Components of Income Aggregate:

"Integrated Household Survey, Malawi 2004[1]"

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

of the Agricultural Development Economics Division,

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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-2) survey was carried out for twelve months from March 2004 through to March 2005[3]. The sample for IHS-2 was drawn using a two-stage stratified sampling procedure from a sample frame using the 1998 Population Census enumeration areas (EAs) and is nationally representative.

The total sample was 11,280 households (564 Enumeration Areas (EAs) x 20 households). An average household size in Malawi is 4.3 persons (Source: The National Statistical Office of Malawi website, September 2005). All money amounts are in Malawi Kwacha (MK). In 2004, the official exchange rate[4] was MK 108.9 = \$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-2 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 hhid and psu (enumeration area number) were used to create a unique household identifier "HH" (HH = PSU * 10000 + HHID) which assigns a unique number to each household and allows merging at the household level, as well as comparison across different surveys.

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[1] The information provided in this document relies substantially upon the Data User's Guide, provided with the 2004 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 the 2004 Malawi IHS
[4] 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 9,840 rural household and 1,440 urban households in the dataset.
In the do files, "reside" is renamed to "URBAN" in order to use the same variable name 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.[5]

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-2 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.

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[5] Malawi IHS-2 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 this criteria, 92 households are dropped from this survey.
- 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. Thus, drop if B07 >6 & B04 !=1
- 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	Foodown.dta Food.dta	foodpurchimp foodownimp foodnonpurchimp
Rentagric.do	sec_n.dta sec_o.dta sec_r.dta Filters.dta sample.dta agrrentexp1.dta	**Rentagric.dta** agrrentexp1.dta agrrentexp2.dta Rentagricnet.dta	**farmrntincimp** farmrntexp1imp shrcropexp1imp farmrntexp2imp shrcropexp2imp farmrntimp

	agrrentexp2.dta Rentagric.dta		
Cropincome1	sec_o.dta	cropexp1.dta	seedexp1imp fertexp1imp laborexp1imp
	sec_r.dta	cropexp2.dta	seedexp2imp fertexp2imp laborexp2imp
		cropexp.dta	cropexpimp
Cropincome2	sec_p.dta	cropinc1.dta	crop1imp owncons1imp labor1imp stored1imp
	sec_s.dta	cropinc2.dta	crop2imp owncons2imp labor2imp stored2imp
	sec_q1.dta	cropinc3.dta	cropinc3imp
Cropincome3	sec_t.dta	cropinc4.dta	cropinc4imp owncons4imp
	cropinc1.dta cropinc2.dta cropinc3.dta cropinc4.dta	cropinc.dta	cropincimp cropinputimp cropownimp
	Food.dta agrrentexp1.dta agrrentexp2.dta sample.dta Filters.dta	**Cropincome.dta**	**cropincomeimp1 cropincomeimp2**
Employment	sec_e.dta sample.dta	employ1.dta employ2.dta **Employment.dta**	wge (by industry, skilled) wgem **wgeimp**
Livestock1.do	sec_u.dta sample.dta	livstbought.dta livstotherexp.dta	livstboughtimp livstotherexpimp
Livestock2.do	sec_u.dta sample.dta Food.dta livstbought.dta livstotherexp.dta livstinc.dta livstbypr.dta	livstinc.dta livstbypr.dta **Livestock.dta**	livstsoldimp livstbyprimp **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 transfsocial.dta pensions.dta	transferprivout.dta transferprivinc.dta transfsocial.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

Malawi 2004	9,802 Rural HH Observations	Rural, Weighted, Kwacha					Rural, Weighted, USD		
Variable		# Participants	Participation Rate	Returns to Participation- Participant HHs	Returns to Participation- All HHs	Share of Total Income- All HHs (Mean of Shares)	Share of Total Income- All HHs (Share of Means)	Returns to Participation- Participant HHs	Returns to Participation- All HHs
agr_wge	Wage Employment- Agriculture	5,286	54.83%	6,077	3,332	20.33%	15.71%	55.81	30.60
nonagr_wge	Wage Employment- Nonfarm	1,609	16.03%	32,344	5,184	9.41%	24.44%	297.01	47.60
crop1	Crop Production	8,129	83.19%	3,654	3,040	17.49%	14.33%	33.56	27.92
livestock	Livestock Production	6,515	65.34%	6,079	3,972	26.20%	18.73%	55.82	36.48
selfemp	Non-ag Self Employment	2,915	29.84%	13,993	4,175	15.04%	19.68%	128.50	38.34
transfer	Total Transfers	8,756	88.94%	1,548	1,377	11.10%	6.49%	14.22	12.64
other	Other Income Sources	660	6.64%	2,001	133	0.44%	0.63%	18.38	1.22
totincome1	Total Household Income	9,761	99.66%	21,286	21,213	100.00%	100.00%	195.46	194.79

Percent Rural (Weighted)	88.06%
MK/USD (2004)	108.90

Notes:
1. Source data: 2004 Integrated Household Survey (HIS)
2. Exchange rate used comes from the World Bank *World Development Indicators* database.

3. The variable "crop1" is distinguished from "crop2" in the way home consumption of own production of crops (owncons) is calculated. In crop1, owncons is the amount reported in the crop section of the questionaire. For crop2, owncons is calculated from the "Consumption of Own Produce" section of the household questionnaire. Total household income "totincome1" and "totincome2" are therefore calculated with the corresponding crop income variable.
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

Malawi 2004	9,802 Rural HH Observations			Rural, Weighted, Kwacha					Rural, Weighted, USD	
Variable		# Participants	Participation Rate	Returns to Participation- Participant HHs	Returns to Participation- All HHs	Share of Total Income- All HHs (Mean of Shares)	Share of Total Income- All HHs (Share of Means)		Returns to Participation- Participant HHs	Returns to Participation- All HHs
agr_wge	Wage Employment- Agriculture	5,286	54.83%	6,077	3,332	11.45%	8.47%		56	31
nonagr_wge	Wage Employment- Nonfarm	1,609	16.03%	32,344	5,184	7.38%	13.17%		297	48
crop2	Crop Production	9,435	96.30%		21,956	56.10%	55.80%		0	202
livestock	Livestock Production	6,515	65.34%	6,079	3,972	9.42%	10.10%		56	36
selfemp	Non-ag Self Employment	2,915	29.84%	13,993	4,175	8.69%	10.61%		128	38
transfer	Total Transfers	8,756	88.94%	1,548	1,377	6.62%	3.50%		14	13
other	Other Income Sources	660	6.64%	2,001	133	0.34%	0.34%		18	1
totincome2	Total Household Income	9,788	99.92%		39,348	100.00%	101.99%		0	361

Percent Rural (Weighted)	88.06%
MK/USD (2004)	108.90

Notes:

1. Source data: 2004 Integrated Household Survey (HIS)

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

3. The variable "crop1" is distinguished from "crop2" in the way home consumption of own production of crops (owncons) is calculated. In crop1, owncons is the amount reported in the crop section of the questionaire. For crop2, owncons is calculated from the "Consumption of Own Produce" section of the household questionnaire. Total household income "totincome1" and "totincome2" are therefore calculated with the corresponding crop income variable.

4. All values reported are annual and net of costs (with the exception of income from transfers and land rent, which are gross receipts).