



**Malawi**

## **Integrated Household Panel Survey (IHPS) 2013**

### **Basic Information Document**

September 2014

National Statistical Office,  
P.O Box 333  
Zomba  
Malawi  
[www.nso.malawi.net](http://www.nso.malawi.net)

## ACRONYMS

ADMARC	Agricultural Development and Marketing Corporation
AISS	Agricultural Input Subsidy Survey
CAFE	Computer Assisted Field Entry
DFID	Department for International Development
EA	Enumeration Area
FAO	Food and Agriculture Organization of the United Nations
GTZ	German Development Corporation
IHS1	First Integrated Household Survey 1997-1998
IHS2	Second Integrated Household Survey 2004-2005
IHS3	Third Integrated Household Survey 2010-2011
IHPS	Integrated Household Panel Survey 2013
LSMS	Living Standards Measurement Study
LSMS-ISA	LSMS–Integrated Surveys on Agriculture
MCC	Millennium Challenge Corporation
MGDS	Malawi Growth and Development Strategy
MDG	Millennium Development Goal
NACAL	National Census of Agriculture and Livestock
NSO	National Statistics Office of Malawi
WFP	World Food Programme
WB	World Bank

# TABLE OF CONTENTS

1.0 OVERVIEW	5
2.0 FIELDWORK ORGANIZATION	7
3.0 QUESTIONNAIRE DESIGN	9
3.01 HOUSEHOLD QUESTIONNAIRE .....	9
3.02 AGRICULTURE QUESTIONNAIRE .....	12
3.03 FISHERY QUESTIONNAIRE .....	16
3.04 COMMUNITY QUESTIONNAIRE .....	17
4.0 ORGANIZATION OF THE SURVEY	19
4.01 SURVEY MANAGEMENT .....	19
4.02 FIELD STAFF TRAINING .....	19
4.03 FIELD TEAMS .....	20
4.03.1 FIELD SUPERVISORS .....	21
4.03.2 ENUMERATORS .....	21
4.03.3 DATA ENTRY CLERKS .....	21
4.04 FIELDWORK MONITORING AND EVALUATION .....	22
5.0 DATA ENTRY AND DATA MANAGEMENT	22
5.01 FIELD BASED DATA ENTRY & CAFE .....	22
5.02 DOUBLE DATA ENTRY .....	22
5.03 DATA MANAGEMENT .....	23
5.04 DATA CLEANING .....	23
6.0 USING THE IHPS DATA	24
6.01 FILE STRUCTURE .....	24
6.02 HOUSEHOLD LEVEL INSTRUMENTS .....	25
6.03 COMMUNITY LEVEL INSTRUMENTS .....	25
6.04 UPDATES TO THE IHS3 PANEL SUBSAMPLE DATA .....	25
6.05 LINKING IHS3 & IHPS DATABASES .....	26
6.06 IHPS LOCATION INFORMATION .....	27

6.07 HOUSEHOLD ROSTER STRUCTURE.....	28
6.08 CONFIDENTIAL INFORMATION, GEOSPATIAL VARIABLES.....	28
7.0 WEIGHTING	29
8.0 REFERENCES	33
ANNEX 1: CODES NOT INCLUDED IN THE QUESTIONNAIRE	33
DISTRICT CODES AND COUNTRY CODES.....	34
OCCUPATION CODES .....	35
INDUSTRY CODES .....	38

## LIST OF TABLES

Table 1: Split Off Tracking & Household Sample Growth from 2010 to 2013.....	6
Table 2: IHPS 2013 Household Sample Spatial Distribution .....	7
Table 3: Timing of IHPS Questionnaire Instruments .....	9
Table 4: Contents of the IHPS Household Questionnaire .....	10
Table 5: Timing of IHS3 Agriculture Questionnaire Modules .....	13
Table 6: Contents of the IHS3 Agriculture Questionnaire.....	14
Table 7: Contents of the IHS3 Fishery Questionnaire.....	17
Table 8: Contents of the IHS3 Community Questionnaire.....	18
Table 9: Structure of the IHS3 Household Database.....	29
Table 10: Structure of the IHS3 Agriculture Database .....	30
Table 11: Structure of the IHS3 Fishery Database .....	32
Table 12: Structure of the IHS3 Community Database .....	33

## LIST OF FIGURES

Figure 1: Composition of IHPS Management Team.....	19
--	----

## 1.0 OVERVIEW

The Integrated Household Survey (IHS) is one of the primary instruments implemented by the Government of Malawi through the National Statistical Office (NSO; [www.nso.malawi.net](http://www.nso.malawi.net)) roughly every 5 years to monitor and evaluate the changing conditions of Malawian households. The IHS data have, among other insights, provided benchmark poverty and vulnerability indicators to foster evidence-based policy formulation and monitor the progress of meeting the Millennium Development Goals (MDGs) as well as the goals listed as part of the Malawi Growth and Development Strategy (MGDS).

The First Integrated Household Survey (IHS1) was implemented with technical assistance from the International Food Policy Research Institute (IFPRI) and the World Bank (WB). The IHS1 was conducted in Malawi from November 1997 through October 1998 and provided for a broad set of applications on policy issues regarding households' behavior and welfare, distribution of income, employment, health and education. The Second Integrated Household Survey (IHS2; <http://go.worldbank.org/JABABM36V0>) was implemented with technical assistance from the World Bank in order to compare the current situation with the situation in 1997-98, and to collect more detailed information in specific areas. The IHS2 fieldwork took place from March 2004 through February 2005.

The **Third Integrated Household Survey (IHS3)** expanded on the agricultural content of the IHS2 and was implemented from March 2010 to March 2011 under the umbrella of the World Bank Living Standards Measurement Study – Integrated Surveys on Agriculture (LSMS-ISA) initiative, whose primary objective is to provide financial and technical support to governments in sub-Saharan Africa in the design and implementation of nationally-representative multi-topic panel household surveys with a strong focus on agriculture.<sup>1</sup>

A sub-sample of IHS3 sample enumeration areas (EAs) (**i.e. 204 EAs out of 768 EAs**) was selected prior to the start of the IHS3 field work with the intention to (i) to track and resurvey these households in 2013 in accordance with the IHS3 fieldwork timeline and as part of the **Integrated Household Panel Survey (IHPS)** and (ii) visit a total of 3,246 households in these EAs twice to reduce recall associated with different aspects of agricultural data collection..<sup>2</sup> The LSMS-ISA initiative provided technical and financial assistance to the design and implementation of the IHPS, alongside DFID, Norway and Government of Malawi funding for the exercise. The IHPS main fieldwork took place during the period of April-October 2013, with residual tracking operations in November-December 2013.

At baseline, the IHPS sample was selected to be representative at the national-, regional-, urban/rural levels and for each of the following 6 strata: (i) Northern Region – Rural, (ii) Northern Region – Urban, (iii) Central Region – Rural, (iv) Central Region – Urban, (v) Southern Region – Rural, and (vi) Southern Region – Urban. The IHPS attempted to track all baseline households as well as individuals that moved away from the baseline dwellings

---

<sup>1</sup> For more information on the LSMS-ISA initiative, please visit [www.worldbank.org/lms-isa](http://www.worldbank.org/lms-isa). The financial support to the IHS3 was provided by Government of Malawi (GoM), WB LSMS-ISA project, Norway, Department for International Development (DFID), Irish Aid, Millennium Challenge Corporation (MCC), and German Development Corporation (GTZ).

<sup>2</sup> The IHPS sample does NOT have any links to the IHS2 sample. The IHPS serves as a baseline ONLY for the panel subsample. See the IHS3 basic information document for details on the sub-sampling and original spatial distribution of the panel EAs.

between 2010 and 2013 as long as they were neither servants nor guests at the time of the IHS3; were projected to be at least 12 years of age and were known to be residing in mainland Malawi but excluding those in Likoma Island and in institutions, including prisons, police compounds, and army barracks.

Once a split-off individual was located, the new household that he/she formed/joined since 2010 was also brought into the IHPS sample. In view of the tracking rules, the final IHPS sample, therefore, includes **a total of 4,000 households that could be traced back to 3,104 baseline households**. Table 1 provides an overview of the split off tracking and household sample growth from 2010 to 2013. We note that an overwhelming majority (76.80 percent) of the 3,104 baseline households did not split over time; 18.49 percent split into 2 households, and the remaining 4.70 percent split into 3 or more households. Considering the baseline sample of 3,246 households, 20 baseline households that died in their entirety between 2010 and 2013 and the fact that 4,000 IHPS households could be traced back to 3,104 baseline households, the IHPS has an **overall attrition rate of 3.78 percent at the household level**.

**Table 1: Split Off Tracking & Household Sample Growth from 2010 to 2013**

<i>Distribution of Baseline Households By # of Splits Between 2010 &amp; 2013</i>	<i>Observation</i>	<i>Percent</i>	<i>Contribution to IHPS 2013 Sample</i>
0	2,384	76.8	2,384 [2384*(1+0)]
1	574	18.49	1,148 [574*(1+1)]
2	123	3.96	369 [123*(1+2)]
3	17	0.55	68 [17*(1+3)]
4	5	0.16	25 [5*(1+4)]
5	1	0.03	6 [1*(1+5)]
TOTAL	3,104	100	4,000

At the individual level, the calculation of the attrition rate is as follows. 3,246 baseline households contained 15,597 individuals in 2010, of whom 296 died between 2010 and 2013. Out of the remaining 15,301 individuals and irrespective of the tracking rules that were in place, the IHPS accounted for 14,165 baseline individuals, representing an **overall attrition rate of only 7.42 percent at the individual level**. If one focuses only the individuals that were tracking-eligible in accordance with the aforementioned tracking rules and that were alive in 2013, the IHPS accounted for 9,866 individuals out of 10,540 tracking-eligible individuals, representing an attrition rate of only 6.39 percent at the individual level.

Table 2 gives an overview of the spatial distribution of the IHPS sample. 66.5 percent of the 4,000 household sample was located within 1 kilometer of the baseline household location, where the distance measure is based on the baseline and follow up global positioning system (GPS) based dwelling locations. 16.1 percent was located between 1 to 10 kilometers from the baseline location and the remaining 17.5 percent was tracked in 2013 at a location that

was greater than 10 kilometers from the baseline location. 83.1 percent of the IHPS 2013 sample were residing in rural areas, and 46.3 percent, 45.1 percent and 8.7 percent were residing in the Southern, Central, and Northern region, respectively.

**Table 2: IHPS 2013 Household Sample Spatial Distribution**

<b>Total Household Sample</b>	<b>4,000</b>
Household Distribution in terms of Distance from 2010	
Location	
0-1 km	66.50%
1-10 km	16.05%
10+ km	17.45%
<b>Rural/Urban Location - 2013</b>	
Urban	16.9%
Rural	83.1%
<b>Regional Location - 2013</b>	
North	8.7%
Center	45.1%
South	46.3%
<b>RegionalXUrban/Rural - 2013</b>	
North Urban	1.4%
North Rural	7.3%
Center Urban	8.0%
Center Rural	37.0%
South Urban	7.5%
South Rural	38.8%

## 2.0 FIELDWORK ORGANIZATION

The IHPS consisted of four questionnaire instruments, near-identical to the IHS3 counterparts, namely the household questionnaire, the agriculture questionnaire, the fishery questionnaire and the community questionnaire. While the details on the structure and scope of the questionnaire instruments are provided in Section 3, they are briefly mentioned here since they are relevant for understanding the fieldwork organization. As noted above, the IHPS fieldwork spanned the period of April-October 2013, with residual tracking operations targeted at hard-to-track cases in November-December 2013. To collect more accurate information on each of the two agricultural seasons in the country, attempts were made to visit the panel households twice over the course of the IHPS fieldwork. **The timing of these visits attempted to mirror the baseline visit schedule as much as possible.**<sup>3</sup>

Visit 1 was in the first half of the field work, corresponding to the post-planting period with respect to the 2012/2013 rainy season<sup>4</sup>. In this visit, the farming households reported

<sup>3</sup> Dates of interview for each visit in the IHS3 and the IHPS data could be consulted to get a sense of the extent to which the IHPS survey teams attempted to stick to the original interview timeline in the face of complex tracking dynamics that are not encountered in cross-sectional survey efforts.

<sup>4</sup> Rainy agricultural season covers two calendar years. The start and end dates for the rains vary spatially, happening throughout the period of November-April. By definition, agricultural season is inclusive of harvest; as such rainy agricultural season generally refers to the period of November-May for majority of the country, although earlier/late harvests are possible, depending on the type of crop, rainfall and other location-specific agronomic and climatic conditions.

information on 2012/13 rainy season pre-harvest related matters, including land area, cultivation and input use. Visit 2 was fielded in the second half of the field work, approximately 3 months after Visit 1, in the post-harvest period with the respect to the 2012/13 rainy season. In this visit, farming households reported (i) information on 2012/13 rainy season production and post-harvest related matters, and (ii) complete information on the 2013 dry season.

In order to collect consumption data in an evenly spread manner across the 6-month period and to spread the workload across two visits, it was decided **at baseline** that when the panel households were visited for the first time, approximately half of them (Panel Group A) would receive the household questionnaire in full, and if applicable, the Visit 1 components of the agriculture questionnaire and the fishery questionnaire. The rest of the panel subsample (Panel Group B) were supposed to be administered only the household roster, the filter module for the agriculture questionnaire, and the Visit 1 components of the agriculture questionnaire, if applicable, when they were visited for the first time. During the second visit period, Panel Group B were supposed to be administered the remaining parts of the household questionnaire, and the Visit 2 components of the agriculture questionnaire and the fishery questionnaire, if applicable, while Panel Group A would only receive a household roster update and the Visit 2 components of the agriculture questionnaire, if applicable. Table 3 summarizes the timing of the questionnaire instruments across different panel subsamples.

All IHPS households retained the Panel A vs. B status of their associated baseline household during the 2013 fieldwork. The IHPS fieldwork schedule followed the IHS3 schedule as much as possible so that the timing of the two visits could be in line with that of the 2010 fieldwork. However, complex tracking dynamics sometimes meant that not all households were subject to the two-visit approach. Specifically, 91.68 percent of the IHPS sample were visited twice in 2013 in accordance with the original plan. The rest were visited once, mostly in the second half of the fieldwork, with the entire set of questionnaire instruments administered in one sitting. The ancillary variable **interview\_status** in the data file HH\_MOD\_A\_FILT that is part of the IHPS 2013 household data provides an overview of these dynamics (see below).



**Table 3: Timing of IHPS Questionnaire Instruments**

	<b>Panel Group A Sample</b>	<b>Panel Group B Sample</b>
<b>VISIT 1 Questionnaires</b>	1. Household Questionnaire <i>“Full”</i> 2. <i>Agriculture Questionnaire Visit 1 Portion</i> 3. Fishery Questionnaire 4. Community Questionnaire	1. Household Roster, Filter Module 2. <i>Agriculture Questionnaire Visit 1 Portion</i>
<b>VISIT 2 Questionnaires</b>	1. Household Roster Update  2. <i>Agriculture Questionnaire Visit 2 Portion</i>	1. Household Questionnaire <i>“Full”</i> 2. <i>Agriculture Questionnaire Visit 2 Portion</i> 3. Fishery Questionnaire 4. Community Questionnaire

### 3.0 QUESTIONNAIRE DESIGN

As noted above, the IHPS consists of four questionnaire instruments; the household questionnaire, the agriculture questionnaire, the fishery questionnaire, and the community questionnaire. **These instruments are primarily modeled after the IHS3 with some modules and content altered, dropped or added. The modules and questions that are added in 2013 are identified primarily by an underscore “\_” in the questionnaire instruments.**

#### 3.01 HOUSEHOLD QUESTIONNAIRE

The Household Questionnaire is a multi-topic survey instrument and is near-identical to the content and organization of the IHS3. It encompasses economic activities, demographics, welfare and other sectoral information of households. It covers a wide range of topics, dealing with the dynamics of poverty (consumption, cash and non-cash income, savings, assets, food security, health and education, vulnerability and social protection). Although the IHPS household questionnaire covers a wide variety of topics in detail it intentionally excludes in-depth information on topics covered in other surveys that are part of the NSO’s statistical plan (such as maternal and child health issues covered at length in the Malawi Demographic and Health Survey).

Table 4 presents a list and description of the IHPS Household Questionnaire modules. The modules were developed in extensive consultations with a wide set of stakeholders, including the World Bank LSMS Team, Statistics Norway, the UK Department for International Development (DFID), the Food and Agriculture Organization of the United Nations (FAO), the World Food Programme (WFP), the Millennium Challenge Corporation – Malawi

Account (MCC-MA), the Department of Forestry, the Department of National Accounts, and the World Fish Center (WFC).

**Table 4: Contents of the IHPS Household Questionnaire**

<b>Module</b>	<b>Description</b>
Module A:	This module contains essential baseline attributes for linkages to the IHS3 data (see Section 6); the sampling weights at baseline and in 2013 (see Section 7); baseline and 2013 locational identifiers; ancillary variables that are made available to better understand the extent to which the two-visit approach was successful and the distance covered with respect to the baseline dwelling location to interview a given household; dates and timing of visits to sample households; codes for enumerators, supervisors, first and second data entry clerks; dates of processing; and filters for subsequent household questionnaire modules.
Module B: Household Roster	This module contains the roster of individuals living in the household, their gender, age, relationship to the household head, duration away from the household in past 12 months, number of days meals were taken in the household, where born, how long in this community, and information on the location and level of education of parents of every member, including ID's if in the household. For members over 12, information on religious affiliation, marital status and location of spouses is collected and identifies the ID of the spouse/s of a household member. See Section 6 for instructions for matching individuals between 2010 and 2013 datasets.
Module C: Education	The education module is asked of all individuals over 5 years in age and collects information on self-reported reading and writing ability, school attendance, highest class attended and highest qualification achieved, year and age of beginning school. If the individual is presently attending school, information on the type of school, distance, and costs are collected.
Module D: Health	The health module is administered to all individuals and collects information on: Illness or injury in the past 2 weeks, diagnosis source, and action taken, and disruption to normal activity; Health spending over the past 4 weeks; Hospitalization or stay in a traditional healer's in the last 12 months. Information on chronic illness and diagnosis source. For women aged 12 to 49 years of age information on births in the last 24 months, prenatal health clinic visits and where the baby was born and who assisted at birth for last-born child is collected.
Module E: Time Use and Labour	The module is administered to all individuals 5 years or older. This module collects information on hours spent yesterday collecting water and wood; hours spent in the last 7 days spent on agriculture and non-agriculture activities; type of primary and secondary work, employers and wages over the last 12 months; participation in unpaid apprenticeships, casual (ganyu) labour, and other unpaid labour over the last 12 months.
Module F: Housing	This module on housing is administered to the household head. It collects information on the characteristics of the dwelling, household fuel use, availability of electricity, telephone and water, toilet and rubbish facilities, and mosquito net use.

Module G: Consumption of food Over past one week	This module collects information on all food consumed by the household in the past 7 days: in total and then classified as purchased (with price), own-production, or gift and other sources. Additionally, this module collects information on number of days aggregated food categories were consumed by the household and number of days and meals taken in the household by children and adults.
Module H: Food Security	This module collects information on number of meals taken by adults and children in the household and restricting food intake in the past 7 days.
Module I: Non-food Expenditures	This module collects expenditures on non-food items over the past week and the past 1 month.
Module J: Non-Food Expenditures (3 months)	This module collects expenditures on non-food items over the past 3 months.
Module K: Non-Food Expenditures (12 months)	This module collects expenditures on non-food items over the past 12 month.
Module L: Durable Goods	This module collects information on ownership, quantity owned, age of items, and current preserved market value.
Module M: Farm Implements, Machinery and Structures	This module collects information on household ownership, quantity owned, item purchases in last 12 months, use, and items rental and rental cost, for farm implements and structures.
Module N: Household Enterprises	This module collects information on non-agricultural household enterprises or trading business, specifically who manages/owns the enterprise, employees, enterprise operation periods, start-up capital and source, customers, business trends, sales revenue, expenditures, and profits.
Module O: Children Living Elsewhere	This module collects information on the age, sex, education, length away from household, current locations, activity status and occupation of children living outside the household. Additional information is collected on remittances to the household from children living outside the household.
Module P: Other Income	This module collects information on household income from interest, pensions, rentals, or other income over the past 12 months.
Module Q: Gifts Given Out	This module collects information on cash, food, or other in-kind items given by the household, in the past 12 months.
Module R: Social Safety Nets	This module collects information on receipts and value of social safety nets including, cash, food, or other aid from programs. Additionally this module collects information on household member recipients of the aid, decision making for aid received, and number of months aid was received.
Module S: Credit	This module collects information on household credit, specifically where the credit was acquired, who is responsible for the loan, reason credit was obtained, how much was borrowed, timing of loan, and expected pay-off. Additionally this module collect information on attempted credit and reasons for being turned down.

Module T: Subjective Assessment of Well-being	This module collects information on the respondent's assessment of his/her family's situation regarding food consumption, housing, clothing, health care, financial level, and income level. Additionally this module asks the head of household about the number of changes of clothes owned, and bedding type.
Module U: Shocks & Coping Strategies	This module collects information on shocks on the household in the past 12 months such as crop disease, theft of livestock, death of family members. Respondents are asked to rank the 3 most severe shocks and report on the impact of the shock on income, assets, food production, food stocks and food purchases as well as what was done by the household in response to the shock.
Module V: Child Anthropometry	This module collects weight and height/length measurements as well as observed oedema for children of age 6-59 months. Additionally, this module collects information on child participation in nutrition programs and under five clinics.
Module X: Filter Questions for Agriculture & Fishery	This module contains filter questions on the presence of agricultural, livestock and or fisheries in the household.

### 3.02 AGRICULTURE QUESTIONNAIRE

All IHPS households that are identified as being involved in agricultural or livestock activities were administered the agriculture questionnaire, which is primarily modelled after the IHS3 counterpart. The modules are expanding on the agricultural content of the IHS3, IHS2, AISS, and other regional agricultural surveys, while remaining consistent with the NACAL topical coverage and methodology. The development of the agriculture questionnaire was done with input from the aforementioned stakeholders who provided input on the household questionnaire as well as outside researchers involved in research and policy discussions pertaining to the Malawian agriculture. The agriculture questionnaire allows, among other things, for extensive agricultural productivity analysis through the diligent estimation of land areas, both owned and cultivated, labor and non-labor input use and expenditures, and production figures for main crops, and livestock. Although one of the major foci of the agriculture data collection effort was to produce smallholder production estimates for major crops, it is also possible to disaggregate the data by gender and main geographical regions. Table 5 presents the list of the ideal timing of the IHPS agriculture questionnaire modules, identical to the IHS3 set-up. Table 6 includes the descriptions of the modules. As previously stated, the IHPS agricultural households supply information on the 2012/13 rainy season and 2013 dry season, with the exception of a single short module on the 2011/12 rainy season.

**Table 5: Timing of IHPS Agriculture Questionnaire Modules**

Module	Visit		Module	Visit	
	1	2		1	2
B. 2011/2012 (Rainy Season)	X		N. Seeds (Dry Season)		X
B_1. Garden Roster (Rainy Season)	X		O. Sales/Storage (Dry Season)		X
C. Plot Roster (Rainy Season)	X		O_1. Garden Roster Tree Crop Production		X
D. Plot Details (Rainy Season)	/	/	O_2. Plot Roster Tree Crop Production		X
E. Coupon Use (Rainy Season)	X		P. Tree/Permanent Tree Crop Production (Last 12 Mon.)		X
F. Other Inputs (Rainy Season)	X		Q. Tree/Permanent Tree Crop Sales/Storage (Last 12 Mon.)		X
G. Crops (Rainy Season)	/	/	R. Livestock		X
H. Seeds (Rainy Season)	X		S. Livestock Products		X
I. Sales/Storage (Rainy Season)		X	T. Access to Extension Services		X
I_1. Garden Roster (Dry Season)		X	U_1. Attitudes 1		X
J. Plot Roster (Dry Season)		X	U_2. Test 1		X
K. Plot Details (Dry Season)		X	U_3. Attitudes 2		X
L. Other Inputs (Dry Season)		X	U_4. Test 2		X
M. Crops (Dry Season)		X	Network Roster	X	X

\* Modules with “/” marked in both visits include some questions asked in Visit 2, though the majority of the module was administered in Visit 1.

**Table 6: Contents of the IHPS Agriculture Questionnaire**

<b>Module</b>	<b>Description</b>
Module B: 2011/2012 (Rainy Season)	This module is administered to collect information on any crops planted during the 2011/2012 rainy season and gathers details on the area of plantation, pre-harvest losses, quantity and value of crops harvested/sold, alternative uses and storage practices. The inclusion of the module is driven by the need to more accurately gauge the extent of post-harvest losses pertaining to the 2011/12 rainy season. Households otherwise report information on the 20012/13 rainy season for the remainder of the questionnaire.
Module B_1: Garden Roster (Rainy Season)	This module is <b>new</b> with respect to the IHS3, and collects basic information on gardens (munda) owned and/or cultivated by household members during the reference rainy season, specifically the area and GPS coordinates of each garden. <b>It was added in 2013 to better understand the organization of plots within gardens.</b>
Module C: Plot Roster (Rainy Season)	This module contains the information of agriculture plots owned and/or cultivated by household members during the reference rainy season. More specifically, it reports the location and description and area of the plot.
Module D: Plot Details (Rainy Season)	This module collects detailed plot information (ownership status of the land, agricultural practices and plot characteristics, use of organic and inorganic fertilizers, use of pesticides/herbicides, and labor inputs) for the reference rainy season.
Module E: Coupon Use (Rainy Season)	This module collects information about quantity/type of input coupons/vouchers and how they were obtained and used during the reference rainy season.
Module F: Other Inputs (Rainy Season)	This module collects information about the inputs used for cultivation and their costs, specifically pesticides and herbicides, during the reference rainy season. It elicits information on the main sources of the input purchased without coupons/vouchers, any input received for free, any input that was left over from a previous season and own-produced organic fertilizer.
Module G: Crops (Rainy Season)	This module collects information about the crops grown by the household on each plot during the reference rainy season such as the type of crop stand, area of plantation, the amount of seed used and when it was planted, and the details of the harvest.
Module H: Seeds (Rainy Season)	This module collects information about seeds and how they were acquired during the rainy season. More specifically, it elicits information on the main sources of the seed purchased without coupons/vouchers, any seed received for free, and any seed that was left over from a previous season.
Module I: Sales/Storage (Rainy Season)	This module collects information on the quantity and value of crops sold, the main buyers/outlet, alternative uses, post-harvest losses and storage during the reference rainy season.

Module I_1: Garden Roster (Dry Season)	This module is <b>new</b> with respect to the IHS3, and collects basic information on gardens (munda) owned and/or cultivated by household members during the reference dry (dimba) season, specifically the area and GPS coordinates of each garden. <b>It was added in 2013 to better understand the organization of plots within gardens.</b>
Module J: Plot Roster (Dry Season)	This module contains the information of agriculture plots owned and/or cultivated by household members during the reference dry (dimba) season. More specifically, it reports the location and description and area of the plot.
Module K: Plot Details (Dry Season)	This module collects detailed plot information (ownership status of the land, agricultural practices and plot characteristics, use of organic and inorganic fertilizers, use of pesticides/herbicides, and labor inputs) for the reference dry (dimba) season.
Module L: Other Inputs (Dry Season)	This module collects information about the inputs used for cultivation and their costs, specifically pesticides and herbicides, during the reference dry (dimba) season. More specifically, it elicits information on the main sources of the input purchased without coupons/vouchers, any input received for free, any input that was left over from a previous season and own-produced organic fertilizer.
Module M: Crops (Dry Season)	This module collects information about the crops grown by the household on each plot during the reference dry (dimba) such as the type of crop stand, area of plantation, the amount of seed used and when it was planted, and the details of the harvest.
Module N: Seeds (Dry Season)	This module collects information about seeds and how they were acquired during the reference dry (dimba) season. More specifically, it elicits information on the main sources of the seed purchased without coupons/vouchers, any seed received for free, and any seed that was left over from a previous season.
Module O: Sales Storage (Dry Season)	This module collects information on the quantity and value of crops sold, the main buyers/outlet, alternative uses, post-harvest losses and storage during the reference dry (dimba) season.
Module O_1: Garden Roster Tree Crop Production	This module is <b>new</b> with respect to the IHS3, and collects basic information on gardens (munda) owned and/or cultivated with tree crops by household members during the last 12 months, specifically the area and GPS coordinates of each garden. <b>It was added in 2013 to better understand the organization of plots within gardens.</b>
Module O_2: Plot Roster Tree Crop Production	This module is <b>new</b> with respect to the IHS3 and collects basic information on plots owned and/or cultivated with tree crops by household members during the last 12 months, specifically the area and GPS coordinates of each plot. <b>It was added in 2013 to improve on the unique identification of plots specifically used for tree/permanent crop cultivation.</b>
Module P: Tree / Permanent Crop Production (Last 12 Months)	This module collects information on crop-stand, area planted, number of trees owned, pre-harvest losses, and amount harvested.

Module Q: Tree/Permanent Crop Sales/Storage (Last 12 Months)	This module collects information on amount sold (value of sales) / given out / used as input for crop by-product / lost / currently in storage.
Module R: Livestock	This module collects information on number currently owned, owners and responsible individuals in the household, inflow/outflow of livestock through various means in the past twelve months, vaccinations, expenditures in the past twelve months on various items
Module S: Livestock Products	This module collects information on amount produced, sales and expenditures.
Module T: Access to Extension Services	This module collects information on where households receive advice/information on agriculture and how useful the source has been during the last 12 months.
Module U_1: Attitudes 1	Modules U_1 – U_4 are new and collect information from up to 2 rainy season plot managers identified in Agriculture Module D. U_1 collects information on the attitude of the primary plot manager towards 28 different statements. The respondents report whether they strongly agree, agree, neither agree or disagree, disagree or strongly disagree with the statements. The Chichewa translations were translated for this module so that the statements were the same across enumerators.
Module U_2: Arithmetic & Short Term Memory Test 1	Module U_2 is also asked of the primary plot manager. This module contains mental math problems and memory tests.
Module U_3: Attitudes 2	Module U_3 is identical to Module U_1 just that it is asked of the secondary plot manager identified in Module D.
Module U_4: Arithmetic & Short Term Memory Test 2	Module U_4 is identical to Module U_2 just that it is asked of the secondary plot manager identified in Module D.
Network Roster	This module collects information on the characteristics of the networks of households such as friends, relatives, employers, government agencies and private institutions.

### 3.03 FISHERY QUESTIONNAIRE

The IHPS fishery questionnaire has only a few minor changes from IHS3. The design of the IHS3 fishery questionnaire was informed by the design and piloting of a fishery questionnaire by the World Fish Center (WFC), which was supported by the LSMS-ISA project for the purpose of assembling a fishery questionnaire that could be integrated into multi-topic household-surveys. The WFC piloted the draft instrument in November 2009 in the Lower Shire region, and the NSO team considered the revised draft in designing the original IHS3 fishery questionnaire. Table 7 presents the list and description of the fishery questionnaire modules.



**Table 7: Contents of the IHPS Fishery Questionnaire**

<b>Module</b>	<b>Description</b>
Module B: Fisheries Calendar	This module asks the respondent to indicate the status of fishing months for the community as either “high”, “low”, or “no fishing” months.
Module C & G: Fisheries Labour (Last High Season) (Last Low Season)	This module elicits information on household member’s time allocation to fishing. Specifically, this module asks household members to record the number of weeks, days per week, and hours per day that they allocated to full-time fishing, part-time fishing, fish processing and or fish trading during the last high / low season respectively.
Module D & H: Fisheries Input (Last High Season) (Last Low Season)	This module collects information on inputs to fishing, including ownership, purchases, and rentals. Additionally, this module collects information on use of boats and engines, hired labor, and other inputs in high and low fishing season respectively.
Module E & I: Fisheries Output (Last High Season) (Last Low Season)	This module collects output from fishing activities and owned fishing equipment, including: total catch, sales, consumption, and revenue generated from renting fishing equipment out for high and low season respectively.
Module F & J: Fish Trading (Last High Season) (Last Low Season)	This module elicits information on purchases and sales associated with the household’s fish trading activities, high and low season respectively, for the 5 main species of fish.

### **3.04 COMMUNITY QUESTIONNAIRE**

The content of the IHPS Community Questionnaire follows the content of the IHS3 Community Questionnaire. At baseline, a “community” was defined as the village or urban location surrounding the enumeration area selected for inclusion in the sample and which most residents recognize as being their community. **The IHPS community questionnaire was administered in each of the 204 baseline EAs** and identical to the IHS3 approach, to a group of several knowledgeable residents such as the village headman, the headmaster of the local school, the agricultural field assistant, religious leaders, local merchants, health workers and long-term knowledgeable residents. The instrument gathers information on a range of community characteristics, including religious and ethnic background, physical infrastructure, access to public services, economic activities, communal resource management, organization and governance, investment projects, and local retail price information for essential goods and services. Table 8 presents the list and description of the community questionnaire modules.

**Table 8: Contents of the IHPS Community Questionnaire**

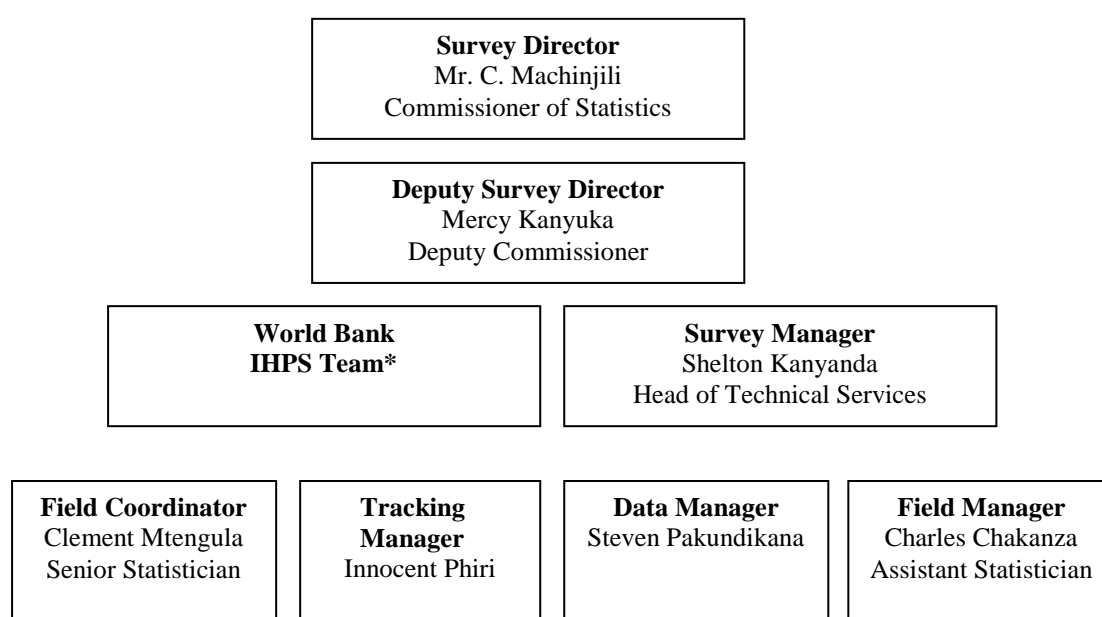
<b>Module</b>	<b>Description</b>
Module CB: Roster of Informants	This module lists the group of informants and their age, sex, positions in community, length of residence in the community, education and language spoken.
Module CC: Basic Information	This module collects basic characteristics of the community, including: population, number of households, major religions, languages spoken, common marriage types, land characteristics and use, number of registered voters and ability to address resource priorities.
Module CD: Access to basic Services	This module collects information on the community access to and characteristics of transportation networks, markets, ADMARC market, post office, telephone services, churches, schools, health services, and banking services.
Module CE: Economic Activities	This module collects basic information on the primary work activities of community members.
Module CF: Agriculture	This module collects basic information on the prevalence and type of agricultural activities and agricultural facilities.
Module CG: Changes	This module asks respondents to identify changes since 2010 that have made people worse off or better off, such as: drought, flood, changes in prices, changes in access to services, including health facilities, social services, schools, roads, transportation, among others. Additionally, respondent groups are asked to list when these major events occurred and what share of the community they affected.
Module CH: Community needs, Actions & Achievements	This module asks the respondent group to report on any needs (road and bridge maintenance/construction, school and health center improvement, piped water/boreholes/wells and maize mills construction, orphanage construction, public transportation and law enforcement improvement and the addition of agricultural/fishery/livestock extension services) that community members have expressed since 2010. It then details whether or not the community members took any action to meet these needs and how they went about doing so.
Module CI: Communal Resource Management	This module collects information on communal resources owned by the community and how the rules of access are determined. It further elicits information about how compliance with these rules is enforced among both community members and outsiders.
Module CJ: Communal Organization	This module asks the informed respondent group to report on the presence in the community of listed organizations. It further collects information on the number of specific groups, meeting frequency, size of membership, female and younger adult participation.
Module CK: Prices	The module collects availability and prices for 51 basic items collected from markets associated with the EAs.

## 4.0 ORGANIZATION OF THE SURVEY

### 4.01 SURVEY MANAGEMENT

The IHPS was executed by the National Statistical Office, under the direction of the Commissioner for Statistics and the IHPS Management Team. The management team was responsible for questionnaire design, recruitment of personnel, training of personnel, and implementation of the survey. Figure 1 outlines the composition of the IHPS Management Team.

**Figure 1: IHPS Management Team**



Note: \* Composed of Mr. Talip Kilic, Research Economist; Ms. Heather Moylan, Survey Specialist, IHPS Resident Advisor; Mr. Jonathan Kastelic, Survey Analyst.

### 4.02 FIELD STAFF TRAINING

Training for the IHPS lasted for 5 weeks so that adequate time could be allotted to each of the survey instruments along with tracking protocols. The best field staff from the IHS3 was retained along with the top enumerators from other recent surveys at NSO. Approximately half of the IHPS staff had worked on IHS3.

Training instructions were given to the field staff by the IHPS Management Team with backstopping from the World Bank LSMS-ISA team members. The training consisted of classroom instruction on the contents of the questionnaire, concepts and definitions, interview techniques and methods, and field practices in performing actual interviews to ensure that Enumerators fully understood the questionnaire. Training instructions are detailed in the Enumerator and Field Supervisor's Manuals.

All chosen candidates for fieldwork were trained together on questionnaire content for the first four weeks. Although the 13 supervisors were chosen prior to the start of training based on their performance and experience in IHS3 and other surveys, they along with the rest of

the trainees were assessed based on tests given during the training process and evaluations by the IHPS Management Team. The chosen supervisors received additional training on the community questionnaire throughout the four weeks and management had the opportunity to observe them in the role of supervisor during daily small group sessions and field practice. In addition, 12 Data Entry candidates were selected to join the field based mobile teams to process questionnaires on a rolling basis. In addition to the content training, in the final week of training the data entry clerks received additional training in IHPS data entry applications, protocols and data management and data back-ups.

#### **4.03 FIELD TEAMS**

Fieldwork for the IHPS began in April 2013 and was administered simultaneously throughout the country until November 2013. Although fieldwork was initially scheduled for 6 months, due to funding delays halfway through the project and an additional 3 weeks devoted to a tracking marathon at the end of the survey operation, the survey period was extended to 7 months. 12 field-based mobile teams consisting of 1 supervisor, 3-4 enumerators, 1 data entry clerk and 1 driver were assigned to cover specific districts and a 13th mobile tracking team was assigned to assist strictly with tracking cases. Each of the 12 field-based mobile teams was responsible for covering 12-17 EAs containing 14-16 baseline households in each. Each team selected a centrally located base in their respective assigned areas as a base of field operations to be used over the field work period.

Each team supervisor received their full workload at the start of fieldwork aside from the mobile tracking team. The teams were each provided with (1) T-0 forms containing the household and plot rosters from IHS3 and the location and household member and plot characteristics for each baseline panel household. (2) enumeration area maps, (3) color coded, adequate set of questionnaire instruments to be administered in accordance with a given EA's Panel A vs. Panel B status, and (4) the T-1 and T-2 tracking forms.

The teams used the T-0 form to identify the panel households in a particular EA. If they approached a household using the location information on the T-0 and found that the entire household moved together, then the enumerator filled a T-1 form containing information on the new location of the household. If they found that any IHS3 household members (excluding live-in servants and those less than 12 years of age) had split from the rest of the household then they filled a T-2 form containing location information on the respondent and characteristics of the individual which may help the enumerator to identify them in their year 2 location. T-1 and T-2 forms were filled for both local (i.e. within-district) and distance (i.e. outside-district) tracking. Local tracking refers to cases where the respondent lived within one hour traveling distance from the original EA and distance tracking occurred when the respondent moved farther away.

All 12 field-based mobile teams were responsible for interviewing their baseline households remaining in the same location, local tracking cases and distance tracking cases falling into their assigned districts. The 13<sup>th</sup> tracking team existed to assist the 12 field-based teams with their tracking workload. This team spent most of their time in Lilongwe and Blantyre throughout fieldwork given that many sample members migrated to the cities.

#### **4.03.1 FIELD SUPERVISORS**

The IHPS field based supervisors were responsible for managing the daily operations of their respective field based mobile team. Primary responsibilities included: (1) liaising with the IHPS management on schedules, field operation status, equipment status and needs, and special issues, (2) planning daily field operation schedules including coverage and transportation for both original households and local and distance tracking cases received, (3) liaise with local authorities before commencing interview activities, (4) reviewing incoming questionnaires for completion and accuracy, (5) managing data entry schedule for completed questionnaires, (6) reviewing computer assisted field entry (CAFE) reports for field entered questionnaires, assigning physical questionnaire reviews, and authorizing review/call back completion, (7) administering community questionnaires within each enumeration area, (8) monitoring data entry and confirming completed data files from data entry clerks and regularly transmitting data to the NSO central office in Zomba.

#### **4.03.2 ENUMERATORS**

The field based mobile teams consisted of 3-4 enumerators who administered household interviews over the course of the scheduled field work. An Enumerator's major areas of responsibility were to accurately and completely administer the household, agriculture and fishery questionnaires. Enumerators were responsible for: (1) locating baseline households, (2) filling out the necessary tracking forms (3) relaying the source and purpose of the survey and obtaining respondent permission to implement the interview, (4) implementing all pertinent questionnaire modules, (5) systematically obtaining anthropometric measures for qualified household members, (6) using GPS technology to mark and record household locations and take agricultural field measurements, and (7) participating in the CAFE review and correction of field entered questionnaires.

#### **4.03.3 DATA ENTRY CLERKS**

Each IHPS field team was assigned 1 data entry clerk to process completed questionnaires at the teams field based residence. Each data entry clerk was issued a laptop with the CSPro based data entry application, a printer to produce error reports on entered questionnaire, and flash disks for transferring files. The field based data entry clerk's primary responsibilities included: (1) receiving the completed questionnaires following the field supervisor's initial screening, (2) organizing and entering completed questionnaire in a timely manner, (3) generating and printing error reports for supervisor review, (4) modifying data after errors were resolved and authorized by the field supervisor, and (5) managing data files and local data back-ups. The data entry clerk was responsible for beginning initial data entry upon receipt of questionnaires from the field and generating error reports as quickly as possible after interviews were complete in the EA. When long distance travel to an enumeration area by the field team was required and the field team was required to spend multiple days away from their field residence the data entry clerk was required to travel with the team in order to maintain data processing schedules.

#### **4.04 FIELDWORK MONITORING AND EVALUATION**

During the IHPS, field operations were regularly monitored through visits to the field based teams by NSO IHPS Managers, the World Bank IHPS Resident Advisor and technical missions from the World Bank LSMS-ISA team. In addition, data transmitted from the field was regularly reviewed for completeness and quality by NSO IHPS Managers with the assistance of the World Bank IHPS Resident Advisor. Incoming data was organized and regularly checked for completeness and quality at the national, district, team and enumerator level. Issues that were found in instrument implementation, general quality, or other technical issue were reviewed and appropriate corrective action taken by NSO IHPS Managers and technical support staff either through revised field notes, additional field visits, remote communication directly with field supervisors or general SMS messages relayed to all teams.

Although field visits took place throughout fieldwork, after Visit 1 the managers visited each of the 13 teams for a special session to address concerns and review the tracking protocol and modules for Visit 2. In September, field supervisors were recalled to the NSO Headquarters in Zomba to discuss observations and concerns by field supervisors and to address observed concerns in the retrieved data. In general, field based teams demonstrated extremely high commitment to collecting quality data and the successful completion of the IHPS survey with the assistance of the IHPS Management team. In a few cases, however, failure to alleviate quality concerns through the above mentioned methods and individual coaching efforts led to the restructuring of select field teams and or the replacement of field based staff.

#### **5.0 DATA ENTRY AND DATA MANAGEMENT**

##### **5.01 FIELD BASED DATA ENTRY & CAFE**

To better facilitate higher quality data and increase timely availability of data during the data capture process IHPS utilized computer assisted field entry (CAFE). First data entry was conducted by field based data entry clerks immediately following completion of the team's daily field activities. Each team was equipped with 1 laptop computer for field based data entry using a CSPro-based application. The range and consistency checks built into the CSPro application was informed by the LSMS-ISA experience in Tanzania and Uganda, and the review of the IHS3 data. Prior programming of the data entry application allowed for a wide variety of range and consistency checks to be conducted and reported and potential issues investigated and corrected before closing the assigned enumeration area. Completed data was frequently relayed to the NSO central office in Zomba via Dropbox and tracked and processed upon receipt.

##### **5.02 DOUBLE DATA ENTRY**

Double data entry was implemented by a team of data entry clerks based at the NSO central office. Electronic data and questionnaires received from the field were cataloged by the Data Manager and electronic data loaded onto a central server to enable data entry verification on networked computers. To increase quality, the Data Entry Manager monitored the data verification staff and conducted quality assessments by randomly selecting processed questionnaires and comparing physical questionnaires to the result of double data entry. Data verification clerks were coached on inconsistencies when required.

### **5.03 DATA MANAGEMENT**

The IHPS CPro based data entry application was designed to stream-line the data collection process from the field. Completed data capture for enumerations areas was packaged automatically by the data entry application into a compressed zip file specific to each enumeration area code. These files contained all household level interviews for that enumeration area and were then submitted back to the NSO central office. These files were to be transmitted back on a rolling basis. For IHPS the field teams were each provided an internet dongle and airtime for timely submission of the data files as limited access to internet cafes and file corruption was a notable issue in the IHS3 project.

Once data files were received by the NSO central office, enumeration area files were downloaded and cataloged by date received. Data was compiled and exported into Stata files on a regular basis and weekly reports were generated with assistance from the IHPS World Bank Resident Advisor on the status of data completion. Over-all data collection status reports were relayed to NSO IHPS Managers on a weekly basis. Overdue or incomplete data files were flagged for immediately follow-up.

The IHPS data files received from the field were also downloaded by the IHPS Data Manager and uploaded to the data verification server to await second data entry. To perform second data entry, individual computers would retrieve and load the field data for the specific enumeration area. Once data verification was complete, verified enumeration data files were zipped and uploaded automatically to the server. Daily back-up of the server to a local network computer was conducted at the end of every day and back-ups to remote location weekly.

### **5.04 DATA CLEANING**

The data cleaning process was done in several stages over the course of field work and through preliminary analysis. The first stage of data cleaning was conducted in the field by the field based field teams utilizing error reports produced by the data entry applications. Field supervisors collected reports for each enumeration area and household and in coordination with the enumerators reviewed, investigated, and collected errors. Due to the quick turn-around in error reporting, it was possible to conduct call backs while the team was still operating in the enumeration area when required. It also gave the opportunity for enumerators to correct or confirm information when revisiting the household during the second half of fieldwork. Corrections to the data were entered by the field based data entry clerk before transmitting data to the NSO central office.

Upon receipt of the data from the field, module and cross module checks were performed using Stata to identify systematic issues and, where applicable, field teams were asked to investigate, revise and resend data for questionnaires still in their possession. Revised data files were cataloged and then replaced previous versions of the data. After data verification by the headquarters' double data entry team, data from the first data entry and second data entry were compared. A third group of data entrants composed of the most reliable staff members then printed the reports identifying the discrepancies between first and second data entry and did a case-by-case comparison to the paper questionnaires. They updated the data

as necessary and this insured that the final raw dataset reflected exactly what was recorded on the physical questionnaires.

Additional cleaning was performed after the double data entry team cleaning activities where appropriate to resolve systematic errors and organize data modules for consistency and efficient use. Case by case cleaning was also performed during the preliminary analysis specifically pertaining to out of range and outlier variables. All cleaning activities were conducted in collaboration with the WB staff providing technical assistance to the NSO in the design and implementation of the IHPS.

## **6.0 USING THE IHPS DATA**

It is strongly recommended that the end user of the IHPS data familiarize themselves with the questionnaires and manuals while using the IHPS data. The naming of IHPS data files follows the instrument name and module lettering as listed in the questionnaires and variable names, whenever possible, reflect question numbers as presented in relative modules. In the STATA versions of the data, variable labels, whenever possible, perfectly match the question as asked in the questionnaires. In some cases it was necessary to modify the variable labels and cross-referencing the questionnaires will be necessary for accurate use of the data. To increase the efficiency with which the survey instruments were administered, the IHPS instruments make extensive use of skip patterns. End users of the IHPS data must be aware of these skip patterns to properly interpret the data. Skip patterns are, in most cases, clearly identified by an arrow followed by a number in parentheses (>> 2). The skip codes are explained in detail in the Enumerator Manual. End users must also be aware of the other/specify datafile shared containing the responses to all questions containing other/specify options throughout the household, agriculture, community and fishery questionnaires. This file is uniquely identified by the variables “y2\_hhid occ os\_var”. The “os\_var” variable identifies the variable in question and allows you to link this file back to the main modules through the use of y2\_hhid and occ. “Occ” appears in each data file for the different modules as the “Line Occurrence Sequence for O/S merge”.

### **6.01 FILE STRUCTURE**

The file structure of the IHPS data directly reflects the modules in the questionnaires, which are near-identical to the IHS3 counterparts. Where modules in the questionnaire contain data with multiple levels of observation, data files have been divided with additional numeric labels. It is recommended that end users of the IHPS data refer to the questionnaires and manuals when using the data and the index of data files, along with key identifiers relevant for merging data from different modules, are presented in Tables 9-12.

IHPS data files follow an intuitive naming scheme for easy use by the end user. Each file name gives reference to the instrument component, “HH” (Household), “AG” (Agriculture), “FS” (Fishery) and “COM” (Community) and the specific module as they appear in the questionnaires. For example, file “HH\_MOD\_B” refers to Household Module B; Household Roster. Similarly, file “AG\_MOD\_Q”, for example, refers to Agriculture Module Q; “Tree / Permanent Crop Production (Over the Last 12 Months)”. In modules that contain sub-sections with varying levels of observation, a number has been added to the tail of the file name, “HH\_MOD\_G1” and “HH\_MOD\_G2” for example. The numbers are sequential with how the module appears in the questionnaire.



## 6.02 HOUSEHOLD LEVEL INSTRUMENTS

Each household level IHPS instrument cover sheet captures information on the location of the household at both the time of the baseline IHS3 survey as well as at the time of IHPS. It is important to note that given the 2-visit structure of IHPS, we encountered households that moved between visits. For these cases the IHPS locational identifiers reflect the location of the household during the visit we collected their consumption data – Visit 1 for Panel A and Visit 2 for Panel B. The IHS3 locational identifiers in the re-released IHS3 data reflect their location in IHS3 Visit 2 since this is where we expected to find them in IHPS. The primary location identifiers include the **regional**, **district** and **urban/rural** locations of each household in 2010 and 2013 in the IHS3 and the IHPS database, respectively.

Additionally, the variable, “qx\_type” has been added to the IHPS data sets to identify the sub-sample assignment of each sample EA just as done in IHS3. The baseline enumeration area sub-sample type “Panel A” or “Panel B” is identified by the “qx\_type” variable across all IHPS instruments and datasets.

Also provided in every module of the household, agriculture and fishery questionnaire data files is the variable “**interview\_status**” notating whether a household was interviewed in both Visit 1 and 2 or just one of the two visits (i.e. combining the workload and going through it in one sitting). If a household was only found in Visit 2 then, regardless of Panel A vs. B status, the enumerator administered both the Visit 1 portion and the Visit 2 portion of all instruments. This variable is broken down by Panel A vs. Panel B for easy use, and is particularly relevant for understanding the timing of the administration of different modules, and the missing data in certain modules for the Panel A households only found in Visit 1.

For household modules B through E, the level of observation is the individual household member. The variable, “**id\_code**” refers to the roster row for the household member in 2013 and when used in conjunction with “**y2\_hhid**” can uniquely identify individuals within the IHPS household across household modules of similar level of observation. This is different than linking the IHPS and the IHS3 databases at the individual level, which is explained below.

## 6.03 COMMUNITY LEVEL INSTRUMENTS

The community questionnaire was administered in the original 204 panel EAs and observations are uniquely identified by using the “**ea\_id**” variable, carried over from the baseline data collection. For further details on the construction of the ea\_id along with examples, please refer to the IHS3 basic information document.

## 6.04 UPDATES TO THE IHS3 PANEL SUBSAMPLE DATA

As part of the dissemination package, the IHS3 data containing only the 3,246 households from 204 EAs that were selected for the purposes of the IHPS are being re-released.

In the IHS3 data that have been in the public domain prior to the release of the IHPS data, **case\_id** is the variable that uniquely identifies sample households.

In the re-released IHS3 panel sub-sample data, the variable **HHID** has been added to the database and is simply a 4-digit unique identifier for the sample households, which is simply a serial number ranging from 1 to 3,246.

In addition to this variable, the **updated baseline sampling weights (hh\_wgt)** are included in the re-released IHS3 data, which take into account the sub-sampling of the panel EAs out of the larger IHS3 sample, as detailed in the IHS3 basic information document.

Besides these updates to the IHS3 panel sub-sample data, a set of incorrect age, gender and relationship to head values in the 2010 data for baseline individuals have been rectified upon confirmation during the IHPS 2013 interviews.

## 6.05 LINKING IHS3 & IHPS DATABASES

The IHPS data include the variables **case\_id** and **HHID** as baseline household identifiers, since each of the 4,000 IHPS households can technically be mapped to a baseline household counterpart.

The variable **y2\_hhid** is the unique household identifier in the IHPS data, and it is composed of a given IHPS household's **HHID** value plus the lowest IHS3 two-digit roster ID code (identified by the variable **hh\_b06\_1** in the **HH\_MOD\_B** of the IHS3 database) for the baseline sample members that were found in that household in 2013.<sup>5</sup>

At the **individual-level**, the IHS3 and the IHPS data could be merged using the variable **PID** (without using any other variable for individual level merges across time). **PID** is a unique individual identifier that is assigned to a given individual the first time he/she joined the panel sample, whether in 2010 or 2013. **Since PID had not been included in the IHS3 that have been in public domain, it is now included in the re-released IHS3 data.** Given the attrition at the household and individual levels, the merges across the IHS3 and the IHPS data will not be perfect.<sup>6</sup>

A special scenario encountered in the IHPS involved IHS3 individuals moving from one IHS3 baseline household to another. These 17 individuals are identified in **hh\_b06\_1** in **HH\_MOD\_B** as those with IHS3 ID codes ranging from 501-511. The 501-511 ID codes are composed of the IHS3 individual ID code from their baseline household with a "5" placed in front to differentiate them from the other members remaining in their original households. The baseline household these individuals come from can be extracted by taking the first 4 digits of the **PID** for these 17 members.

---

<sup>5</sup> In the final data there are around 20 cases that may not reflect the lowest IHS3 roster member code as part of the **y2\_hhid** due to movement of respondents between visits and our definition of household member. This, however, still has no bearing on **y2\_hhid** uniquely identifying households in 2013.

<sup>6</sup> There remain individuals with perfect **PID** matches but with disagreements in terms of gender. The team has done substantial work in ironing out these inconsistencies by way of comparing names across rounds, which are not available in the public data. Similarly, there remain individuals with perfect **PID** matches but with disagreements in terms of age. These inconsistencies have been rectified to the maximum extent possible by relying on the information available to the team, and no further updates are expected in this regard.

To replicate the attrition statistics reported in Section 1.0, the users should consult the ancillary data file “**IHPSTMemberDatabase**” that has been made available. The file contains all 15,597 IHS3 panel sub-sample individuals in 2010; the variable **eligible\_tracking** that identifies those that were tracking eligible in 2013 in terms of their projected age in 2013 and their relationship to household head in 2010 in accordance with the tracking protocol explained in Section 1.0; the variable **status** that identifies their final tracking outcome in 2013 (complete for all 15,597 individuals); the variable **whynotfound** that identifies the reason for being unable to interview a given *tracking-eligible* baseline individual in 2013 (complete for all applicable 421 cases that migrated outside of Malawi, moved to an institution such as a police compound or army barracks, and 12 special cases); and the variable **specialcase** that details the unique reason for not being able to interview 12 baseline individuals that are marked as “special case” for the variable **whynotfound**.

## 6.06 IHPS LOCATION INFORMATION

As noted above, the IHPS is representative (in 2010 and 2013) for the 6 domains that are implied by the **baseline** region and urban/rural location combinations. These domains are identified by the new variable **stratum**, which is included in the re-released IHS3 and the IHPS data. The variable **stratum** is in terms of the baseline household locations and **DOES NOT** necessarily reflect the regional/urban-rural location of the households in 2013, given the movements between 2010 and 2013.

Similarly, **ea\_id** is the baseline enumeration area identifier and is an attribute carried over from 2010 to 2013 (similar to **case\_id** and **HHID**, as explained above), as such there are still 204 unique **ea\_id** values in 2013 and no missing value for a given household or individual. Refer to the IHS3 basic information document for more information on the construction of **ea\_id**. Similar to **stratum**, **ea\_id** also **DOES NOT** necessarily reflect the 2013 enumeration area locations for all IHPS sample households, given the movements between 2010 and 2013.

The variables **stratum** and **ea\_id** are included for the purpose of conducting complex survey data analysis (i.e. calculating the point estimates and the associated standard errors of interest) in the correct fashion. In Stata, 2010 and 2013 data could each be set up for complex survey analysis through the use of the following commands:

```
svyset ea_id [pweight=hh_wgt], strata(stratum) singleunit(centered) – for 2010, and
```

```
svyset ea_id [pweight=panelweight], strata(stratum) singleunit(centered) – for 2013.
```

The variable **panelweight** is the household sampling weight computed for the 2013 data. For more information on **panelweight**, please see Section 6.

The regional, district, and urban/rural locations of the households in 2013 are identified by the variables **region**, **district** and **reside** in the IHPS database. The locational identifiers in 2013 are based on the survey field team reporting of household locations, cross-checked by the confidential household GPS coordinates in 2013. The variable **dist\_to\_IHS3location** is a constructed variable included in the IHPS data and is a Euclidean distance measure in kilometers between the 2010 and 2013 dwelling locations based on the 2010 and 2013 confidential household GPS coordinates.

## 6.07 HOUSEHOLD ROSTER STRUCTURE

It is important to note that although most of the modules were administered only once, either in Visit 1 or in Visit 2, the household roster was administered in both visits for all Panel sub-groups. In the final version of the data, the household roster information collected in both Visit 1 and Visit 2 is collapsed to indicate each household member only once. As some information between visits may have changed, the individual's age and status in the household for example, the information presented in the household roster is directly associated with the time of visit of the main sections of the household questionnaire.

Both the **status** and **age** in Visit 2 are provided, given that these variables directly determine the respondents for the remaining household questionnaire modules. Members that existed in the first visit of the Panel B sample but may not have been present in visit 2 will be indicated in this status. For both the Panel A and Panel B households, the information presented in the rest of the household roster is associated with Visit 1 unless it was a household found only in Visit 2 and the interview was done in one sitting.

## 6.08 CONFIDENTIAL INFORMATION, GEOSPATIAL VARIABLES

To maintain the confidentiality of our respondents, certain parts of the IHPS database have not been made publicly available. The confidential variables pertain to (i) names of the respondents to the household and community questionnaires, (ii) village and constituency names, (iii) descriptions of household dwelling and agricultural plot locations, (iv) phone numbers of household members and their reference contacts, (v) GPS-based household and agricultural plot locations, (vi) names of the children of the head/spouse living elsewhere, (vii) names of the deceased household members, (viii) names of individuals listed in the network roster, and (ix) names of field staff.

To increase the use of the IHPS data, a set of geospatial variables has been provided by using the geo-referenced plot and household locations in conjunction with various geospatial databases that were available to the survey team. **IHPS.Geovariables.Description.pdf** provides the name, type, source, reference period, resolution, description, and source of each variable.

The geo-variables are stored in two data files, one at the household-plot-level, the other at the household-level. The plot-level file, named **PlotGeovariables**, contains several geospatial variables describing the physical landscape and plot distance to household. The observations are uniquely identified by the combination of **y2\_hhid plot\_id**. The observations included in this file are rainy season, dry season and permanent crop plots that are owned and/or cultivated by the household and that have been visited for GPS-based land area measurement. The rest of the geovariables are stored in **HouseholdGeovariables** and the observations are uniquely identified by **y2\_hhid**. To partially satisfy the demand for geo-referenced household and community locations while preserving the confidentiality of sample household and communities, we have computed the average of household GPS coordinates in each EA, applied a random offset within a specified range to the average EA value (following the MeasureDHS methodology) and provided the off-set EA latitudes and longitudes as part of **HouseholdGeovariables**. For households that have moved or split-off and are more than 5 km from their baseline location, the offset is with respect to the new household location.

More specifically, the coordinate modification strategy relies on random offset of cluster center-point coordinates (or average of household GPS locations by EA in IHPS) within a specified range determined by an urban/rural classification. For urban areas a range of 0-2 km is used. In rural areas, where communities are more dispersed and risk of disclosure may be higher, a range of 0-5 km offset is used. An additional 0-10 km offset for 1% of rural clusters effectively increases the known range for all rural points to 10 km while introducing only a small amount of noise. Offset points are constrained at the district level, so that they still fall within the correct district for spatial joins, or point-in-polygon overlays. The result is a set of coordinates, representative at the EA level, that fall within known limits of accuracy. Users should take into account the offset range when considering different types of spatial analysis or queries with the data. Analysis of the spatial relationships between locations in close proximity would not be reliable. However, spatial queries using medium or low resolution datasets should be minimally affected by the offsets.

All geospatial variables have been produced by using the unmodified GPS data. These include extensive measures of distance, climatology, soil and terrain and other environmental factors. Time-series on rainfall and vegetation have also been used to describe the survey agricultural season relative to normal conditions. These variables are intended to provide some understanding of how geophysical characteristics vary at the landscape level.

## 7.0 WEIGHTING

The methodology used to calculate the IHPS panel weights (provided in the data as **panelweight**) is discussed in detail in “Weight calculations for panel surveys with sub-sampling and split-off tracking” (Himelein, 2013). In order to analyze the IHPS 2013 data and produce accurate representativeness of the population, the sample variables must be weighted using the variable **panelweight** and taking into account the complex survey design implied by the variables **ea\_id** and **stratum**, as discussed above.

**Table 9: Structure of the IHPS Household Database**

File Name	Module Name	Level of Analysis	Identification Variable(s)
HH_META	Household Questionnaire Metadata (Contains time stamps and respondent IDs for each module)	Household	y2_hhid
HH_MOD_A_FILT	Module A: Household Identification	Household	y2_hhid
HH_MOD_B	Module B: Household Roster	Individual	y2_hhid hh_b01
HH_MOD_C	Module C: Education	Individual	y2_hhid hh_c01
HH_MOD_D	Module D: Health	Individual	y2_hhid hh_d01
HH_MOD_E	Module E: Time Use & Labour	Individual	y2_hhid hh_e01
HH_MOD_F	Module F: Housing	Household	y2_hhid
HH_MOD_G1	Module G: Food Consumption Over Past One Week	Consumption Item	y2_hhid hh_g02
HH_MOD_G2	Module G: Food Consumption Over Past One Week	Food Group	y2_hhid hh_g08a
HH_MOD_G3	Module G: Food Consumption Over Past One Week	Age Group	y2_hhid hh_g10a
HH_MOD_H	Module H: Food Security	Household	y2_hhid
HH_MOD_I1	Module I: Non-Food Expenditures –	Consumption Item	y2_hhid hh_i02

	Over Past One Week & One Month		
HH_MOD_I2	Module I: Non-Food Expenditures – Over Past One Week & One Month	Consumption Item	y2_hhid hh_i05
HH_MOD_J	Module J: Non-Food Expenditures – Over Past Three Months	Consumption Item	y2_hhid hh_j02
HH_MOD_K	Module K: Non-Food Expenditures – Over Past 12 Months	Consumption Item	y2_hhid hh_k02
HH_MOD_L	Module L: Durable Goods	Durable Good	y2_hhid hh_l02
HH_MOD_M	Module M: Farm Implements, Machinery, and Structures	Farm Implement	y2_hhid hh_m0a
HH_MOD_N1	Module N: Household Enterprises	Household	y2_hhid
HH_MOD_N2	Module N: Household Enterprises	Household Enterprise	y2_hhid hh_n09a
HH_MOD_O	Module O: Children Living Elsewhere	Child of Head/Spouse Living Elsewhere	y2_hhid hh_o0a
HH_MOD_P	Module P: Other Income	Income Type	y2_hhid hh_p0a
HH_MOD_Q	Module Q: Gifts Given Out	Gift Type	y2_hhid hh_q0a
HH_MOD_R	Module R: Social Safety Nets	Program	y2_hhid hh_r0a
HH_MOD_S1	Module S: Credit	Loan	y2_hhid hh_s02
HH_MOD_S2	Module S: Credit	Household	y2_hhid
HH_MOD_T	Module T: Subjective Assessment Of Well-Being	Household	y2_hhid
HH_MOD_U	Module U: Shocks & Coping Strategies	Shock	y2_hhid hh_u0a
HH_MOD_V	Module V: Child Anthropometry	Individual	y2_hhid hh_v01
HH_MOD_X	Module X: Filter Questions For Agriculture & Fishery Questionnaires	Household	y2_hhid

**Table 10: Structure of the IHPS Agriculture Database**

<b>File Name</b>	<b>Module Name</b>	<b>Level of Analysis</b>	<b>Identification Variable(s)</b>
AG_META	Agriculture Questionnaire Metadata (Contains time stamps and respondent IDs for each module)	Household	y2_hhid
AG_MOD_A	Module A: Household Identification	Household	y2_hhid
AG_MOD_BA	Ag-Module B: 2008/2009 Rainy Season	Crop	y2_hhid ag_b0c
AG_MOD_BB	Ag-Module B: 2008/2009 Rainy Season	Household	y2_hhid
AG_MOD_B1	Ag-Module B_1: Garden Roster – [Rainy Season]	Garden	y2_hhid ag_b0100a
AG_MOD_C	Ag-Module C: Plot Roster - [Rainy Season]	Plot	y2_hhid ag_c00
AG_MOD_D	Ag-Module D: Plot Details - [Rainy Season]	Plot	y2_hhid ag_d00
AG_MOD_E1	Ag-Module E: Coupon Use - [Rainy Season]	Individual-Coupon Type	y2_hhid ag_e0b ag_e0c
AG_MOD_E2	Ag-Module E: Coupon Use - [Rainy Season]	Individual-Coupon Type	y2_hhid ag_e0e ag_e0g
AG_MOD_E3	Ag-Module E: Coupon Use -	Household	y2_hhid

	[Rainy Season]		
AG_MOD_E4	Ag-Module E: Coupon Use - [Rainy Season]	Coupon Type	y2_hhid ag_e29_00
AG_MOD_E5	Ag-Module E: Coupon Use - [Rainy Season]	Groups of people	y2_hhid ag_e30_00
AG_MOD_F	Ag-Module F: Other Inputs - [Rainy Season]	Input Type	y2_hhid ag_f0b ag_f0d
AG_MOD_G	Ag-Module G: Crops – [Rainy Season]	Plot-Crop	y2_hhid ag_g00 ag_g0b
AG_MOD_H	Ag-Module H: Seeds – [Rainy Season]	Seed Type	y2_hhid ag_h0a ag_h0c
AG_MOD_I	Ag-Module I: Sales/Storage - [Rainy Season]	Crop	y2_hhid ag_i0b
AG_MOD_I1	Ag-Module I1: Garden Roster – [Dry Season]	Garden	y2_hhid ag_i100a
AG_MOD_J	Ag-Module J: Plot Roster – [Dry (Dimba) Season]	Plot	y2_hhid ag_j00
AG_MOD_K	Ag-Module K: Plot Details - [Dry (Dimba) Season]	Plot	y2_hhid ag_k00
AG_MOD_L	Ag-Module L: Other Inputs - [Dry (Dimba) Season]	Input Type	y2_hhid ag_l0b ag_l0d
AG_MOD_M	Ag-Module M: Crops – [Dry (Dimba) Season]	Plot-Crop	y2_hhid ag_m00 ag_m0c
AG_MOD_N	Ag-Module N: Seeds – [Dry (Dimba) Season]	Seed Type	y2_hhid ag_n0a ag_n0c
AG_MOD_O	Ag-Module O: Sales/Storage – [Dry (Dimba) Season]	Crop	y2_hhid ag_o0b
AG_MOD_O1	Ag-Module O_1: Garden Roster Tree Crop Production	Garden	y2_hhid ag_o100a
AG_MOD_O2	Ag-Module O_1: Plot Roster Tree Crop Production	Plot	y2_hhid ag_o00
AG_MOD_P	Ag-Module P: Tree / Permanent Crop Production Last 12 Months	Plot-Tree Crop	y2_hhid ag_p00 ag_p0c
AG_MOD_Q	Ag-Module Q: Tree/Permanent Crop Sales/Storage Last 12 Months	Tree Crop	y2_hhid ag_q0b
AG_MOD_R1	Ag-Module R: Livestock	Animal Type	y2_hhid ag_r0a
AG_MOD_R2	Ag-Module R: Livestock	Household	y2_hhid
AG_MOD_S	Ag-Module S: Livestock Products	By-product	y2_hhid ag_s0a
AG_MOD_T1	Ag-Module T: Access To Extension Services	Extension Source	y2_hhid ag_t0a
AG_MOD_T2	Ag-Module T: Access To Extension Services	Extension Source	y2_hhid ag_t0c
AG_MOD_U1	Ag-Module U_1: Attitudes 1	Plot Manager-Attitude	y2_hhid ag_u100a
AG_MOD_U2	Ag-Module U_2: Test 1	Plot Manager	y2_hhid
AG_MOD_U3	Ag-Module U_3: Attitudes 2	Plot Manager-Attitude	y2_hhid ag_u300a
AG_MOD_U4	Ag-Module U_4: Test 2	Plot Manager	y2_hhid
AG_MOD_NR	Network Roster	Roster Member	y2_hhid ag_nr00

**Table 11: Structure of the IHPS Fishery Database**

<b>File Name</b>	<b>Module Name</b>	<b>Level of Analysis</b>	<b>Identification Variable(s)</b>
FS_META	Fishery Questionnaire Metadata (Contains time stamps and respondent IDs for each module)	Household	y2_hhid
FS_MOD_A_FILT	Module A: Household Identification	Household	y2_hhid
FS_MOD_B	Module B: Fisheries Calendar	Household	y2_hhid
FS_MOD_C	Module C: Fisheries Labour (Last High Season)	Individual	y2_hhid fs_c00
FS_MOD_D1	Module D: Fisheries Input (Last High Season)	Fishing Gear	y2_hhid fs_d0c
FS_MOD_D2	Module D: Fisheries Input (Last High Season)	Boat/Engine	y2_hhid fs_d0c
FS_MOD_D3	Module D: Fisheries Input (Last High Season)	Hired labor group	y2_hhid fs_d14
FS_MOD_D4	Module D: Fisheries Input (Last High Season)	Household	y2_hhid
FS_MOD_E1	Module E: Fisheries Output (Last High Season)	Fish Type	y2_hhid fs_e0a
FS_MOD_E2	Module E: Fisheries Output (Last High Season)	Fishing Gear	y2_hhid fs_e0b
FS_MOD_F1	Module F: Fish Trading (Last High Season)	Fish Type	y2_hhid fs_f0a
FS_MOD_F2	Module F: Fish Trading (Last High Season)	Cost Item	y2_hhid fs_f0b
FS_MOD_G	Module G: Fisheries Labour (Last Low Season)	Individual	y2_hhid fs_g00
FS_MOD_H1	Module H: Fisheries Input (Last Low Season)	Fishing Gear	y2_hhid fs_h0a
FS_MOD_H2	Module H: Fisheries Input (Last Low Season)	Boat/Engine	y2_hhid fs_h0c
FS_MOD_H3	Module H: Fisheries Input (Last Low Season)	Household	y2_hhid fs_h14
FS_MOD_H4	Module H: Fisheries Input (Last Low Season)	Hired labor group	y2_hhid
FS_MOD_I1	Module I: Fisheries Output (Last Low Season)	Fish Type	y2_hhid fs_i0a
FS_MOD_I2	Module I: Fisheries Output (Last Low Season)	Fishing Gear	y2_hhid fs_i0b
FS_MOD_J1	Module J: Fish Trading (Last Low Season)	Fish Type	y2_hhid fs_j0a
FS_MOD_J2	Module J: Fish Trading (Last Low Season)	Cost Item	y2_hhid fs_j0b



**Table 12: Structure of the IHPS Community Database**

<b>File Name</b>	<b>Module Name</b>	<b>Level of Analysis</b>	<b>Identification Variable(s)</b>
COM_META	Community Questionnaire Metadata (Contains time stamps and respondent IDs for each module)	Community	ea_id
COM_MOD_A	Module CA: Community Identification	Community	ea_id com_ca04
COM_MOD_B	Module CB: Roster Of Informants	Informant	ea_id com_cb01
COM_MOD_C	Module CC: Basic Information	Community	ea_id
COM_MOD_D	Module CD: Access To Basic Services	Community	ea_id
COM_MOD_E	Module CE: Economic Activities	Community	ea_id
COM_MOD_F1	Module CF: Agriculture	Community	ea_id
COM_MOD_F2	Module CF: Agriculture	Agriculture Project Type	ea_id com_cf00
COM_MOD_G	Module CG: Changes	Change Type and Effect	ea_id com_cg35 com_cg35c
COM_MOD_H	Module CH: Community Needs, Actions & Achievements	Need	ea_id com_ch0b
COM_MOD_I	Module CI: Communal Resource Management	Natural Resource	ea_id com_ci0b
COM_MOD_J	Module CJ: Communal Organization	Communal Group Type	ea_id com_cj0b

## 8.0 REFERENCES

Himelein, K. (2013). “Weight calculations for panel surveys with sub-sampling and split-off tracking.” World Bank Policy Research Working Paper No. 6373.

## ANNEX 1: CODES NOT INCLUDED IN THE QUESTIONNAIRE

### DISTRICT CODES AND COUNTRY CODES

#### **DISTRICT CODES:**

Chitipa.....	101	Mangochi.....	301
Karonga.....	102	Machinga.....	302
Nkhatabay.....	103	Zomba Non-City.....	303
Rumphi.....	104	Chiradzulu.....	304
Mzimba.....	105	Blantyre Non-City...	305
Mzuzu City.....	107	Mwanza.....	306
Kasungu.....	201	Thyolo.....	307
Nkhotakota.....	202	Mulanje.....	308
Ntchisi.....	203	Phalombe.....	309
Dowa.....	204	Chikwawa.....	310
Salima.....	205	Nsanje.....	311
Lilongwe Non-City..	206	Balaka.....	312
Mchinji.....	207	Neno.....	313
Dedza.....	208	Zomba City.....	314
Ntcheu.....	209	Blantyre City.....	315
Lilongwe City.....	210		

#### **COUNTRY CODES:**

Angola.....	501	South Africa.....	510
Australia.....	502	Swaziland.....	511
Botswana.....	503	Tanzania.....	512
Canada.....	504	United Kingdom (UK) ..	513
China.....	505	United States of America (USA).....	514
Lesotho.....	506	Zambia.....	515
Mozambique.....	507	Zimbabwe.....	516
Namibia.....	508	Other Country (Specify).....	517
New Zealand.....	509		

## OCCUPATION CODES

<b>MAJOR GROUP 0/1: PROFESSIONAL, TECHNICAL, &amp; RELATED WORKERS</b>	
<b>01</b>	<b>Physical Scientists and related technicians.</b> Chemists, Physicists
<b>02</b>	<b>Architects, Surveyors and related workers.</b> Architects, Planners, Surveyors, Draughtsmen and related workers
<b>03</b>	<b>Engineers and related workers.</b> Civil, Mechanical, Electrical, Mining and Other Engineers; Mining Technicians
<b>04</b>	<b>Aircraft's and ships' officers.</b> Pilots, Navigators, deck officers, flight and ships' officers
<b>05</b>	<b>Life scientists and related technicians.</b> Agronomists, biologists, zoologists.
<b>06</b>	<b>Medical, dental and related workers.</b> Doctors, Dentists, Medical and Dental Assistants, Nurses, X-ray and other medical technicians. <b>(Excluding traditional healers (which are group 59))</b>
<b>07</b>	<b>Veterinary and related workers.</b> Veterinarians and related workers not elsewhere classified
<b>08</b>	<b>Statisticians, mathematicians, systems analysts.</b> Statisticians, actuaries, systems analysts and related technicians
<b>09</b>	<b>Economists</b>
<b>11</b>	<b>Accountants,</b> (private or government); (for book-keepers see 33)
<b>12</b>	<b>Jurists.</b> Lawyers, Judges
<b>13</b>	<b>Teachers.</b> University Lectures and teachers.
<b>14</b>	<b>Workers in Religion.</b> Priests, nuns lay brothers etc, and related workers in religion not elsewhere classified
<b>15</b>	<b>Writers.</b> Authors, journalists, critics and related writers.
<b>16</b>	<b>Artists.</b> Sculptors, painters of pictures, photographers and cameramen.
<b>17</b>	<b>Composers and Performing artists.</b> Composers, musicians, singers, dancers, actors, producers, performing artists.
<b>18</b>	<b>Athletics, sportsmen and related workers.</b> Athletes, etc.
<b>19</b>	<b>Professional and technical workers not elsewhere classified.</b> Librarians, archivists, curators, sociologists, social workers and occupational specialists, translators, interpreters and other professional and technical workers not elsewhere classified.
<b>MAJOR GROUP 2: ADMINISTRATION AND MANAGERIAL WORKERS</b>	
<b>20</b>	<b>Legislative Officials and government senior administrators.</b> Legislative officials.
<b>21</b>	<b>Managers.</b> General Managers, production managers (except farm managers) and managers not elsewhere classified.
<b>22</b>	<b>Traditional Leaders.</b> Village Headmen, Group Village Headmen, Sub-Traditional Authorities, Traditional Authorities, Senior Traditional Authorities/Chiefs, Paramount Chiefs.
<b>MAJOR GROUP 3: CLERICAL AND RELATED WORKER</b>	
<b>30</b>	<b>Clerical supervisors</b>
<b>31</b>	<b>Government administrative/secretarial officials</b>
<b>32</b>	<b>Stenographers and related workers.</b> Stenographers, typists, card and tape punching machine operators.
<b>33</b>	<b>Book-keepers, cashiers and related workers.</b> Book-keepers and cashiers.
<b>34</b>	<b>Computing and machine operators of book-keeping machines, calculators and automatic data processing machines (computers).</b>
<b>35</b>	<b>Transport and communication supervisors.</b> Railway Stations Masters, postmasters, communication supervisors not elsewhere classified stated.
<b>36</b>	<b>Transport conductors.</b> Bus conductors
<b>37</b>	<b>Mail distribution clerks.</b> Registry clerks
<b>38</b>	<b>Telephone and telegram operators Including switchboard (PBX) operators.</b>
<b>39</b>	<b>Clerical and related workers not elsewhere classified.</b> Stock Clerk Correspondence clerks, receptionists, and travel agency clerks, Library and filling clerks and other clerks and not elsewhere classified.
<b>MAJOR GROUP 4: SALES WORKERS</b>	
<b>40</b>	<b>Managers (wholesale &amp; retail trade)</b>
<b>41</b>	<b>Working proprietors (wholesale and retail trade)</b>

42	<b>Sales supervisors and buyers</b>
43	<b>Technical salesmen, commercial travellers, manufactures agency</b>
44	<b>Auctioneers and salesmen of insurance, real estate, securities, and business services.</b>
45	<b>Salesmen and shop assistants, and related workers</b> (demonstrators, street vendors, canvassers, news vendors).
49	<b>Sales workers not elsewhere classified.</b>
<b>MAJOR GROUP 5: SERVICE WORKERS</b>	
50	<b>Managers (catering &amp; lodging services)</b>
51	<b>Working proprietors (catering &amp; lodging services)</b>
52	<b>Housekeeping and related service supervisors (Excluding housewives)</b>
53	<b>Cooks, waiters, bartenders and related workers</b>
54	<b>Maids and related housekeeping service workers not elsewhere classified, house girls, houseboys, garden boys</b>
55	<b>Buildings caretakers, watch guards, charworkers, cleaners and related workers.</b>
56	<b>Launderers, dry-cleaners and pressers.</b>
57	<b>Hairdressers, barbers, beauticians and related workers.</b>
58	<b>Protective service workers.</b> Fire fighters, policemen and detectives, protective workers not elsewhere classified.
59	<b>Service workers not elsewhere classified.</b> Traditional healers, guides, undertakers and embalmers, other service workers.
<b>MAJOR GROUP 6: AGRICULTURAL, ANIMAL HUSBANDRY AND FORESTRY WORKERS, FISHERMEN AND HUNTERS</b>	
60	<b>Farm managers and supervisors</b>
61	<b>Farmers (general farm owner/operators and specialised farmers)</b>
62	<b>Agricultural and animal husbandry workers.</b> General farm workers and labourers, dairy farm workers and gardeners, farm machine operators, agricultural and animal husbandry workers not elsewhere classified. (Not ganyu farm labourers-ganyu work covered in separate questions)
63	<b>Forestry workers.</b> Loggers and other forestry workers not elsewhere classified.
64	<b>Fishermen, hunters and related workers.</b>
<b>MAJOR GROUP 7/8/9: PRODUCTION AND RELATED WORKERS, TRANSPORT EQUIPMENT OPERATORS AND LABOURERES NOT ELSEWHERE CLASSIFIED</b>	
70	<b>General foreman and production supervisors.</b>
71	<b>Miners, Quarrymen, well drillers</b> including mineral and stone treaters, well borers and related workers.
72	<b>Metal processors,</b> Including melters and reheaters, casters, moulders and coremakers. Annealers, platers and coaters.
73	<b>Wood preparation and workers and paper makers.</b> Wood treaters, sawyers, makers and related wood processing and related workers, paper pulp prepares and paper makers related workers.
74	<b>Chemical processors and related workers.</b> Crushers, grinders, mixers, heat treaters, filter and separator operators, still operators, chemical processors and related workers not elsewhere classified.
75	<b>Spinners, weavers, dyers, fibre preparers.</b> Spinners, Weaving and Knitting, Machine setters and operators bleachers dyers and textile product finishers; related workers not elsewhere classified.
76	<b>Tanners, skin preparers and pelt dressers.</b>
77	<b>Food and beverage processors.</b> Grain millers, sugar processors and refiners, butchers and daily product processors, bakers tea and coffee prepares, brewers, beverages makers and other food and beverage processors.
78	<b>Tobacco preparers and product makers.</b> Tobacco preparers, cigarette makers and tobacco preparers and tobacco product workers not elsewhere classified.
79	<b>Tailors, dressmakers, sewers, upholsters.</b> Tailors dressmakers for tailors, hat makers, cutters, sewers, upholsters and related workers not elsewhere classified.
80	<b>Shoemakers and leather goods makers.</b> Shoemaker repairers, shoe cutters, lasters, sewers and related workers; leather goods makers.
81	<b>Cabinet makers and related wood workers.</b> Cabinet makers, wood-working machine operators not elsewhere classified.
82	<b>Stone cutters and carvers.</b>

83	<b>Blacksmith, toolmakers &amp; machine tool operators.</b> Blacksmith, operators, forge-press operators, toolmakers, machine tool setters & operators, metal grinders, polishers, sharpeners.
84	<b>Machinery fitters, machine assemblers.</b> Machinery fitters and assemblers, clock makers, motor and precision instrument makers, vehicle machine and aircraft engine mechanics (except electrical)
85	<b>Electrical fitters and related electrical workers.</b> Electrical fitters wiremen and linesmen, electrical and electronics workers, electronic equipment assemblers, radio repairmen telephone and telegram installers and related workers not elsewhere classified.
86	<b>Broadcasting station operators and cinema projectionists.</b>
87	<b>Plumbers, welders, sheet metal workers.</b> Plumbers and pipe fitters, and frame cutters, sheet structural metal prepares, metal workers, structural metal prepares and erectors.
88	<b>Jewellery and precious metal workers.</b>
89	<b>Potters, glass formers and related workers.</b> Potters, glass formers and cutters ceramic kinsmen, glass engravers ceramic and glass painters and decorators and related workers not elsewhere classified
90	<b>Rubber and plastic product makers.</b> Rubber and plastic product makers not elsewhere classified (not footwear), tyre makers, vulcanisers and retreaders.
91	<b>Paper and paper-board product makers.</b>
92	<b>Printers and related workers.</b> Compositors, typesetters, printing pressmen, printing and photo engravers book binders, photographic darkroom operators and related workers not elsewhere classified.
93	<b>Painters.</b> House painters and the like (not artists).
94	<b>Production and related workers.</b> Musical instrument makers and tuners, basketry weavers not elsewhere classified and brush makers, other production related workers.
95	<b>Bricklayers, carpenters and other bricklayers.</b> stonemasons, tile setters, reinforced construction workers concetors, roofers, carpenters and joiners, plaster, glaziers and construction workers not elsewhere classified. (Not ganyu labourers - ganyu work covered in separate questions.)
96	<b>Operators of stationery engines and power generating machines.</b> Operators and operators of related equipment other stationery engines (i.e. not vehicles tractors etc) and related equipment not elsewhere classified.
97	<b>Material handling and related equipment operators.</b> Dockers and handlers, riggers, crane and hoist operators, Dockers and freight handlers/operators, earth moving and related machinery operators and material-handling equipment operators not elsewhere classified.
98	<b>Transport equipment operators.</b> Vehicles drivers, railway engine drivers and firemen, ships rating crew, railway breakmen shunters, signalmen and transport equipment operators not elsewhere classified.
99	<b>Labourers not elsewhere classified.</b> Workers not reporting occupation, or occupation not adequately describe or not classified. (Not ganyu labourers-ganyu work covered in separate questions.)

## INDUSTRY CODES

<b>AGRICULTURE, HUNTING, FORESTRY &amp; FISHING</b>	
11	Mixed farming, Tea growing, Tobacco growing, Sugar growing, Agricultural services, Animal husbandry.
12	Forestry and logging
13	Fishing in Inland waters
<b>MINING AND QUARRYING</b>	
29	Stone quarrying, Gypsum mining
<b>MANUFACTURING</b>	
31	Slaughtering, preparing and preserving meat Manufacture of dairy products (not dairy farming) Canning and preserving of fruit and vegetables Fish canning Grain milling Bakeries Sugar refining Confectionery making Coffee manufacture Tea manufacturing Distilling Beer manufacturing Soft drink manufacturing Tobacco manufacturing
32	Spinning, weaving and finishing textile Manufacture of made-up textiles; except clothing Knitting mills Cord, rope and twine industries Manufacture of wearing apparel; except footwear Manufacture of leather products; except footwear Manufacture of footwear
33	Sawmills, planning and other wood mills Manufacture of wooden and cane containers Handcrafts and curios Furniture and fixture; except primarily of metal
34	Paper and paperboard container Gummed paper, cards; envelopes and stationery Printing and publishing
<b>MANUFACTURING (CONT'D)</b>	
35	Basic industrial chemicals; excluding fertilizers Fertilizers and Pesticides Drugs and Medicines Soaps; perfumes and cosmetics Matches; Tyre and tube industries Rubber footwear industrial and mechanics Manufacture of plastic products not elsewhere classified
36	Bricks tile and pipe manufacturing Cement, lime and plaster manufacturing Concrete, gypsum and plaster products
37	Manufacture of primary iron products from foundries, etc
38	Fabricated metal products; except machinery and equipment Hand tools, cutlery and general hardware Furniture and fixtures primarily of metal Structural and metal products Fabricated metal products not elsewhere classified. Manufacturing, re-building and repair of engines and turbines Manufacturing and repair of agricultural machinery Manufacturing, renovation and repair of office mach. and equipment Radio manufacture

	Manufacturing of electrical appliances and housekeeping    Battery manufacture Manufacturing, assembly and building of complete motor vehicle Manufacturing, assembly and repair of aircraft Manufacturing of animal drawn carts, wheelbarrows
39	Manufacturing of toys, signs, items not elsewhere classified
<b>ELECTRICITY, GAS AND WATER</b>	
41	Electricity generation and supply
42	Water works and supply
<b>CONSTRUCTION</b>	
50	Building Civil engineering
<b>WHOLESALE AND RETAIL TRADE AND RESTAURANT &amp; HOTELS</b>	
61	Wholesale: fuels Wholesale: Agriculture products Wholesale: other
62	Retail: motor vehicles Retail: other (including street/stall retail)
63	Bars and Restaurants Hotels, rooming houses and camps
<b>TRANSPORT, STORAGE &amp; COMMUNICATION</b>	
71	Rail transport Bus transport Taxi operation; car hire with driver Freight transport by road Rental of automobiles and trucks without drivers Inland water transport Air transport carriers Operation of airports, flying control centres Forwarding, packing crafting; arrangement of transport Storage and warehousing
72	Communications
<b>FINANCING, INSURANCE, REAL ESTATE AND BUSINESS SERVICES</b>	
81	Banks having deposits transferable by cheque Savings banks, credit institutions other than banks, investment companies and trusts, micro-finance institutions
82	Insurance
83	Letting and operating real estate Legal services Accounting and bookkeeping services Engineering, architectural and technical services Advertising services Business services not elsewhere classified Machinery and equipment rental and leasing
<b>COMMUNITY, SOCIAL &amp; PERSONNEL SERVICES</b>	
91	Public administration and defence
92	Sanitary and similar services
93	Educational, commercial and driving schools Private schools Government schools Research and scientific institutes Medical, dental and other services Animal care centres Non-governmental organisations Agricultural cooperatives Welfare institutions Business professional and labour associates Religious organisations Political organisations
94	Motion picture distribution and projection

	Radio broadcasting Concert artists Libraries and museums Amusement and recreational services including clubs
95	Electrical repair shops Repairs of motor vehicles, and motor cycles Watch, clock repairs Bicycles, type writer, camera etc repairs Laundries Barber and beauty Photographic studios Security services Funeral services
96	Private households with employed persons
00	ACTIVITIES NOT ADEQUATELY DEFINED



# **FOOD-UNIT COMBINATIONS IN THE IHPS PHOTO AID FOR FOOD CONSUMPTION INFORMATION COLLECTION**

<i>Item Name [Module G]</i>	<i>Item Code [Module G]</i>	<i>Unit in Photo Aid</i>	<i>Size</i>	<i>Unit Code in Module G</i>		<i>Item Name [Module G]</i>	<i>Item Code [Module G]</i>	<i>Unit in Photo Aid</i>	<i>Size</i>	<i>Unit Code in Module G</i>
Maize <i>ufa mgaiwa</i> (normal flour)	101	Pail	<b>Small</b>	<b>4a</b>		Orange sweet potato	204	Heap	<b>Small</b>	<b>10a</b>
			<b>Medium</b>	<b>4b</b>					<b>Medium</b>	<b>10b</b>
			<b>Large</b>	<b>4c</b>					<b>Large</b>	<b>10c</b>
Maize <i>ufa</i> refined (fine flour)	102	Pail	<b>Small</b>	<b>4a</b>		Bean, brown	302	No.10 Plate	<b>Flat</b>	<b>6a</b>
			<b>Medium</b>	<b>4b</b>					<b>Heaped</b>	<b>6b</b>
			<b>Large</b>	<b>4c</b>						
Maize <i>ufa madeya</i> (bran flour)	103	Pail	<b>Small</b>	<b>4a</b>		Pigeonpea (nandolo)	303	No.10 Plate	<b>Flat</b>	<b>6a</b>
			<b>Medium</b>	<b>4b</b>					<b>Heaped</b>	<b>6b</b>
			<b>Large</b>	<b>4c</b>						
Maize grain (not as <i>ufa</i> )	104	Pail	<b>Small</b>	<b>4a</b>		Groundnut	304	No.10 Plate	<b>Flat</b>	<b>6a</b>
			<b>Medium</b>	<b>4b</b>					<b>Heaped</b>	<b>6b</b>
			<b>Large</b>	<b>4c</b>						
Green maize	105	Piece	<b>Small</b>	<b>9a</b>		Groundnut flour	305	No.10 Plate	<b>Flat</b>	<b>6a</b>
			<b>Medium</b>	<b>9b</b>					<b>Heaped</b>	<b>6b</b>
			<b>Large</b>	<b>9c</b>						
Cassava tuber	201	Piece	<b>Small</b>	<b>9a</b>		Onion	401	Piece	<b>Small</b>	<b>9a</b>
			<b>Medium</b>	<b>9b</b>					<b>Medium</b>	<b>9b</b>
			<b>Large</b>	<b>9c</b>					<b>Large</b>	<b>9c</b>
White sweet potato	203	Piece	<b>Small</b>	<b>9a</b>		Onion	401	Bunch	<b>Small</b>	<b>8a</b>
			<b>Medium</b>	<b>9b</b>					<b>Medium</b>	<b>8b</b>
			<b>Large</b>	<b>9c</b>					<b>Large</b>	<b>8c</b>
White sweet potato	203	Heap	<b>Small</b>	<b>10a</b>		Cabbage	402	Piece	<b>Small</b>	<b>9a</b>
			<b>Medium</b>	<b>10b</b>					<b>Medium</b>	<b>9b</b>
			<b>Large</b>	<b>10c</b>					<b>Large</b>	<b>9c</b>
Orange sweet potato	204	Piece	<b>Small</b>	<b>9a</b>		<i>Tanaposi</i>	403	Bunch	<b>Small</b>	<b>8a</b>
			<b>Medium</b>	<b>9b</b>					<b>Medium</b>	<b>8b</b>
			<b>Large</b>	<b>9c</b>					<b>Large</b>	<b>8c</b>

<b>FOOD-UNIT COMBINATIONS IN THE IHPS PHOTO AID FOR FOOD CONSUMPTION INFORMATION COLLECTION</b>									
<i>Item Name</i> <i>[Module G]</i>	<i>Item Code</i> <i>[Module G]</i>	<i>Unit in</i> <i>Photo Aid</i>	<i>Size</i>	<i>Unit Code in</i> <i>Module G</i>		<i>Item Name</i> <i>[Module G]</i>	<i>Item Code</i> <i>[Module G]</i>	<i>Unit in</i> <i>Photo Aid</i>	<i>Size</i>  <i>Unit Code in</i> <i>Module G</i>
Nkhwani	404	Heap	<b>Small</b> <b>Medium</b> <b>Large</b>	<b>10a</b> <b>10b</b> <b>10c</b>		Fresh Fish (Large Variety)	503	Piece	<b>Small</b> <b>Medium</b> <b>Large</b> <b>9a</b> <b>9b</b> <b>9c</b>
Tomato	408	Piece	<b>Small</b> <b>Medium</b> <b>Large</b>	<b>9a</b> <b>9b</b> <b>9c</b>		Fresh Fish (Small Variety)	503	Heap	<b>Small</b> <b>Medium</b> <b>Large</b> <b>10a</b> <b>10b</b> <b>10c</b>
Tomato	408	Heap	<b>Small</b> <b>Medium</b> <b>Large</b>	<b>10a</b> <b>10b</b> <b>10c</b>		Fresh Fish (Large Variety)	503	Heap	<b>Small</b> <b>Medium</b> <b>Large</b> <b>10d</b> <b>10e</b> <b>10f</b>
Pumpkin	410	Piece	<b>Small</b> <b>Medium</b> <b>Large</b>	<b>9a</b> <b>9b</b> <b>9c</b>		Mango	601	Piece	<b>Small</b> <b>Medium</b> <b>Large</b> <b>9a</b> <b>9b</b> <b>9c</b>
Okra	411	Piece	<b>Small</b> <b>Medium</b> <b>Large</b>	<b>9a</b> <b>9b</b> <b>9c</b>		Banana	602	Piece	<b>Small</b> <b>Medium</b> <b>Large</b> <b>9a</b> <b>9b</b> <b>9c</b>
Okra	411	Heap	<b>Small</b> <b>Medium</b> <b>Large</b>	<b>10a</b> <b>10b</b> <b>10c</b>		Banana	602	Bunch	<b>Small</b> <b>Medium</b> <b>Large</b> <b>8a</b> <b>8b</b> <b>8c</b>
Dried Fish (Large Variety)	502	Piece	<b>Small</b> <b>Medium</b> <b>Large</b>	<b>9a</b> <b>9b</b> <b>9c</b>		Guava	606	Piece	<b>Small</b> <b>Medium</b> <b>Large</b> <b>9a</b> <b>9b</b> <b>9c</b>
Dried Fish (Large Variety)	502	Heap	<b>Small</b> <b>Medium</b> <b>Large</b>	<b>10a</b> <b>10b</b> <b>10c</b>		Cooking oil	803	Satchet/Tube	<b>Small</b> <b>Medium</b> <b>Large</b> <b>22a</b> <b>22b</b> <b>22c</b>
Dried Fish (Small Variety)	502	Heap	<b>Small</b> <b>Medium</b> <b>Large</b>	<b>10d</b> <b>10e</b> <b>10f</b>		Salt	810	No.10 Plate	<b>Flat</b> <b>Heaped</b> <b>6a</b> <b>6b</b>