp farmrntimp
Cropincome1	sec_o.dta sec_r.dta	cropexp1.dta cropexp2.dta	seedexp1imp fertexp1imp laborexpl1imp seedexp2imp fertexp2imp laborexpl2imp cropexpimp crop1imp owncons1imp labor1imp stored1imp
Cropincome2	sec_p.dta sec_s.dta	cropexp.dta cropinc1.dta cropinc2.dta	crop2imp owncons2imp labor2imp stored2imp cropinc3imp cropinc4imp owncons4imp cropincimp cropinputimp cropownimp
Cropincome3	sec_q1.dta sec_t.dta cropinc1.dta cropinc2.dta cropinc3.dta cropinc4.dta Food.dta agrrentexp1.dta agrrentexp2.dta	cropinc3.dta cropinc4.dta cropinc.dta Cropincome.dta	cropincomeimp1 cropincomeimp2

	sample.dta Filters.dta		
Employment	sec_e.dta sample.dta	employ1.dta employ2.dta Employment.dta	wge (by industry, skilled) wgem wgeimp
Livestock1.do Livestock2.do	sec_u.dta sample.dta sec_u.dta sample.dta Food.dta livstbought.dta livstotherexp.dta livstinc.dta livstbypr.dta	livstbought.dta livstotherexp.dta livstinc.dta livstbypr.dta Livestock.dta	livstboughtimp livstotherexpimp livstsoldimp livstbyprimimp livstincimp
Otherinc.do	sec_w.dta sample.dta	Otherinc.dta	nonfarmrntimp otherincimp
Selfemp.do	sec_v.dta sample.dta	selfempinc.dta selfempexp.dta Selfemp.dta	hhrevimp hhexpimp selfempincimp
Transfers.do	sec_x.dta sec_y.dta sec_w.dta sample.dta transferprivout.dta transferprivinc.dta transsocial.dta pensions.dta	transferprivout.dta transferprivinc.dta transsocial.dta pensions.dta Transfers.dta	transfersentimp transferincimp socialtransimp pensionsimp privtrans pubtrans transferstotimp
AggregateIncome.do	Rentagric.dta Cropincome.dta Employment.dta Livestock.dta Otherinc.dta Selfemp.dta Transfers.dta	Income.dta	

Table 2

<i>Malawi 2011</i>	10,038 Rural HH Observations	Rural, Weighted, Shillings						Rural, Weighted, USD	
<i>Variable</i>		<i># Participants</i>	<i>Participation Rate</i>	<i>Returns to Participation- Participant HHs</i>	<i>Returns to Participation- All HHs</i>	<i>Share of Total Income- All HHs (Mean of Shares)</i>	<i>Share of Total Income- All HHs (Share of Means)</i>	<i>Returns to Participation- Participant HHs</i>	<i>Returns to Participation- All HHs</i>
agr_wge	Wage Employment- Agriculture	4,995	48.9%	20,959	10,241	21.79%	15.12%	134	65
nonagr_wge	Wage Employment- Nonfarm	1,331	13.3%	135,219	18,031	9.74%	26.63%	864	115
crop1	Crop Production	9,088	92.1%	33,910	12,182	35.34%	17.99%	217	78
livestock	Livestock Production	5,102	48.4%	33,948	16,417	13.44%	24.25%	217	105
selfemp	Non-ag Self Employment	1,676	16.3%	43,400	7,091	8.40%	10.47%	277	45
transfer	Total Transfers	6,648	66.3%	4,244	2,815	10.54%	4.16%	27	18
other	Other Income Sources	263	2.8%	33,302	934	0.75%	1.38%	213	6.0
totincome1	Total Household Income-crop1	9775	99.4%	68,109	67,712	100%	100%	435	433

<i>Percent Rural (Weighted)</i>	84%
<i>Shillings/USD (2011)</i>	156.50

1. Source data: 2010/2011 UNHS
2. Exchange rate is World Development Indicators
3. Crop1 own consumption is calculated from the "Agricultural production" module of the household questionnaire.
4. All values reported are annual and net of costs (with the exception of income from transfers and land rent, which are gross receipts).

Table 3

<i>Variable</i>	10,038 Rural HH Observations	Rural, Weighted, Shillings					Rural, Weighted, USD		
		<i># Participants</i>	<i>Participation Rate</i>	<i>Returns to Participation- Participant HHs</i>	<i>Returns to Participation- All HHs</i>	<i>Share of Total Income- All HHs (Mean of Shares)</i>	<i>Share of Total Income- All HHs (Share of Means)</i>	<i>Returns to Participation- Participant HHs</i>	<i>Returns to Participation- All HHs</i>
agr_wge	Wage Employment- Agriculture	4,995	48.9%	20,959	10,241	17.58%	11.75%	134	65
nonagr_wge	Wage Employment- Nonfarm	1,331	13.3%	135,219	18,031	8.64%	20.69%	864	115
crop2	Crop Production	9,088	92.1%	33,910	31,613	49.18%	36.28%	217	202
livestock	Livestock Production	5,102	48.4%	33,948	16,417	9.42%	18.84%	217	105
selfemp	Non-ag Self Employment	1,676	16.3%	43,400	7,091	6.81%	8.14%	277	45
transfer	Total Transfers	6,648	66.3%	4,244	2,815	7.78%	3.23%	27	18
other	Other Income Sources	263	2.8%	33,302	934	0.59%	1.07%	213	6.0
totincome2	Total Household Income-crop2	9,780	99.5%	87,587	87,142	100%	100%	560	557

<i>Percent Rural (Weighted)</i>	84%
<i>Shillings/USD (2011)</i>	156.50

1. Source data: 2010/2011 UNHS
2. Exchange rate is World Development Indicators
3. Crop2 own consumption is calculated from the "Food expenditure" module of the household questionnaire.
4. All values reported are annual and net of costs (with the exception of income from transfers and land rent, which are gross receipts).