User Guide for Creating Customizable Harmonized Panel Data Using the Separate Raw Datasets from the Ghana Panel Survey

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Introduction to the Ghana Panel Survey

The EGC–ISSER Ghana Socioeconomic Panel Survey (GSPS) is a collaboration between the Economic Growth Center (EGC) at Yale University, the Global Poverty Research Lab at Northwestern University and the Institute of Statistical, Social, and Economic Research (ISSER) at the University of Ghana, Legon. The survey is principally funded and designed by the EGC, Northwestern and ISSER, and carried out and supervised by ISSER.

The main objective is to provide a scientific framework for a wide range of potential studies of the medium- and long-term changes that are taking place during the process of development. The survey is meant to remedy a major constraint on the understanding of development in low-income countries – the absence of detailed, multi-level and long-term scientific data that follows individuals over time and describes both the natural and built environment in which the individuals reside. Most data collection efforts are short-term – carried out at one point in time; and limited in scope – collecting information on only a few aspects of the lives of the persons in the study; and when there are multiple rounds of data collection, individuals who leave the study area are dropped. This means that the most mobile people are not included in existing surveys and studies, perhaps substantially biasing inferences about who benefits from and who bears the cost of the development process. The goal of this project is to follow all individuals, or a random subset, over time using a comprehensive set of survey instruments to shed new light on long-run processes of economic development.

Our strategy is to permit the investigation of unexpected connections between the multiple transformations that occur during the process of economic development. To do so, we have implemented a large-scale, nation-wide panel survey in Ghana that will extend for at least 15 years. The first three survey waves have been completed – conducted in 2009/2010, 2013/2014, and 2017/2018. In 2019, the Ghana Panel Survey was also administered to a sample of participants in Ghana's rural north who had been classified as "extremely poor" through community-level focus groups. The next wave of the GSPS is now being planned. Data from the first three survey waves are publicly available at https://egc.yale.edu/data/egc-isser-northwestern-ghana-panel-survey.

The next section of this user guide provides instructions and sample code templates for creating harmonized panel data from the raw survey datasets. Later sections provide details on the available data as well as the variation in the variable names across the raw datasets.

Customizable Code Template and Steps for Creating Panel Data

The raw data from separate waves of the GSPS need to be processed and harmonized before they can be used for panel data analysis. The GSPS has collected very rich data, as detailed in later sections. This section uses a worked example to provide sample code templates for creating harmonized panel data. The raw GSPS datasets need to be processed before they can be merged and appended to form a single dataset that can be used for analysis. For example, a researcher may desire a single panel dataset with the following variables:

Variable name	***Variable description***
FPrimary	Household (HH) number
hhmid	HH Member ID
wave	Wave
gender	Gender
dayofbirth	Day of birth
monthofbirth	Month of birth
yearofbirth	Year of birth
relationship	Relationship to HH Head
maritalstatus	Marital status
spouseid	Spouse ID
agemarried	Age at marriage
yearmarried	Year in which persen got married
dowrygiven	Amount of dowry given (in cedis)
dowryreceived	Amount of dowry received (in cedis)
religion	Religious denomination of person
nationality	Nationality
ethnicity	Ethnic group
fatherinhouse	Does father live in this household?
fatherid	ID of father if he lives in the household
fathereduc	Father's highest level of education
fatherwork	Father's occupation for most of his life
motherinhouse	Does mother live in this household?
motherid	ID of mother if she lives in the household
mothereduc	Mother's highest level of education
motherwork	Mother's occupation for most of her life
politicaloffice	Has the person ever held a political office?
stillpoloffice	Does the person still hold political office?
traditionaloffice	Has the person ever held a traditional office?
stilltradoffice	Does the person still hold this traditional office?
awaylast12	For how many months has the person been away from this HH in last 12 months?

In order to create the desired dataset, the user must first set up environment variables (as specified at the end of this section), process each of the raw datasets as required (based on the documentation in the following sections), and then store the processed data in temporary files before appending them. The environment variable `raw_ghana_data` should be linked to the path containing the raw data provided at https://egc.yale.edu/data/egc-isser-northwestern-ghana-panel-survey. The environment variable `clean_ghana_data` should be linked to the location where the user desires to store the clean harmonized data. Based on the information in the following sections, the following Stata code template creates the desired data:

```
clear all
set more off

global raw_ghana_data : env raw_ghana_data
global clean_panel_data : env clean_panel_data

global wave1_raw_data "$raw_ghana_data/Data/Wave 1"
global wave2_raw_data "$raw_ghana_data/Data/Wave 2"
global wave3_raw_data "$raw_ghana_data/Data/Wave 3"


global tempvarlist FPrimary hhmid wave gender dayofbirth monthofbirth
yearofbirth relationship maritalstatus spouseid agemarried yearmarried
dowrygiven dowryreceived religion nationality ethnicity fatherinhouse
fatherid fathereduc fatherwork motherinhouse motherid mothereduc
motherwork politicaloffice stillpoloffice traditionaloffice
stilltradoffice awaylast12

use "$wave1_raw_data/s1d.dta", clear

rename s1d_1 gender
rename sid_3i dayofbirth
rename s1d_3ii monthofbirth
rename s1d_3iii yearofbirth
rename s1d_2 relationship
rename s1d_6 maritalstatus
rename s1d_8 spouseid
rename s1d_9 agemarried
rename s1d_11 yearmarried
rename s1d_10ai dowrygiven
rename s1d_10bi dowryreceived
rename s1d_13 religion
rename s1d_15 nationality
rename s1d_16 ethnicity
rename s1d_17i fatherinhouse
rename s1d_17ii fatherid
rename s1d_18 fathereduc
rename s1d_19 fatherwork
```

```
rename s1d_20i motherinhouse
rename s1d_20ii motherid
rename s1d_21 mothereduc
rename s1d_22 motherwork
rename s1d_23 politicaloffice
rename s1d_24 stillpoloffice
rename s1d_25 traditionaloffice
rename s1d_26 stilltradoffice
rename s1d_27 awaylast12

tostring FPrimary, replace

keep $tempvarlist
order $tempvarlist

tempfile temp_w1
save "`temp_w1'"

use "$wave2_raw_data/01b2_roster.dta", clear

replace yearofbirth = year(dateofbirth) if yearofbirth==.
gen monthofbirth = month(dateofbirth)
gen dayofbirth = day(dateofbirth)

keep FPrimary hhmid wave gender dayofbirth monthofbirth yearofbirth
relationship

merge 1:1 FPrimary hhmid using "$wave2_raw_data/01d_background.dta"

split ethnicity, p(.) limit(2)
destring ethnicity2, replace
drop ethnicity
rename ethnicity2 ethnicity

keep $tempvarlist
order $tempvarlist

tempfile temp_w2
save "`temp_w2'"

use "$wave3_raw_data/01b2_roster.dta", clear

replace yearofbirth = year(dateofbirth) if yearofbirth==.
gen monthofbirth = month(dateofbirth)
gen dayofbirth = day(dateofbirth)

keep FPrimary hhmid gender dayofbirth monthofbirth yearofbirth
relationship maritalstatus

merge 1:1 FPrimary hhmid using "$wave3_raw_data/01d_background.dta"

gen wave = 3
```

```
rename spouseid_1 spouseid

keep $tempvarlist
order $tempvarlist

tempfile temp_w3
save "`temp_w3'"

use "`temp_w1'", clear
append using "`temp_w2'", force
append using "`temp_w3'", force
foreach var in gender fatherinhouse motherinhouse stillpoloffice
stilltradoffice {
     replace `var' = 2 if `var'==5 & inlist(wave,2,3)
}
foreach var in fathereduc mothereduc {
     replace `var' = 1 if `var'==0 & inlist(wave,2,3)
     replace `var' = 13 if `var'==95 & inlist(wave,2)
     replace `var' = 13 if `var'==-666 & inlist(wave,3)
     replace `var' = -9 if  `var' < -666 & inlist(wave,3)
}
sort FPrimary hhmid wave

valtovar *

label define fatherwork 0 "Has no occupation" 36 "Self employed
farmer" 37 "Forestry worker" 38 "Fisherman/fishmonger" 39 "Self
employed trader" 40 "Employed shop attendant" 95 "Other", modify
label define motherwork 0 "Has no occupation" 36 "Self employed
farmer" 37 "Forestry worker" 38 "Fisherman/fishmonger" 39 "Self
employed trader" 40 "Employed shop attendant" 95 "Other", modify


replace politicaloffice = 6 if politicaloffice==95 & inlist(wave,2)
replace politicaloffice = 6 if politicaloffice==-666 & inlist(wave,3)
replace politicaloffice = . if politicaloffice < -666 & inlist(wave,3)
replace politicaloffice = politicaloffice + 1 if inlist(wave,2,3)

replace traditionaloffice = 8 if traditionaloffice==95 &
inlist(wave,2)
replace traditionaloffice = 8 if traditionaloffice==-666 &
inlist(wave,3)
replace traditionaloffice = . if traditionaloffice < -666 &
inlist(wave,3)
replace traditionaloffice = traditionaloffice + 1 if inlist(wave,2,3)

label var FPrimary "Household (HH) number"
label var hhmid "HH Member ID"
label var wave "Wave"
label var gender "Gender"
label var dayofbirth "Day of birth"
label var monthofbirth "Month of birth"
```

```
label var yearofbirth "Year of birth"
label var relationship "Relationship to HH Head"
label var maritalstatus "Marital status"
label var spouseid "Spouse ID"
label var agemarried "Age at marriage"
label var yearmarried "Year in which persen got married"
label var dowrygiven "Amount of dowry given (in cedis)"
label var dowryreceived "Amount of dowry received (in cedis)"
label var religion "Religious denomination of person"
label var nationality "Nationality"
label var ethnicity "Ethnic group"
label var fatherinhouse "Does father live in this household?"
label var fatherid "ID of father if he lives in the household"
label var fathereduc "Father's highest level of education"
label var fatherwork "Father's occupation for most of his life"
label var motherinhouse "Does mother live in this household?"
label var motherid "ID of mother if she lives in the household"
label var mothereduc "Mother's highest level of education"
label var motherwork "Mother's occupation for most of her life"
label var politicaloffice "Has the person ever held a political
office?"
label var stillpoloffice "Does the person still hold political
office?"
label var traditionaloffice "Has the person ever held a traditional
office?"
label var stilltradoffice "Does the person still hold this traditional
office?"
label var awaylast12 "For how many months has the person been away
from this HH in last 12 months?"


save "$clean_panel_data/household_background.dta", replace
```

In order to run the above code, the user needs to set up two environment variables: `raw_ghana_data` and `clean_ghana_data`. The environment variable `raw_ghana_data` should be linked to the path containing the raw data provided at https://egc.yale.edu/data/egc-isser-northwestern-ghana-panel-survey. The environment variable `clean_ghana_data` should be linked to the location where the user desires to store the clean harmonized data.

One can set up environment variables on Windows 10 OS by following the below instructions:

1. Open “Control Panel,” select “System and Security,” and then select “System.” Then, on the left pane, select “Advanced system settings.” This will open “System Properties.”
2. Select the “Envrionment Variables...” option at the bottom. Then, click on the “New...” option under the “User variables” section of the “Environment Variables” window.

3. Then, in the "New User Variable" dialog box, enter the "Variable name" (i.e., `raw_ghana_data` or `clean_ghana_data`) and "Variable value" (e.g., `C:\Users\username\Documents\raw_ghana_data` or `C:\Users\username\Documents\clean_ghana_data`, if the corresponding folders are located in `username`'s `Documents` folder, using a backslash `\` rather than a forward slash / in the file path). Then, click on "OK." Again, click on "OK" in the "System Properties" interface window. This completes the setup.

On macOS computers, one can use the `env` command or the `printenv` command to see the existing environment variables. One can set up new environment variables on macOS by following the below instructions:

1. Open Script Editor (using Launchpad) and enter the following line into the editor:
   `do shell script "launchctl setenv [NAME] [PATH]"`
   where `[NAME]` and `[PATH]` should be replaced with the environment variable name and the corresponding folder path, respectively. For example, a user with the name `username` could set up the environment variable `raw_ghana_data` (if the associated folder is located on the Desktop) by entering the following line into the editor:
   `do shell script "launchctl setenv projectab /Users/username/Desktop/raw_ghana_data"`
   If other environment variables need to be set up, a new line (using the same syntax) should be used in the editor for each of them.
2. Then, save the script as "Environments" (or any other name, since the file name per se does not matter) on Desktop or any other easily accessible location. When saving, make sure to select "Application" in the drop-down list next to "File Format."
3. In the upper left corner, click on the Apple icon and choose "System Preferences." Select "Users & Groups" and then your user account. Next, click on "Login Items" at the top of the window and add the saved "Environemnts" script to "Login Items."
4. To apply changes, restart your computer. Check that the environment variable(s) work(s) by opening Terminal and using the command `env` or `printenv`.

Household Background Variables

Background Information

Note: In the table below, the abbreviations W1, W2, and W3 are used to refer to the relevant variables in the raw datasets from survey waves 1, 2, and 3, respectively.

Question / Variable	***Variable name***	***Notes***
Household ID	hhno (W1) FPrimary (W2 & W3)	
Member ID	hhmid (W1) hhmid (W2 &W3)	
Gender	s1d_1 (W1) gender (W2)	
Who is person answering these questions?	N/A (W1), interviewedid (W2 & W3)	
Day of Birth	sid_3i (W1)	
Date of birth	dateofbirth (W1) dateofbirth (W2)	
Month of birth	s1d_3ii (W1)	
Year of Birth	yearofbith (W2)	
Age	age (W2 & W3)	No W1
Age (years)	s1d_4i (W1), ageyears (W2)	
Age (months)	s1d_4ii (W1), agemonths (W2)	
Decade	decade (panel)	
Under 12 years old	s1d_5 (W1), N/A (W2)	
Relationship to household head	s1d_2 (W1), relationship (W2)	
What is Name's marital status?	s1d_6 (W1), maritalstatus (W2 & W3)	
Whether a new member	new_mem (W3)	W3 only
Does spouse live in household	s1d_7 (W1) spouseinhouse (W3)	No W2
Spouse ID	s1d_8 (W1) spouseid (W2)	
Spouse index 1	spouseindex_1 (W3)	W3 only
Spouse ID 1	spouseid_1 (W3)	W3 only
Spouse index 2	spouseindex_2 (W3)	W3 only
Spouse ID 2	spouseid_2 (W3)	W3 only
Spouse index 3	spouseindex_3 (W3)	W3 only

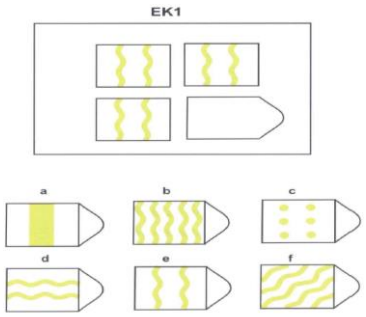
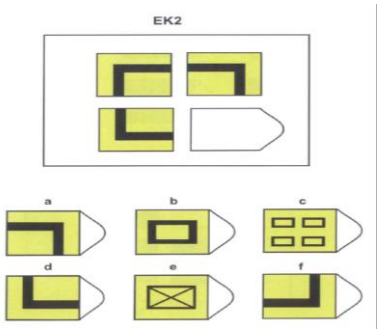
Spouse ID 3	spouseid_3(W3)	W3 only
At what age did Name get married or start living with partner	s1d_9 (W1) agemarried (W2 & W3)	
In what year did Name get married	s1d_11 (W1) yearmarried (W2 & W3)	
How much did Name's family contribute in bride price/dowry	s1d_10ai + s1d_10aii/100 (W1) dowrygiven (W2 & W3)	
Currency type	downrygivencedis (W3)	W3 only
Currency type other	downrygivenother (W3)	W3 only
How much did Name's family receive in bride price/dowry	s1d_10bi + s1d_10bii/100 (W1) dowryreceived (W2)	
Currency type	downryreceivedcedis (W3)	W3 only
Currency type other	downryreceivedother (W3)	W3 only
How much did [name]'s family contribute towards the ceremony for this marriage (e.g. wedding)	N/A (W1) ceremony (W2 & W3) ceremony (panel)	
Currency type	ceremonycedis (W3)	W3 only
Currency type other	ceremonyother (W3)	W3 only
What is Name's religious denomination	s1d_13 (W1) religion (W2 & W3)	
(other) What is Name's religious denomination	s1d_13 (W1) religionother (W2 & W3)	
What Christian denomination does [Name] belong to?	christian_denom (W3)	W3 only
other What Christian denomination does [Name] belong to?	christian_denomother (W3)	W3 only
What Muslim denomination does [Name] belong to?	muslim_denom (W3)	W3 only
other What Muslim denomination does [Name] belong to	muslim_denomother (W3)	W3 only
Region/Country of birth of person	s1d_14 (W1)	W1 only
Region of birth	whereborn_region (W2 & W3)	No W1
Country	whereborn_country (W2 & W3)	No W1
District	whereborn_district (W2 & W3)	No W1
District	whereborn_dcode (W2)	W2 only
What is Name's nationality	s1d_15 (W1) nationality (W2 & W3)	
(other) What is name's nationality	N/A (W1) nationalityother (W2 & W3)	
To what ethnic group does name belong	s1d_16 (W1) ethnicity (W2 & W3)	
(other) To what ethnic group does Name belong	N/A (W1), ethnicityother (W2 & W3)	
Does Name's father live in household	s1d_17i (W1)	

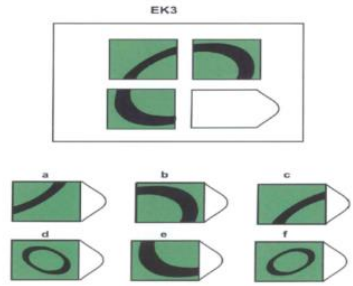
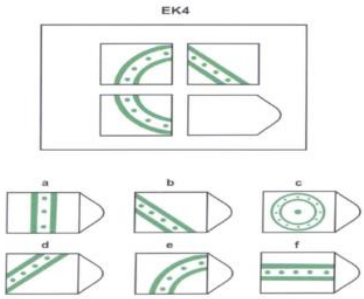
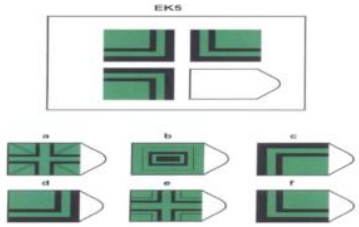
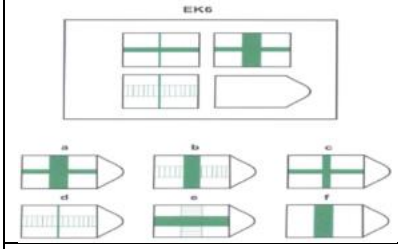
	fatherinhouse (W2 & W3)	
(ID) Does Name's father live in household	s1d_17ii (W1) fatherid (W2 & W3)	
What was Name's father's highest level of education	s1d_18 (W1) fathereduc (W2 & W3)	
(other) What was Name's father's highest level of education completed?	N/A (W1), fathereducother (W2 & W3)	
What kind of work has Name's father done for most of his life	s1d_19 (W1) fatherwork (W2 & W3)	
(other) What kind of work has Name's father done for most of his life	N/A (W1) fatherworkother (W2)	No W3
Does Name's mother live in this household	s1d_20i (W1) motherinhouse (W2 & W3)	
(ID) Does Name's mother live in this household	s1d_20ii (W1) motherid (W2 & W3)	
What was Name's mother's highest level of education completed?	s1d_21 (W1) mothereduc (W2 & W3)	
(other) What was Name's mother's highest level of education completed?	mothereducother (W2 & W3)	No W1
What kind of work has Name's mother done for most of her life	s1d_22 (W1) motherwork (W2 & W3)	
(other) What kind of work has Name's mother done for most of her life	motherworkother (W2)	W2 only
Has Name ever held political office	s1d_23 (W1), politicaloffice (W2 & W3)	
(other) Has Name ever held political office	politicalofficeother (W2)	W2 only
Does name still hold this political office	s1d_24 (W1), stillpoloffice (W2 & W3)	
Has name ever held traditional office	s1d_25 (W1), traditionaloffice (W2 & W3)	
(other) Has name ever held traditional office	s1d_25 (W1), traditionalofficeother (W2)	No W3
Does name still hold this traditional office	s1d_26 (W1), stilltradoffice (W2 & W3)	
For how many months has Name been away past year	s1d_27 (W1), awaylast12 (W2 & W3)	
If person is living in another HH in this EA, please provide HH ID of person	s1d_28 (W1),	W1 only
For what reason did Name move away	s1d_29 (W1), otherhouse (W2)	
For what reason did Name move away	s1d_30 (W1)	No W2
For what reason did Name move away	movereason (W2 & W3)	No W1
(other) For what reason did Name move away	movereasonother (W2 & W3)	No W1
What country did [Name] move to	s1d_33 (W1)	W1 only

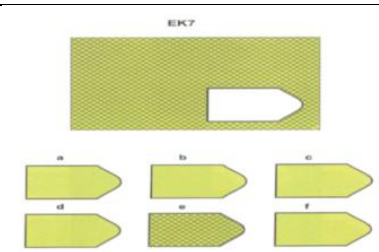
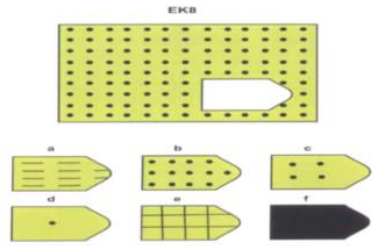
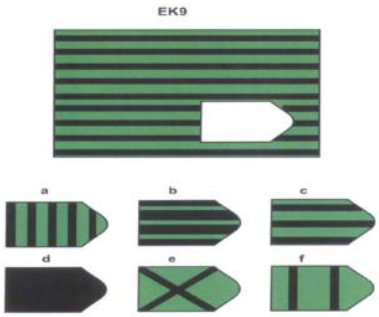
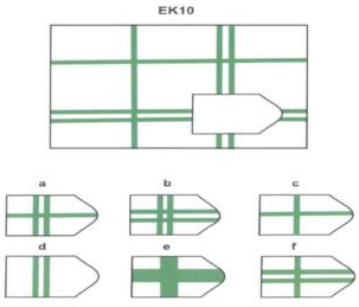
(country) Where did Name move to	movewhere_country (W2 & W3)	No W1
If in Ghana, where did person move	s1d_31 (W1)	W1 only
(region) Where did Name move to	movewhere_region (W2 & W3)	No W1
(district) Where did Name move to	s1d_32 (W1)	W1 only
(district) Where did Name move to	movewhere_dcode (W2)	W2 only
(district) Where did Name move to	movewhere_district (W2 & W3)	No W1

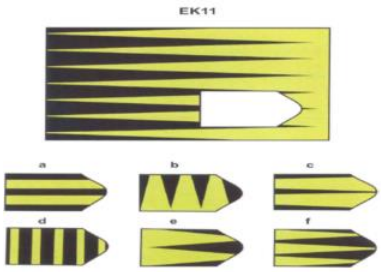
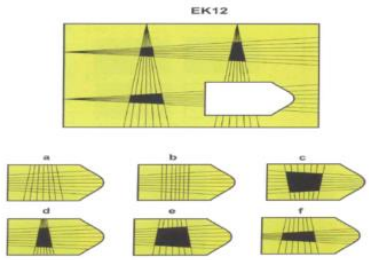
Raven's Pattern Cognitive Assessment

Note: Raven's cognitive pattern assessment was administered to all household members (aged 5 and up) only in wave 3. In waves 1 and 2, the assessment was administered to only children. These variables for waves 1 and 2 can be found in the raw datasets named "s9c.dta" and "09c_ravenspattern.dta," respectively.

Question / Variable	***Variable name in Wave 3***	***Notes***
Which shape did [Name] point to for this picture? letter of shape in EK1 	ravens_01	
Which shape did [Name] point to for this picture? letter of shape in EK2 	ravens_02	

Which shape did [Name] point to for this picture? letter of shape in EK3 	ravens_03	
Which shape did [Name] point to for this picture? letter of shape in EK4 	ravens_04	
Which shape did [Name] point to for this picture? letter of shape in EK5 	ravens_05	
Which shape did [Name] point to for this picture? letter of shape in EK6 	ravens_06	
Which shape did [Name] point to for this picture? letter of shape in EK7	ravens_07	

		
Which shape did [Name] point to for this picture? letter of shape in EK8 	ravens_08	
Which shape did [Name] point to for this picture? letter of shape in EK9 	ravens_09	
Which shape did [Name] point to for this picture? letter of shape in EK10 	ravens_10	
Which shape did [Name] point to for this picture? letter of shape in EK11	ravens_11	

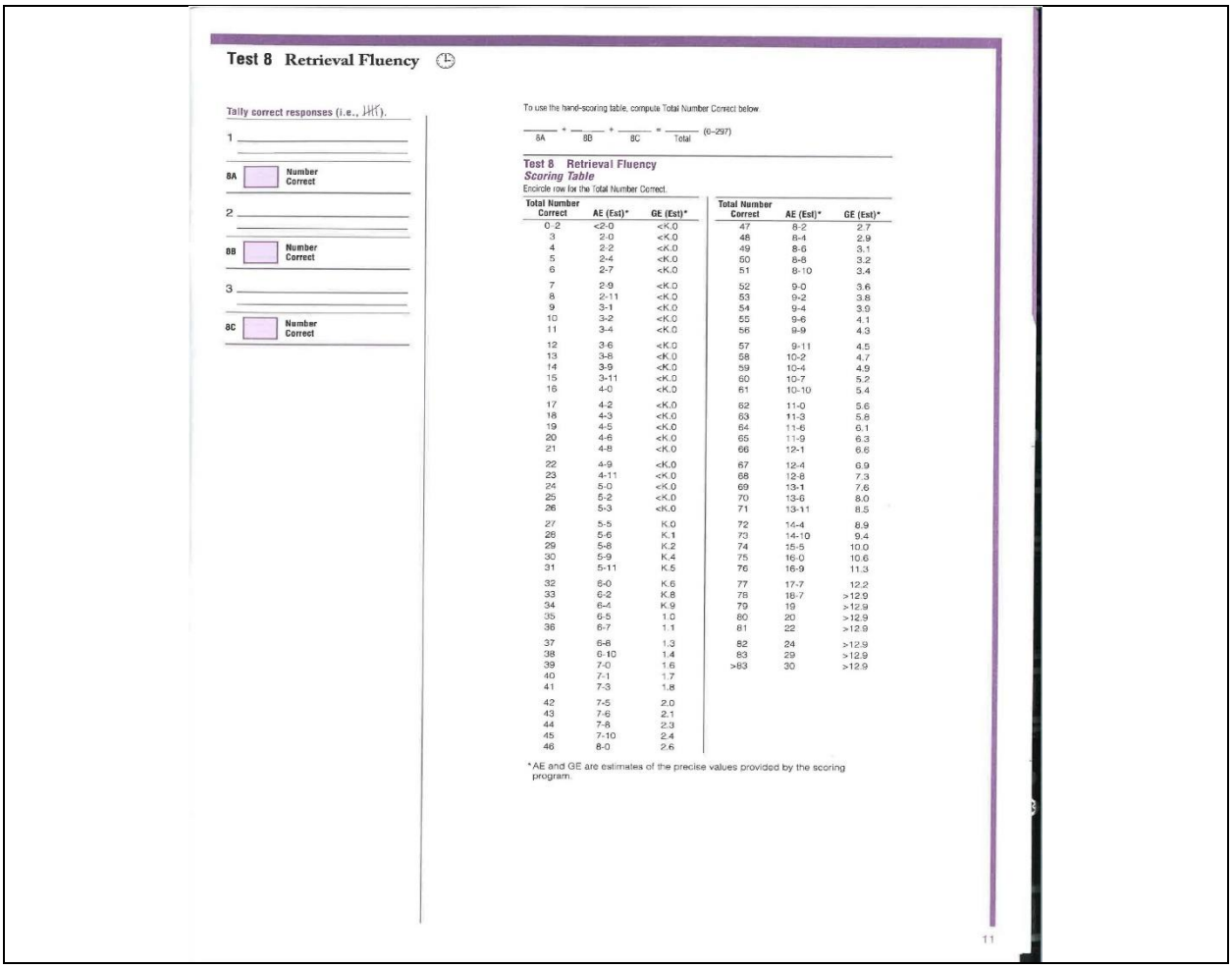
		
Which shape did [Name] point to for this picture? letter of shape in EK12 	ravens_12	

Retrieval Fluency Task

Note: The retrieval fluency task was administered to all household members (aged 5 and up) only in wave 3. In waves 1 and 2, the assessment was administered to only children.

Question / Variable	***Variable name in Wave 3***	***Notes***
Score for test 1 <u>Test Item 1:</u> *INTERVIEWER READS*: I want you to say different things that you can eat or drink. You will have one minute to say as many words as you can. Say the words as quickly as you can. (Pause) Start now. (Begin Timing 1 minute). Interviewer: Count brand names of foods or drinks, such as Coca Cola, as	fluency_item1_score	

correct answers. After exactly one minute, tell the respondent to stop.		
Score for test 2 <u>Test Item 2:</u> *INTERVIEWER READS*<u>:</u> Now I want you to say first names of people. You will have one minute to say as many words as you can. Say the words as quickly as you can. (Pause) Start now. After exactly 1 minute, say: Stop. Interviewer: Count variations of the same name, such as Bob, Bobby, and Robert, as separate correct answers. Count formal names, such as Mrs. Smith, as correct answers. After exactly one minute, tell the respondent to stop.	fluency_item2_score	
Score for test 3 <u>Test Item 3:</u> *INTERVIEWER READS*<u>:</u> Now I want you to say different animals. You will have one minute to say as many words as you can. Say the words as quickly as you can. (Pause) Start now. (Begin Timing 1 minute). After exactly 1 minute, say: Interviewer: After exactly one minute, tell the respondent to stop.	fluency_item3_score	



Test 8 Retrieval Fluency

Tally correct responses (i.e., ||||).

1 _____

8A [ ] Number Correct

2 _____

8B [ ] Number Correct

3 _____

8C [ ] Number Correct

To use the hand-scoring table, compute Total Number Correct below.

_____ + _____ + _____ = _____ (0–297)
8A 8B 8C Total

Test 8 Retrieval Fluency
Scoring Table
Encircle row for the Total Number Correct.

Total Number Correct	AE (Est)*	GE (Est)*
0–2	<2-0	<K.0
3	2-0	<K.0
4	2-2	<K.0
5	2-4	<K.0
6	2-7	<K.0
7	2-9	<K.0
8	2-11	<K.0
9	3-1	<K.0
10	3-2	<K.0
11	3-4	<K.0
12	3-6	<K.0
13	3-8	<K.0
14	3-9	<K.0
15	3-11	<K.0
16	4-0	<K.0
17	4-2	<K.0
18	4-3	<K.0
19	4-5	<K.0
20	4-6	<K.0
21	4-8	<K.0
22	4-9	<K.0
23	4-11	<K.0
24	5-0	<K.0
25	5-2	<K.0
26	5-3	<K.0
27	5-5	K.0
28	5-6	K.1
29	5-8	K.2
30	5-9	K.4
31	5-11	K.5
32	6-0	K.6
33	6-2	K.8
34	6-4	K.9
35	6-5	1.0
36	6-7	1.1
37	6-8	1.3
38	6-10	1.4
39	7-0	1.6
40	7-1	1.7
41	7-3	1.8
42	7-5	2.0
43	7-6	2.1
44	7-8	2.3
45	7-10	2.4
46	8-0	2.6
47	8-2	2.7
48	8-4	2.9
49	8-6	3.1
50	8-8	3.2
51	8-10	3.4
52	9-0	3.6
53	9-2	3.8
54	9-4	3.9
55	9-6	4.1
56	9-9	4.3
57	9-11	4.5
58	10-2	4.7
59	10-4	4.9
60	10-7	5.2
61	10-10	5.4
62	11-0	5.6
63	11-3	5.8
64	11-6	6.1
65	11-9	6.3
66	12-1	6.6
67	12-4	6.9
68	12-8	7.3
69	13-1	7.6
70	13-6	8.0
71	13-11	8.5
72	14-4	8.9
73	14-10	9.4
74	15-5	10.0
75	16-0	10.6
76	16-9	11.3
77	17-7	12.2
78	18-7	>12.9
79	19	>12.9
80	20	>12.9
81	22	>12.9
82	24	>12.9
83	29	>12.9
>83	30	>12.9

*AE and GE are estimates of the precise values provided by the scoring program.

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Math Questions

Note: Math questions were administered to all household members (aged 5 and up) only in wave 3. In waves 1 and 2, the assessment was administered to only children.

Question / Variable	***Variable name in Wave 3***	***Notes***
Q1. 1 + 2 =	math_01	
Q1 – Whether respondent correctly answered	math_01_yn	
Q2. 5 – 2 =	math_02	
Q2 – Whether respondent correctly answered	math_02_yn	
Q3. 2 × 3 =	math_03	

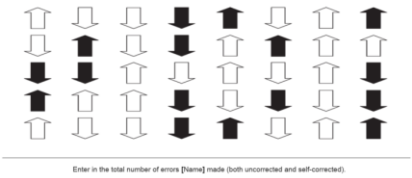
Q3 – Whether respondent correctly answered	math_03_yn	
Q4. 10 ÷ 5 =	math_04	
Q4 – Whether respondent correctly answered	math_04_yn	
Q5. 5 + 17 =	math_05	
Q5 – Whether respondent correctly answered	math_05_yn	
Q6. 33 – 19 =	math_06	
Q6 – Whether respondent correctly answered	math_06_yn	
Q7. 17 × 3 =	math_07	
Q7 – Whether respondent correctly answered	math_07_yn	
Q8. 42 ÷ 7 =	math_08	
Q8 – Whether respondent correctly answered	math_08_yn	
Number of correct answers	math_score	

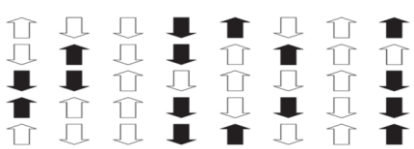
Neuro-Psychological Assessment (NEPSY)

Note: NEuroPSYchological Assessment (NEPSY) was administered to all household members (aged 5 and up) only in wave 3. In waves 1 and 2, the assessment was administered to only children.

Question / Variable	***Variable name in Wave 3***	***Notes***
Score for arrows naming test Teaching Example Instructions 1. Put the teaching example stimulus in front of the respondent. 2. Say, “Tell me which way the arrows point, up or down. See, this one [point to first arrow] is pointing up, so say *up*. This one [point to third arrow] is pointing down, so say *down*. Tell me if the arrow is up or down as fast as you can without making any mistakes. Watch me.” 3. Demonstrate saying the direction of the arrow by reading the entire row	naming_task_score	

to the respondent as you point to each arrow. 4. Say, “Now you try. Tell me if the arrow is up or down as quickly as you can. Start now.” 5. Correct any errors. If the respondent ask about the black arrows, say, “Don’t worry if the arrows are black or white, just tell me *up* or *down*.” If the respondent makes five or more errors (do not include self-corrected errors), do not administer the Arrow Naming or Inhibition task. If the respondent makes fewer than five errors, administer Item 3, Naming Test Items. Interviewer: If the respondent asks about the color of the arrows, say "Don't worry if the arrows are black or white. Just tell me if they are up or down." If the respondent makes five or more errors (do NOT include self-corrected errors), do not administer the next two tasks. If the respondent makes fewer than five errors, proceed by administering the next item. Item 1: Arrows Naming *INTERVIEWER READS*, “Now do the same thing you just did. Tell me if the arrow is up or down as quickly as you can without making mistakes. Start now.” Interviewer: Start the timer as soon as you say "start now". End the timer when the respondent is finished or at 180 seconds,		

whichever comes first. Use tally marks on a piece of paper to record the number of errors made, and then enter the total number of errors into the form when prompted Record the time to completion (Max 180 seconds): _____ <u>Scoring Sheet</u> Put an X over any shape that is incorrect. If they do not complete the task in 180 seconds mark the last arrow attempted.  		
Whether to continue with next test	continue_yn	
Score for arrows inhibition test Teaching Example Instructions 1. Put the teaching example stimulus in front of the respondent. 2. *INTERVIEWER READS* "This time you will do something different. When you see an up arrow, say *down* and when you see a down arrow, say *up*. Watch me." 3. Demonstrate saying the direction of the arrow by reading the entire row to the respondent as you point to each arrow. 4. *INTERVIEWER READS*: "Now you try. When you see an up arrow, say *down* and when you see a down arrow, say *up*. Work as quickly as you can. Start now." 5. Correct any errors. Interviewer: If the respondent asks about the black arrows, say, "Don't worry if the arrows are black or white, just tell me *up* or *down*."	Inhibit_task_score	

If the respondent makes five or more errors (do not include self-corrected errors), do not administer the Arrow Inhibition task. If the respondent makes fewer than five errors, proceed by administering the next item Item 2: Arrows Inhibition Teaching Example Stimulus _____ Item 2: Arrows Inhibition *INTERVIEWER READS*: "Now do the same thing you just did. Say "down" when you see an up arrow and say "up" when you see a down arrow. Don't worry if they are black or white, just tell me if they are up or down. Work as quickly as you can. Start now." Interviewer:: Start the timer as soon as you say "start now". End the timer when the respondent is finished or at 240 seconds, whichever comes first. Use tally marks on a piece of paper to record the number of errors made, and then enter the total number of errors into the form when prompted. Record the time to completion (Max 240 seconds): _____ <u>Scoring Sheet</u> Put an X over any shape that is incorrect. If they do not complete the task in 240 seconds mark the last arrow attempted.  Enter in the total number of errors [Name] made (both uncorrected and self-corrected).: _____		

Digit Span Testing

Note: Digit span testing was administered to all household members (aged 5 and up) only in wave 3. In waves 1 and 2, the assessment was administered to only children.

Question / Variable	***Variable name in Wave 3***	***Notes***
Q1a. *INTERVIEWER READS: "*Ready? Repeat after me, 2-3-4-5-6-7-8-9" Did [Name] repeat these numbers correctly? 1. Yes 5. No	forwards_01a	
Q1b. *INTERVIEWER READS: "*Ready? Repeat after me, 4-5-6" Did [Name] repeat these numbers correctly? 1. Yes 5. No	forwards_01b	
Q1c. [Did respondent get part 1a & 1b wrong? Response for this question is automatically filled in by the program and controls the skip]	forwards_01c	
Q2a. *INTERVIEWER READS: "*Ready? Repeat after me, 3-8-6" Did [Name] repeat these numbers correctly? 1. Yes 5. No	forwards_02a	
Q2b. *INTERVIEWER READS: "*Ready? Repeat after me, 6-1-2" Did [Name] repeat these numbers correctly? 1. Yes 5. No	forwards_02b	
Q2c. [Did respondent get part 2a & 2b wrong? Response for this question is automatically filled in by the program and controls the skip]	forwards_02c	
Q3a. *INTERVIEWER READS: "*Ready? Repeat after me, 3-4-1-7" Did [Name] repeat these numbers correctly? 1. Yes 5. No	forwards_03a	
Q3b. *INTERVIEWER READS: "*Ready? Repeat after me, 6-1-5-8" Did [Name] repeat these numbers correctly? 1. Yes 5. No	forwards_03b	
[Q3c. Did respondent get part 3a & 3b wrong? Response for this question is automatically filled in by the program and controls the skip]	forwards_03c	

Q4a. *INTERVIEWER READS: "*Ready? Repeat after me, 8-4-2-3-9" Did [Name] repeat these numbers correctly? 1. Yes 5. No	forwards_04a	
Q4b. *INTERVIEWER READS: "*Ready? Repeat after me, 5-2-1-8-6" Did [Name] repeat these numbers correctly? 1. Yes 5. No	forwards_04b	
[Q4c. Did respondent get part 4a & 4b wrong? Response for this question is automatically filled in by the program and controls the skip]	forwards_04c	
Q5a. *INTERVIEWER READS: "*Ready? Repeat after me, 3-8-9-1-7-4" Did [Name] repeat these numbers correctly? 1. Yes 5. No	forwards_05a	
Q5b. *INTERVIEWER READS: "*Ready? Repeat after me, 7-9-6-4-8-3" Did [Name] repeat these numbers correctly? 1. Yes 5. No	forwards_05b	
[Q5c. Did respondent get part 5a & 5b wrong? Response for this question is automatically filled in by the program and controls the skip]	forwards_05c	
Q6a. *INTERVIEWER READS:* "Ready? Repeat after me, 5-1-7-4-2-3-8" Did [Name] repeat these numbers correctly? 1. Yes 5. No	forwards_06a	
Q6b. *INTERVIEWER READS:* "Ready? Repeat after me, 9-8-5-2-1-6-3" Did [Name] repeat these numbers correctly? 1. Yes 5. No	forwards_06b	
[Q6c. Did respondent get part 6a & 6b wrong? Response for this question is automatically filled in by the program and controls the skip]	forwards_06c	
Q7a. *INTERVIEWER READS: "*Ready? Repeat after me, 1-6-4-5-9-7-6-3" Did [Name] repeat these numbers correctly? 1. Yes 5. No	forwards_07a	
Q7b. *INTERVIEWER READS: "*Ready? Repeat after me, 2-9-7-6-3-1-5-4"	forwards_07b	

Did [Name] repeat these numbers correctly? 1. Yes 5. No		
[Q7c. Did respondent get part 7a & 7b wrong? Response for this question is automatically filled in by the program and controls the skip]	forwards_07c	
Q8a. *INTERVIEWER READS: "*Ready? Repeat after me, 5-3-8-7-1-2-4-6-9" Did [Name] repeat these numbers correctly? 1. Yes 5. No	forwards_08a	
Q8b. *INTERVIEWER READS: "*Ready? Repeat after me, 4-2-6-9-1-7-8-3-5" Did [Name] repeat these numbers correctly? 1. Yes 5. No	forwards_08b	
Whether answered 8a and 8b wrong	forwards_08c	
Please confirm the exact time. HH:MM	forwards_endtime	
Please confirm the exact time. HH:MM	backwards_starttime	
Q9a. *INTERVIEWER READS*: "Ready? Say backwards, 2-5" Answer: (do NOT read) "5-2" Did [Name] repeat these numbers correctly? 1. Yes 5. No	backwards_09a	
Q9b. *INTERVIEWER READS*: "Ready? Say backwards, 6-3" Answer: (do NOT read) "3-6" Did [Name] repeat these numbers correctly? 1. Yes 5. No	backwards_09b	
[Q9c. Did respondent get part 9a & 9b wrong? Response for this question is automatically filled in by the program and controls the skip]	backwards_09c	
Q10a. *INTERVIEWER READS*: "Ready? Say backwards, 5-7-4" Answer: (do NOT read) "4-7-5" Did [Name] repeat these numbers correctly? 1. Yes 5. No	backwards_10a	
Q10b. *INTERVIEWER READS*: "Ready? Say backwards, 2-5-9"	backwards_10b	

Answer: (do NOT read) “9-5-2” Did [Name] repeat these numbers correctly? 1. Yes 5. No		
[Q10c. Did respondent get part 10a & 10b wrong? Response for this question is automatically filled in by the program and controls the skip]	backwards_10c	
Q11a. *INTERVIEWER READS*: “Ready? Say backwards, 7-2-9-6” Answer: (do NOT read) “6-9-2-7” Did [Name] repeat these numbers correctly? 1. Yes 5. No	backwards_11a	
Q11b. *INTERVIEWER READS*: “Ready? Say backwards, 8-4-9-3” Answer: (do NOT read) “3-9-4-8” Did [Name] repeat these numbers correctly? 1. Yes 5. No	backwards_11b	
[Q11c. Did respondent get part 11a & 11b wrong? Response for this question is automatically filled in by the program and controls the skip]	backwards_11c	
Q12a. *INTERVIEWER READS*: “Ready? Say backwards, 4-1-3-5-7” Answer: (do NOT read) “7-5-3-1-4” Did [Name] repeat these numbers correctly? 1. Yes 5. No	backwards_12a	
Q12b. *INTERVIEWER READS*: “Ready? Say backwards, 9-7-8-5-2” Answer: (do NOT read) “2-5-8-7-9” Did [Name] repeat these numbers correctly? 1. Yes 5. No	backwards_12b	
[Q12c. Did respondent get part 12a & 12b wrong? Response for this question is automatically filled in by the program and controls the skip]	backwards_12c	
Q13a. *INTERVIEWER READS*: “Ready? Say backwards, 1-6-5-2-9-8” Answer: (do NOT read) “8-9-2-5-6-1”	backwards_13a	

Did [Name] repeat these numbers correctly? 1. Yes 5. No		
Q13b. *INTERVIEWER READS*: "Ready? Say backwards, 3-6-7-1-9-4" Answer: (do NOT read) "4-9-1-7-6-3" Did [Name] repeat these numbers correctly? 1. Yes 5. No	backwards_13b	
[Q13c. Did respondent get part 13a & 13b wrong? Response for this question is automatically filled in by the program and controls the skip]	backwards_13c	
Q14a. *INTERVIEWER READS*: "Ready? Say backwards, 8-5-9-2-3-4-2" Answer: (do NOT read) "2-4-3-2-9-5-8" Did [Name] repeat these numbers correctly? 1. Yes 5. No	backwards_14a	
Q14b. *INTERVIEWER READS*: "Ready? Say backwards, 4-5-7-9-2-8-1" Answer: (do NOT read) "1-8-2-9-7-5-4" Did [Name] repeat these numbers correctly? 1. Yes 5. No	backwards_14b	
[Q14c. Did respondent get part 14a & 14b wrong? Response for this question is automatically filled in by the program and controls the skip]	backwards_14c	
Q15a. *INTERVIEWER READS*: "Ready? Say backwards, 6-9-1-6-3-2-5-8" Answer: (do NOT read) "8-5-2-3-6-1-9-6" Did [Name] repeat these numbers correctly? 1. Yes 5. No	backwards_15a	
Q15b. *INTERVIEWER READS*: "Ready? Say backwards, 3-1-7-9-5-4-8-2"	backwards_15b	

Answer: (do NOT read) "2-8-4-5-9-7-1-3" Did [Name] repeat these numbers correctly? 1. Yes 5. No		
[Q15c. Did respondent get part 15a & 15b wrong? Response for this question is automatically filled in by the program and controls the skip]	backwards_15c	

English Reading Questions

Note: This section was administered to all household members (aged 9 and up who have attended school) only in wave 3. In waves 1 and 2, the assessment was administered to only children.

Interviewer: Show the english questions (as reported separately on the english cards) to [Name] and have them choose the answer they think is best. For each question, record the answer that [Name] chose. The passage about which [Name] will be asked to answer some questions is below.

> *John is a small boy. He lives in a village with his brothers and sisters. He goes to school every week.*
>
> *In his school there are five teachers. John is learning to read at school. He likes to read very much.*
>
> *His father is a teacher, and his parents want him to become a school teacher too.*

Question / Variable	***Variable name in Wave 3***	***Notes***
Who is John? [Which answer did [Name] choose for this question?] 1 (a) An old man 2 (b) A small boy 3 (c) A school teacher 4 (d) A school 5 (e). None of the above	english_09	

Whether correctly answered	english_09_yn	
Where does John live? [Which answer did [Name] choose for this question?] 1 (a) In a village 2 (b) In a city 3 (C) In a school 4 (d) In a forest 5 (e).. None of the above	english_10	
Whether correctly answered	english_10_yn	
What does John do every week? [Which answer did [Name] choose for this question?] 1 (a) Works with his father 2 (b) Plays with his friends 3 (c) Helps his brothers and sisters 4 (d) Goes to school 5 (e). None of the above	english_11	
Whether correctly answered	english_11_yn	
How many teachers are there at John's school? [Which answer did [Name] choose for this question?] 1 (a) One 2 (b) Three 3 (c) Five 4 (d) Six 5 (e).None of the above	english_12	
Whether correctly answered	english_12_yn	
What is John doing at school? [Which answer did [Name] choose for this question?] 1 (a) Helping the teacher	english_13	

2 (b) Talking with his friends 3 (c) Learning to read 4 (d) Teaching the class 5 (e). None of the above		
Whether correctly answered	english_13_yn	
Who is a school teacher? [Which answer did [Name] choose for this question?] 1 (a) John 2 (b) John's father 3 (c) John's brother 4 (d) John's mother 5 (e).. None of the above	english_14	
Whether correctly answered	english_14_yn	
What do John's parents want him to do? [Which answer did [Name] choose for this question?] 1 (a) Go to school 2 (b) Learn to read 3 (c) Obey his teachers 4 (d) Become a teacher 5 (e). None of the above	english_15	
Whether correctly answered	english_15_yn	
End time	english_endtime	
Number of correct answers	english_score	

Individual Consumption

Instructions to the Interviewer: For each item, first ask:

"On average, how many days per week does [Name] consume [item]?

Then,

"On average, how many times per day does [Name] consume [item]?

Question / Variable	***Variable name***	***Notes***
a cup of coffee **with** sugar (DAYS PER WEEK)	coffeesugar_days	
a cup of coffee **with** sugar (TIMES PER DAY)	coffeesugar_times	
a cup of coffee **without** sugar (DAYS PER WEEK)	coffeenosugar_days	
a cup of coffee **without** sugar (TIMES PER DAY)	coffeenosugar_times	
a cup of tea **with** sugar (DAYS PER WEEK)	teasugar_days	
a cup of tea **with** sugar (TIMES PER DAY)	teasugar_times	
a cup of tea **without** sugar (DAYS PER WEEK)	teanosugar_days	
a cup of tea **without** sugar (TIMES PER DAY)	teanosugar_times	
a soft drink (NOT diet or sugar free) e.g., Coca Cola, Sprinte, Fanta? (DAYS PER WEEK)	soda_days	
a soft drink (NOT diet or sugar free) e.g., Coca Cola, Sprinte, Fanta? (TIMES PER DAY)	soda_times	
a soft drink (diet or sugar free) (DAYS PER WEEK)	sodadiet_days	
a soft drink (diet or sugar free) (TIMES PER DAY)	sodadiet_times	
an energy drink e.g. Lucozade, Rush? (DAYS PER WEEK)	energydrink_days	
an energy drink e.g. Lucozade, Rush? (TIMES PER DAY)	energydrink_times	
natural fruit juice with no added sugars (DAYS PER WEEK)	naturaljuice_days	
natural fruit juice with no added sugars (TIMES PER DAY)	naturaljuice_times	
a juice or fruit drink that contains added sugar (DAYS PER WEEK)	juicedrink_days	
a juice or fruit drink that contains added sugar (TIMES PER DAY)	juicedrink_times	
a glass of water (240 mL) (DAYS PER WEEK)	water_days	
a glass of water (240 mL) (TIMES PER DAY)	water_times	

a bar of chocolate (DAYS PER WEEK)	chocolate_days	
a bar of chocolate (TIMES PER DAY)	chocolate_times	
sweets (toffees) (DAYS PER WEEK)	sweets_days	
sweets (toffees) (TIMES PER DAY)	sweets_times	
a piece of cake (DAYS PER WEEK)	cakes_days	
a piece of cake (TIMES PER DAY)	cakes_times	
a biscuit (DAYS PER WEEK)	biscuits_days	
a biscuit (TIMES PER DAY)	biscuits_times	
a chocolate drink (DAYS PER WEEK)	chocodrink_days	
a chocolate drink (TIMES PER DAY)	chocodrink_times	

Household Consumption

Note: In the table below, the abbreviations W1, W2, and W3 are used to refer to the relevant variables in the raw datasets from survey waves 1, 2, and 3, respectively.

Question / Variable	***Variable name***	***Notes***
Food ID	food_id (W1) InstanceNumber (W2) foodname_code (W3)	To reshape into wide variable as below (e.g. food1, food2 etc)
Food Category	foodcategory (W2 & W3)	W2 & W3 only. Will need to create for W1 if include.
Food Category Index	foodcategory_index (W3)	W3 only. Will need to create for W1 if include.
Food Short Name	foodshortname (W2)	
Food Long Name	itname (W1) foodlongname (W2) foodname (W3)	
Food Name Index	foodname_index (W3)	W3 only.
Months in Season		W1 only, and variable missing in data.
In the last 30 days, did anyone in the household consume any of the	any (W2 & W3) any (panel)	W2 & W3 only

following food items in the category:…?		
In what Unit do you use to measure this food item?	s11a_f (W1) unit (W2 & W3) unit_w1 & unit (panel)	
Unit	unitcode (W2) unitcode (panel)	W2 only
Unit name	unitname (W2) unitname (panel)	W2 only
Unit name - other	Unitnameother (W3) unitnameother (raw)	W3 only
How many of this unit of … did you produce?	s11a_bi (W1) producedquant (W2 &W3 raw) producedquant (panel)	
What is the value of this quantity of…	s11a_bii + s11a_biii/100 (W1) producedcedis (W2 & W3) producedcedis (panel)	
How many of this unit of … did you purchase?	s11a_ci (W1) purchasedquant (W2 & W3) purchasedquant (panel)	
How much did you spend on purchasing this quantity of…?	s11a_cii + s11a_ciii/100 (W1) purchasedcedis (W2 & W3) purchasedcedis (panel)	
How many units of this… did you receive as a gift?	s11a_di (W1) receivedgiftquant (W2 & W3) receivedgiftquant (panel)	
What is the value of this quantity of … that you received as a gift?	s11a_dii + s11a_diii/100 (W1) receivedgiftcedis (W2 & W3) receivedgiftcedis (panel)	
In the last 30 days, did anyone in the household give any of the following food items in the category: … as a gift?	anygive (W2 raw) anygive (panel)	Available for W2 only. W3 has this in the questionnaire but no data available in stata file.
What unit did you use to measure this … ?		This question seems to be a repeat, no data/var

		in w3 stata file. Suggest removal
How many units of this… did you give as a gift in the last 30 days?	s11a_ei (W1) givengiftquant (W2 & W3) givengiftquant (panel)	
What is the value of this quantity of … that you have given as a gift in the last 30 days	s11a_eii + s11a_eiii/100 (W1) givengiftcedis (W2 & W3) givengiftcedis (panel)	
Item ID	item_id (W1 & W2) clothing code (W3)	To reshape into wide variable as below (e.g. cloth1, cloth2 etc)
Clothing Type	itemname (W1) clothingtype (W2 & W3)	To remove and create a separate index for lookup.
Expenditure for children under 16 years (cedis)	s11ba_1 + s11ba_2 /100 (W1) expendchildren (W2 &W3) expendchildren (panel	
Expenditure for elderly over 60 years (cedis)	s11bb_1 + s11bb_2/100 (W1) expendelderly (W2 &W3) expendelderly (panel)	
Expenditure for male adults ages 16-60 years (cedis)	s11bc_1 + s11bc_2/100 (W1) expendmale (W2 & W3) expendmale (panel)	
Expenditure for female adults ages 16-60 years (cedis)	s11bd_1 + s11bd_2/100 (W1) expendfemale (W2 & W3) expendfemale (panel)	
Total expenditure in the last 12 months (cedis)	s11be_1 + s11be_2/100 (W1) expendtotal (W2 &W3) expendtotal (panel)	
Item Code	item_id (W1)	W1 only. To reshape into wide variable as below (e.g. other1, other2 etc).
Item Name	Itemname (W1)	W1 only. To remove and create a separate index for lookup.

Total expenditure in the last 12 months (for entire household) (cedis)	s11c_1 + s11c_2/100 (W1) expend_last12 (panel)	W1 only
Fuel Type	itemname (W1) fueltype (W2 & W3)	To reshape into wide variable
Fuel ID	fuel_id (W1) InstanceNumber (W2) fuelcode (W3)	To reshape into wide variable
Number of Months Used	s11d_1 (W1 raw) monthsused (W2 &W3)	
Average Value per Month (cedis)	s11d_a + s11d_b/100 (W1) averagepermonth (W2 & W3)	
Home Produced/Collected (cedis)	s11d_c + s11d_d/100 (W1) producedcollected (W2 & W3)	
Purchased (cedis)	s11d_e + s11d_f/100 (W1) purchased (W2 & W3)	

Housing Characteristics

Note: In the table below, the abbreviations W1, W2, and W3 are used to refer to the relevant variables in the raw datasets from survey waves 1, 2, and 3, respectively.

Question / Variable	***Variable name***	***Notes***
Do you pay rent for this dwelling?	s12a_1 (W1) rentyn (W2 & W3) rentyn (panel)	
How much does the household pay in cash towards the rent	s12a_2i + s12a_2ii/100 (W1) rentdues (W2 & W3) rentdues (panel)	
What is the unit of time of the rent payment?	s12a_2iii (W1) rentduesunit (W2 & W3) rentduesunit (panel)	
Does your household also supply goods or services in exchange for this dwelling	s12a_3 (W1 raw) exchangegoodservice (W2 & W3) exchangegoodservice (panel)	
What is the approximate value of these goods and services provided by your household	s12a_4i (W1) exchangeapprox (W2 & W3) exchangeapprox (panel)	

What is the unit of time of the in-kind rent payment in Q4a	s12a_4iii (W1) exchangeunits (W2 & W3) exchangeunits (panel)	
Is part or all of the rent paid by someone who is not a member of your household	s12a_5 (W1) rentpartpaid (W2 &W3) rentpartpaid (panel)	
Who pays	s12a_6 (W1) rentpartwho (W2&W3) rentpartwho (panel)	
(other) Who pays	rentpartwhoother (W2 & W3) rentpartwhoother (panel)	W2 &W3 only
How much does the person pay	s12a_7i + s12a_7ii/100 (W1) rentparthowmuch (W2 & W3) rentparthowmuch (panel)	
Time unit for payment	s12a_7iii (W1) rentparthowmuchunit (W2& W3) rentparthowmuchunit (panel)	
How much did your household spend for construction or repair costs and painting in the last 12 months on this dwelling? Amount in GHC	s12a_8i + s12a_8ii/100 (W1) construction (W2 & W3) construction (panel)	
Time unit for the payment	s12a_8iii (W1) constructiontimeunit (panel)	W1 only
What is the main source of drinking water for this household	s12a_9i (W1 raw) drinkingwatersource (W2 &W3) drinkingwatersource (panel)	
(other) What is the main source of drinking water for this household	drinkingwatersourceother (W2 & W3) drinkingwatersourceother (panel)	W2 only
How far is this source of water from your dwelling	s12a_10ai (W1) drinkingwaterdistance (W2 &W3) drinkingwaterdistance (panel)	
Unit of distance for drinking water	s12a_10aii (W1) drinkingwaterunit (W2 &W3) drinkingwaterunit (panel)	

How long does it take to get to the drinking water source, get water and come back? Number of minutes	s12a (W1) drinkingtimetosource (W2 & W3) timetosource (panel)	
What is the main source of water for general use for this household	s12a_9ii (W1) generalwatersource (W2 & W3) generalwatersource (panel)	
(other) What is the main source of water for general use for this household	generalwatersourceother (W2 & W3) generalwatersourceother (panel)	W2 & W3 only
How far is this source of water from your dweling?	s12a_10bi (W1) generalwaterdistance (W2 & W3) generalwaterdistance (panel)	
Unit of distance for general use water	s12a_10bii (W1) generalwaterunit (W2 & W3) generalwaterunit (panel)	
How long does it take to get to the general use water source, get water and come back? Number of minutes	generaltimetosource (W2 & W3) generaltimetosource (panel)	W2 & W3 only
Water on premises	s12a_11ii (W1) wateronpremises (panel)	W1 only
Water on premises - Don't know	s12a_11iii (W1) wateronpremises (panel)	W1 only
How regular is your source of water supply (number)	s12a_12i (W1) howregular_num (panel)	W1 only
How regular is your source of water supply (unit code)	s12a_12ii (W1) howregular_code (panel)	W1 only
How much water does your household use in a day	s12a_13i (W1) wateruseday (W2 & W3) wateruseday (panel)	
What unit is the quantity	s12a_13ii (W1) waterusedayunit (W2 & W3) waterusedayunit (panel)	
Do you treat your water in any way to make it safer to drink	s12a_14 (W1) treatwateryn (W2 & W3) treatwateryn (panel)	
What do you usually do to make it safer to drink	s12a_15 (W1) treatwaterhow (W3)	W1 & W3 only

Boil	treatwaterhow1 (W2 & W3) treatwaterhow1 (panel)	W2 & W3 only
Add bleach/chlorine	treatwaterhow2 (W2 & W3) treatwaterhow2 (panel)	W2 & W3 only
Strain it through a cloth	treatwaterhow3 (W2 & W3) treatwaterhow3 (panel)	W2 & W3 only
Use water filter	treatwaterhow4 (W2 & W3)	W2 & W3 only
Solar disinfestations	treatwaterhow5 (W2 & W3)	W2 & W3 only
Let it stand and settle	treatwaterhow6 (W2 & W3)	W2 & W3 only
Other		W2 only
Other - specify	s12a_15i (W1) treatwaterhowother (W2) treatwaterhow_666 (W3) treatwaterhowother (panel)	
Not applicable	treatwaterhow_777 (W3)	W3 only
Refuse to answer	treatwaterhow_888 (W3)	W3 only
Not applicable	treatwaterhow_999 (W3)	W3 only
How is the main water supply system operated and managed?	s12a_16 (W1) watersystem (W2 & W3) watersystem (panel)	
Does your household pay a regular bill for this water supply system	s12a_17 (W1) regularwaterbill (W2 & W3) regularwaterbill (panel)	
How much was your last bill	s12a_18i + s12a_18ii/100 (W1) lastwaterbill (W2 & W3) lastwaterbill (panel)	
Unit of time for the payment	s12a_18iii (W1) lastwaterbillunit (W2 & W3) lastwaterbillunit (panel)	
How much did your household pay to a private water vendor, neighbor or standpipe or any other source in the last weeks	s12a_19i + s12a_19ii/100 (W1) watervendorlast2wks (W2 & W3) watervendorlast2wks (panel)	
How much do you pay for water used for drinking purposes in a typical week	waterdrinkpay (W3)	

How much do you pay for water used for NON-drinking purposes in a typical week	waternondrinkpay (W3)	W3 only
Do you get any water for free	waterforfree (W3)	W3 only
Did your household sell any water to someone else	s12a_20 (W1) soldwater (W2 & W3) soldwater (panel)	
How much did your household receive for the water sold in the last weeks?	s12a_21i + s12a_21ii/100 (W1) soldwatervalue (W2 & W3) soldwatervalue (panel)	
What is the main source of lighting for your dwelling	s12a_22 (W1) mainlightsource (W2 & W3) mainlightsource (panel)	
(other) What is the main source of lighting for your dwelling	mainlightsourceother (W2 & W3) mainlightsourceother (panel)	W2 & W3 only
How much was your last light bill	s12a_23i + s12a_23ii/100 (W1) lastlightbill (W2 & W3) lastlightbill (panel)	
What is the unit of time for this payment for electricity	s12a_23iii (W1) lastlightbillunit (W2 & W3) lastlightbillunit (panel)	
What is the main fuel used by the household for cooking	s12a_24 (W1) cookingfuel (W2 & W3) cookingfuel (panel)	
(other) What is the main fuel used by the household for cooking	cookingfuelother (W2 & W3) cookingfuelother (panel)	W2 & W3 only
How does your household dispose off refuse	s12a_25 (W1) refusedisposal (W2 & W3) refusedisposal (panel)	
Collected	refusedisposal_1 (W3)	W3 only
Public dump	refusedisposal_2 (W3)	W3 only
Dump elsewhere	refusedisposal_3 (W3)	W3 only
Burned by household	refusedisposal_4 (W3)	W3 only
Buried by household	refusedisposal_5 (W3)	W3 only
Other – specify	refusedisposal_666 (W3)	W3 only

Not applicable	refusedisposal_777 (W3)	W3 only
Refuse to answer	refusedisposal_888 (W3)	W3 only
Do not know	refusedisposal_999 (W3)	W3 only
How much does this household pay for refuse?	s12a_26i + s12a_26ii/100 (W1) refusedisposalcost (W2 & W3) refusedisposalcost (panel)	
What is the unit of time for this payment for refuse collection	s12a_26iii (W1) refusedisposalunit (W2 & W3) refusedisposalunit (panel)	
The last time (youngest child under 5 years) passed stools, what was done to dispose off the stools	s12a_27 (W1) stooldisposal (W2 & W3) stooldisposal (panel)	
(other) The last time (youngest child under 5 years) passed stools, what was done to dispose off the stools	stooldisposalother (W2 & W3) stooldisposalother (panel)	W2 & W3 only
What type of toilet is used by your household	s12a_28 (W1) toilettype (W2 & W3) toilettype (panel)	
(other) What type of toilet is used by your household	toilettypeother (W2 & W3) toilettypeother (panel)	W2 & W3 only
How much does your household pay for the use of the toilet facility	s12a_29i + s12a_29ii/100 (W1) toiletfacilitypay (W2 & W3) toiletfacilitypay(panel)	
What is the unit of time for this payment toilet	s12a_29iii (W1) toiletfacilitypayunit (W2 & W3) toiletfacilitypayunit (panel)	
What is the main construction material used for the outer wall of the main building	s12a_30 (W1) materialouterwall (W2 & W3) materialouterwall (panel)	
(other) What is the main construction material used for the outer wall of the main building	materialouterwallother (W2 & W3) materialouterwallother (panel)	W2 & W3 only
What is the main construction material used for the floor	s12a_31 (W1) materialfloor (W2 & W3)	

	materialfloor (panel)	
(other) What is the main construction material used for the floor	naterialfloorother (W2 & W3) materialfloorother (panel)	W2 & W3 only
What is the main material used for the roof	s12a_32 (W1) materialroof (W2) materialroof (panel)	
(other) What is the main material used for the roof	materialroofother (W2) materialroofother (panel)	W2 & W3 only
Does the household have access to Fixed line telephone?	s12a_33i (W1) fixedlinetelephone (W2 & W3) fixedlinetelephone (panel)	
Does the household have access to Mobile phone?	s12a_33ii (W1) mobilephone (W2 & W3) mobilephone (panel)	
Does the household have access to Personal computer?	s12a_33iii (W1) personalcomputer (W2 & W3) personalcomputer (panel)	
Does the household have access to Internet?	s12a_33iv (W1) internet (W2 & W3) internet (panel)	
Does the household have access to E-commerce?	s12a_33v (W1) ecommerce (W2 & W3) ecommerce (panel)	
Does the household have access to Paid Cable Network (M-NET) ?	s12a_33vi (W1) paidcablenetwork (W2 & W3) paidcablenetwork (panel)	
Measure Taken	s12a_35 (W1) measuretaken (panel)	W1 only
How many rooms	howmanyrooms (W2 & W3)	W2 & W3 only
Measure table	measuretable (W2 & W3)	W2 & W3 only
Measure total	measuretotal (W2 & W3)	W2 & W3 only
Area (in squared metres)	s12a_36 (W1) area (W2 & W3) areacalculation (panel)	
Who measured	whomeasured (\(W2 & W3)	W2 & W3 only
Shape	shape (W2 & W3)	W2 & W3 only

Length	length (W2 & W3)	W2 & W3 only
Width	width (W2 & W3)	W2 & W3 only
Radius of Circumference	radorcirc (W2 & W3)	W2 & W3 only
Radius	radius (W2)	W2 only
Circumference	circumference (W2)	W2 only
In what type of dwelling does the household live	s12b_1 (W1) dwellingtype (W2 & W3) dwellingtype (panel)	
(other) In what type of dwelling does the household live	dwellingtypeother (W2 & W3) dwellingtypeother (panel)	W2 & W3 only
How many rooms does the household occupy	s12b_2 (W1) rooms (W2 & W3) rooms (panel)	
Do other households share this building with you	s12b_3 (W1) share (W2 & W3) share (panel)	
What is your present occupancy status	s12b_4 (W1) presentstatus (W2 & W3) presentstatus (panel)	
Who owns this dwelling	s12b_5 (W1) whoowns (W2 & W3) whoowns (panel)	
(other) Who owns this dwelling	whoownsother (W2 & W3) whoownsother (panel)	W2 & W3 only
What is the condition of the house in which the household is living	s12b_6 (W1) condition (W2 & W3) condition (panel)	
How are the surroundings of the house	s12b_7 (W1) surroundings (W2 & W3) surroundings (panel)	
How many bedrooms does the household have	s12b_8 (W1) bedrooms (W2 & W3) bedrooms (panel)	
Is there a room used exclusively for cooking	s12b_9 (W1) roomforcooking (W2 & W3) roomforcooking (panel)	
Is there a window in the room where cooking is done	s12b_10 (W1) cookingwindow (W2 & W3) cookingwindow (panel)	

Is there a chimney/smoke outlet in the cooking place	s12b_11 (W1) cookingchimney (W2 & W3) cookingchimney (panel)	
Do you ever cook outside	s12b_12 (W1) cookoutsideanyseason (W2 & W3) cookoutsideanyseason (panel)	
In which seasons do you cook outside	s12b_13 (W1) cookoutsidewhich (W2 & W3) cookoutsidewhich (panel)	
Does your house have electricity	s12b_14 (W1) electricity (W2 & W3) electricity (panel)	
How regular is your power supply after sunset	s12b_15 (W1) electricityaftersunset (panel)	W1 only
Distance to nearest public toilet (in metres)	s12b_16i/1000 (W1) distancetopubtoilet (W2 & W3) distancetopubtoilet (panel)	In W1, unclear what unit code 16ii refers to
Average time spent travelling to and waiting at public toilet (in minutes)	s12b_17 (W1) timetopubtoilet (W2 & W3) timetopubtoilet (panel)	
Number of other buildings owned	s12b_18 (W1) otherbuildingsowned (W2 & W3) otherbuildingsowned (panel)	
Number of vacant plots owned	s12b_19 (W1) vacantplotsowned (W2 & W3) vacantplotsowned (panel)	
Does this household keep animals	s12b_20 (W1) xanimals (W2 & W3) xanimals (panel)	
Where are the animals kept at night	s12b_21 (W1) animalsnight (W2 & W3) animalsnight (panel)	
Where are the animals tied during the day	s12b_22 (W1) animalsday (W2 & W3) animalsday (panel)	
Where is the hay (grass) kept	s12b_23 (W1) haykept (W2 & W3) haykept (panel)	

Is there any open sewers/drains in and around the house	opensewers_w1 (W1) opensewers (W2 & W3) opensewers (panel)	W1 and W2/W3 have slightly different response code – needs to be recoded to match.
Is there garbage (trash) in and around the house	s12b_24 (W1) garbage (W2 & W3) garbage (panel)	

Employment

Note: In the table below, the abbreviations W1, W2, and W3 are used to refer to the relevant variables in the raw datasets from survey waves 1, 2, and 3, respectively.

Question / Variable	***Variable name***	***Notes***
Is [Name] currently a paid employed worker? 1.Yes 5. No	paidemployed (W2 & W3)	
Is [Name] currently the owner or operator of a household non-farm enterprise? 1.Yes 5. No	businessowner (W2 & W3)	
Is [Name] currently a contributing worker in a household non-farm enterprise? 1.Yes 5. No	businesscontributor (W2 & W3)	
Is [Name] currently the owner or the holder of a farm plot? 1.Yes 5. No	farmowner (W2 & W3)	
Is [Name] currently a contributing worker on a household farm plot? 1.Yes 5. No	farmcontributor (W2 & W3)	
Is [Name] currently a full-time student? 1.Yes 5. No	fulltimestudent (W2 & W3)	

Is name retired or incapacitated because of old age or ill-health? 1.Yes 5. No	retiredill (W2 & W3)	
Is name currently a full-time home maker? 1.Yes 5. No	fthomemaker (W2 & W3)	
Is [Name] currently looking for work but has no work to do? 1.Yes 5. No	lookingforwork (W2 & W3)	
Has [Name] worked in any occupation in the last year? Please select all that apply. 1.Yes 5. No >> Next household member	occupation	W3 only
In which of the following occupations has [Name] worked in the last year Enter ISCO code(s) (See Codebook and write 3 digits)	taskcode	W3 only
Has anyone in HH done work for which s/he was not self employed in last 7 day	s1ei_0 (W1) N/A (W2) worklast7 (panel)	W1 only
How many people in the HH have done work for which s/he was not self employe	s1ei_01 (W1) N/A (W2) worklast7_numhhm (panel)	
Did any person have a secondary occupation in the last 7 days	s1eii_30i (W1) N/A (W2) work2last7 (panel)	
How many people were engaged in secondary occupation in the last 7 days	s1eii_30ii (W1) N/A (W2) work2last7_numhhm (panel)	
Is name a paid employee outside the HH	s1eiii_62i (W1) N/A (W2) nonemployment_screener (panel)	This question seems to be asking whether all members of the household work; so households with the "No" response have one or more non-employed members
How many people are eligible	s1eiii_62ii (W1) N/A (W2) nonemployment_howmany (panel)	

How many jobs has [Name] had, off the family farm or household enterprise, for which s/he was paid in the last 7 days?	s1ei_1 (W1) paidemployed (W3)	
main tasks and duties of the work that [Name] spent most time on during the last 7 days?	s1ei_2 (W1) maintasks (W2 & W3)	
Describe the main tasks and duties of the work that [Name] spent most time on during the last 7 days?	taskdescription (W3)	W3 only
ISCO code for above	s1ei_3 (W1) taskcode (W2 & W3)	
Describe the kind of trade, services, or industry that this work is connected to?	s1ei_4 (W1) maintrade (W2 & W3)	
ISIC code for above (See Codebook and write 4 digits)	s1ei_5 (W1) tradecode (W2 & W3)	
How long has [Name] been doing this work in years? *If [Name] has been doing this work for less than a year, enter zero.*	s1ei_6i (W1) joblengthyears (W2 & W3)	
How long has [Name] been doing this work in months? *If you entered zero for the previous question, simply enter the total number of months [Name] has been doing this work.*	s1ei_6ii (W1) joblengthmonths (W2 & W3)	
During the last year, how many weeks has [Name] done this job (out of 52)?	s1ei_7i (W1) jobweeksperyear (W2 & W3)	
How many days per week did [Name] typically work?	s1ei_7ii (W1) jobdaysperweek (W2 & W3)	
How many hours per day did [Name] typically work?	s1ei_7iii (W1) jobhoursperday(W2 & W3)	
During the last 7 days, how many days did [Name] actually do this job?	s1ei_8i (W1) last7daysperweek (W2 & W3)	
Q8b. During the last 7 days, how many hours per day did [Name] actually do this job?	s1ei_8ii (W1) last7hoursperday (W2 & W3)	
Has [Name] received or will [Name] receive money (cash) for this work? 1.Yes 2. No	s1ei_9 paid (W2 & W3)	

What is the amount (including any bonuses, commissions, allowances or tips) received or owed for work done? *Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.*	s1ei_10i + s1ei_10ii/100 (W1) paidamount (W2 & W3)	
Over what time period is this amount paid or owed? 1. Daily 2. Weekly 3. Monthly 4. Quarterly 5.Not Regular	s1ei_11 (W1) paidperiod (W2 & W3)	
Other - Over what time period is this amount paid or owed?	paidperiodother (W2 & W3)	No W1
Does [Name] receive any other payment for this work in the form of goods and services? 1.Yes 5.No	s1ei_12 (W1) paidother (W2 & W3)	
What is the value of goods or services provided/owed? *Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.*	s1ei_13i + s1ei_13ii/100 (W1) paidothervalue (W2 & W3)	
Over what time period is this payment in kind made? 1. Daily 2. Weekly 3. Monthly 4. Quarterly 5.Not Regular	s1ei_14 (W1) paidotherperiod (W2 & W3)	
other. Over what time period is this payment in kind made?	paidotherperiodother (W2 & W3)	No W1
When [Name] started doing this work, did he/she sign a written contract? 1. Yes 5. No	s1ei_15 (W1) contract (W2 & W3)	
Is there a formal union (eg. GPRTU, TUC etc) in the place where [Name] works? 1. Yes 5. No	s1ei_16 (W1) unionyesno (W2 & W3)	
In this job, is [Name] entitled to paid holidays? 1. Yes 5. No	s1ei_17 (W1) jobholidays (W2 & W3)	

Is [Name] entitled to any of the following paid leave on this job? (select all that apply)	s1ei_18 (W1) jobsickleave (W2 & W3)	
None	jobsickleave_0 (W3)	W3 only
Sick leave	jobsickleave_1 (W3)	W3 only
Maternity leave	jobsickleave_2 (W3)	W3 only
Compassionate/Casual leave	jobsickleave_3 (W3)	W3 only
Study leave	jobsickleave_4 (W3)	W3 only
Refuse to answer	jobsickleave_888 (W3)	W3 only
Do not know	jobsickleave_999(W3)	W3 only
Will [Name] receive a retirement pension? 1. Yes 5. No	s1ei_19 (W1) jobpension (W2 & W3)	
Are taxes already deducted from [Name's] pay? 1. Yes 5. No	s1ei_20 (W1) jobtaxes (W2 & W3)	
Is [Name] entitled to free or subsidized medical care in this job? 1. Yes 5. No	s1ei_21 (W1) jobmedcare (W2 & W3)	
Is [Name] entitled to any other social security benefit on the job? 1. Yes 5. No	jobsocialsec (W2 & W3)	No W1
Where does [Name] usually do his/her work?	jobwhere (W2 & W3) s1ei_22(W1)	
(other)Where does Name usually do his/her work	jobwhereother (W2)	W2 only
How many people all together work in this place where (Name) works?. Number	s1ei_23 (W1) jobpeople (W2 & W3)	
During the last 6 months, has [Name] received any training related to his/her work, including on-the-job training? 1. Yes 5. No	s1ei_24 (W1) jobtraining (W2 & W3)	
How long was the training in months? *If the training was less than one month long, enter zero.*	s1ei_25i (W1) trainingmonths (W2 & W3)	
In addition to the number of months, how long was the training in weeks?	s1ei_25ii (W1) trainingweeks (W2 & W3)	

If you entered zero for the previous question, simply enter the total number of weeks the training lasted. If the training was less than one week long, enter zero.		
In addition to the number of months, how long was the training in days? If you entered zero for the previous question, simply enter the total number of days the training lasted	s1ei_25ii (W1) trainingdays (W2 & W3)	
What type of training did [Name] receive?	s1ei_26 (W1) trainingtype (W2 & W3)	
Clerical	trainingtype_1 (W2 & W3)	No W1
Prof/Managerial	trainingtype_2 (W2 & W3)	No W1
Computer	trainingtype_3 (W2 & W3)	No W1
Marketing	trainingtype_4 (W2 & W3)	No W1
Teaching	trainingtype_5 (W2 & W3)	No W1
Leadership	trainingtype_6 (W2 & W3)	No W1
Medicine	trainingtype_7 (W2 & W3)	No W1
Accountancy	trainingtype_8 (W2 & W3)	No W1
Skills/Trade	trainingtype_9 (W2 & W3)	No W1
Other (Specify) -	trainingtype_666 (W3) trainingtype_10 (W2)	No W1
Refuse to Answer	trainingtype_888 (W3)	W3 only
Don't know	trainingtype_999 (W3)	W3 only
Specify Other	trainingtypeother (W3)	W3 only
Who paid for the training?	s1ei_27 (W1) trainingpaid (W3)	No W2
[Name] entirely	trainingpaid1 (W2)	W2 only
Employer entirely	trainingpaid2 (W2)	W2 only
Both (shared cost)	trainingpaid3 (W2)	W2 only
Free	trainingpaid4 (W2)	W2 only
International Agency	trainingpaid5 (W2)	W2 only
other. Who paid for the training?	trainingpaid6 (W2) trainingpaidother (W3)	No W1
Did [Name] lose any entitlement or benefit during the period of his/her training? 1. Yes, 5. No >> Q30	s1ei_28 (W1) traininglose (W2 & W3)	

Enter your answer as the difference between the normal entitlement/benefit amount while training and before training. Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.		
How much did [Name] lose? GHC Write difference between normal entitlement / benefit while training and before training	s1ei_29i + s1ei_29ii/100 (W1) traininglosewhat (W2 & W3)	
Did (Name) have a secondary occupation in the last 7 days? 1.Yes 5.No	secondaryjob (W3)	W3 only
Describe the main tasks and duties of the work that Name spent most time on last 7 days	s1eii_31 (W1) maintasks (W2 & W3)	
ISCO code for main tasks	s1eii_32 (W1) taskcode (W2 & W3)	
33 Describe the kind of trade/services/industry work is connected to	s1eii_33 (W1) maintrade (W2 & W3)	
ISIC code for above	s1eii_34 (W1) tradecode (W2 & W3)	
(years) How long has Name been doing this work all together	s1eii_35i (W1) joblengthyears (W2 & W3)	
(months) How long has Name been doing this work all together	s1eii_35ii (W1) joblengthmonths (W2 & W3)	
During the last year, how many weeks has name done this job	s1eii_36i (W1) jobweeksperyear (W2 & W3)	
How many days per week did Name typically work	s1eii_36ii (W1) jobdaysperweek (W2 & W3)	
How many hours per day did Name typically work	s1eii_36iii (W1) jobhoursperday (W2 & W3)	
During the last 7 days, how many days did Name actually do this job	s1eii_37i (W1) last7daysperweek (W2 & W3)	
During the last 7 days, how many hours per day did Name actually do this jo	s1eii_37ii (W1) last7hoursperday (W2 & W3)	
Did person work on job alongside main job over the past 7 days	s1eii_38 (W1) workboth (W2 & W3)	
How many hours in the last 7 days was person simultaneously doing both jobs	s1eii_39 (W1) workbothhours (W2 & W3)	
Has (Name) received or will (Name) receive money for this work	s1eii_40 (W1) paid (W2 & W3)	

What is the amount (including any bonuses, commissions, allowances or tips) received or owed for work done	s1eii_41i + s1eii_41ii (W1) paidamount (W2 & W3)	
Over what time period is this amount paid or owed	s1eii_42 (W1) paidperiod (W2 & W3)	
(other) Over what time period is this amount paid or owed	N/A (W1) paidperiodother (W2 & W3)	No W1
Does Name receive any other payment for this work in the form of goods and services	s1eii_43 (W1) paidother (W2 & W3)	
What is the value of goods or services provided/owed	s1eii_44i + s1eii_44ii (W1) paidothervalue (W2 & W3)	
Over what time period is this payment in kind made	s1eii_45 (W1) paidotherperiod (W2 & W3)	
(other) Over what time period is this payment in kind made	paidotherperiodother (W2 & W3)	No W1
When (Name) started doing this work, did he/she sign a written contract	s1eii_46 (W1) contract (W2 & W3)	
Is there a formal union in the place where Name works	s1eii_47 (W1) unionyesno (W2 & W3)	
In this job, is (Name) entitled to paid holidays	s1eii_48 (W1) jobholidays (W2 & W3)	
Is Name entitled to paid sick leave and/or maternity leave on this job	s1eii_49 (W1) jobsickleave (W2 & W3)	
Will Name receive a retirement pension	s1eii_50 (W1) jobpension (W2 & W3)	
Are taxes already deducted from Name's pay	s1eii_51 (W1) jobtaxes (W2 & W3)	
Is Name entitled to free or subsidized medical care in this job	s1eii_52 (W1) jobmedcare (W2 & W3)	
Is Name entitled to any other social security benefit on the job	s1eii_53 (W1) jobsocialsec (W2 & W3)	
Where does Name usually do his/her work	s1eii_54 (W1) obwhere (W2 & W3)	
(other)Where does Name usually do his/her work	jobwhereother (W2 & W3)	No W1
How many people altogether work in this place where Name works	s1eii_55 (W1) jobpeople (W2 & W3)	
During the last 6 months, has Name received any training related to his/her work, including on-the-job training	s1eii_56 (W1) jobtraining (W2 & W3)	
If so, how many months was the training	s1eii_57i (W1) trainingmonths (W2 & W3)	
If so, how many weeks was the training	s1eii_57ii (W1) trainingweeks (W2 & W3)	
If so, how many days was the training	s1eii_57iii (W1)	

	trainingdays (W2 & W3)	
What type of training did Name receive?	s1eii_58 (W1) trainingtype (W2)	
Clerical	trainingtype_1 (W2 & W3)	No W1
Prof/Managerial	trainingtype_2 (W2 & W3)	No W1
Computer	trainingtype_3 (W2 & W3)	No W1
Marketing	trainingtype_4 (W2 & W3)	No W1
Teaching	trainingtype_5 (W2 & W3)	No W1
Leadership	trainingtype_6 (W2 & W3)	No W1
Medicine	trainingtype_7 (W2 & W3)	No W1
Accountancy	trainingtype_8 (W2 & W3)	No W1
Skills/Trade	trainingtype_9 (W2 & W3)	No W1
Other (Specify) -	trainingtype_666 (W3) trainingtype_10 (W2)	No W1
Refuse to Answer	trainingtype_888 (W3)	W3 only
Don't know	trainingtype_999 (W3)	W3 only
Specify Other	trainingtypeother (W3)	W3 only
Did Name lose any entitlement or benefit during the period of his/her training	s1eii_60 (W1)traininglose (W2 & W3)	
If so, by how much was it	s1eii_61i + s1eii_61ii (W1) traininglosewhat (W2 & W3)	
Was Name available for work (paid employment) last 7 days	s1eiii_63 (W1) availableforwork (W2 & W3)	
Has Name made any effort last 7 days to find work	s1eiii_64 (W1) effortforwork (W2 & W3)	Original W1 data has 30 invalid variables; in the present panel dataset, invalid values are multiplied by -1 to identify them and so that 5's don't get falsely translated to "No's" in matching with W2
Why was Name not available or has Name not made any effort to find work	s1eiii_65 (W1) availablewhynot (W2 & W3)	
(other) Why was Name not available or has Name not made any effort to find work	availablewhynotother (W2 & W3)	No W1
What did person do in this period to find work	s1eiii_66 (W1) lookworkwhere (W3)	
Applied to prospective employer	lookworkwhere1 (W2 & W3)	No W1
Checked at farms / factories / worksites	lookworkwhere2 (W2 & W3)	No W1

Asked friends and relatives	lookworkwhere3 (W2 & W3)	No W1
Took action to start business (capital, land, equipment, etc.)	lookworkwhere4 (W3)	W3 only
Took action to start agricultural activity	lookworkwhere5 (W3)	W3 only
Upgrading skills	lookworkwhere6 (W3)	W3 only
Searched newspaper advertisementss	lookworkwhere7 (W3)	W3 only
Searched employment services	lookworkwhere8 (W3)	W3 only
Refuse to answer	lookworkwhere888 (W3)	W3 only
Do not know	lookworkwhere999 (W3)	W3 only
During this period what type of employment was (Name) mainly seeking (available, if not seeking for)	s1eiii_67 (W1) lookworktype (W2 & W3)	
How long has (Name) been seeking and/or available to find work	s1eiii_68 (W1) lookworktime (W2 & W3)	
What kind of work did person do in his/her last job	s1eiii_69 (W1)	W1 only
ISCO code for job	s1eiii_70 (W1)	W1 only
Under what conditions would person become available for work	s1eiii_71 (W1)	W1 only. Three values listed as "-8" which seems to be undefined or invalid
What is the lowest daily wage for which (Name) is willing to work for someone	s1eiii_72i + s1eiii_72ii (W1) lowestdailywage (W2 & W3)	

Education

Note: In the table below, the abbreviations W1, W2, and W3 are used to refer to the relevant variables in the raw datasets from survey waves 1, 2, and 3, respectively.

Question / Variable	***Variable name***	***Notes***
Who is the person answering questions about Name	s1fi_1 (W1) N/A (W2 & W3)	
Has Name ever attended school	s1fi_2 (W1) attended (W2 & W3)	

What was the highest grade successfully completed	s1fi_3 (W1) highestgrade (W2 & W3)	
(other) What was the highest grade successfully completed	N/A (W1) highestgradeother (W2 & W3)	No W1
What was the highest educational qualification attained	s1fi_4 (W1) highestqual (W2 & W3)	
(other) What was the highest educational qualification attained	N/A (W1) highestqualother (W2 & W3)	
Did (Name) attend school / college at any time during the last 12 months	s1fi_5 (W1) attendedlast12 (W2 & W3)	
Is (Name) still in school	s1fi_6 (W1) attendingstill (W2 & W3)	
Is the school (Name) attending Public or Private	s1fi_7 (W1) schooltype (W2 & W3)	
What is the current grade	s1fi_8 (W1) currentgrade (W2 & W3)	
(other) What is the current grade	currentgradeother (W2 & W3)	No W1
Is Name in a boarding school	boarding (W2 & W3)	No W1
(hours) How much travelling time does (Name) spend going to and from school daily	s1fi_9i (W1) travelschoolhours (W2 & W3)	W1 questionnaire defines "99" as "vacation"; multiplied by -1 to generate -99 to avoid confusion w number of minutes; technically not valid for travelschool variables since these don't specify past week, but seems to have been included anyway
(minutes) How much travelling time does (Name) spend going to and from school daily	s1fi_9ii (W1) travelschoolminutes (W2 & W3)	W1 questionnaire defines "99" as "vacation"; multiplied by -1 to generate -99 to avoid confusion w number of minutes
(hours) How many hours of class did (Name) attend last week	s1fi_10i (W1) classhours (W2 & W3)	W1 questionnaire defines "99" as "vacation"; multiplied by -1 to generate -99 to avoid confusion w number of minutes

(minutes) How many hours of class did (Name) attend last week	s1fi_10ii (W1) classminutes (W2 & W3)	W1 questionnaire defines "99" as "vacation"; multiplied by -1 to generate -99 to avoid confusion w number of minutes
(hours) How many hours of class did (Name) miss last week	s1fi_11i (W1)missedhours (W2 & W3)	W1 questionnaire defines "99" as "vacation"; multiplied by -1 to generate -99 to avoid confusion w number of minutes
(minutes) How many hours of class did (Name) miss last week	s1fi_11ii (W1) missedminutes (W2 & W3)	W1 questionnaire defines "99" as "vacation"; multiplied by -1 to generate -99 to avoid confusion w number of minutes
(hours) How many hours and minutes of homework did (Name) do last week	s1fi_12i (W1) homeworkhours (W2 & W3)	W1 questionnaire defines "99" as "vacation"; multiplied by -1 to generate -99 to avoid confusion w number of minutes
(minutes) How many hours and minutes of homework did (Name) do last week	s1fi_12ii (W1) homeworkminutes (W2 & W3)	W1 questionnaire defines "99" as "vacation"; multiplied by -1 to generate -99 to avoid confusion w number of minutes
Does the respondent know the cost of [Name]'s educational expenditures over the last 12 months?	expendbreakdown (W3)	W3 only
In the last 12 months, how much was spent on (Name) for school fees, registration fees and other dues	s1fi_13i + s1fi_13ii/100 (W1) last12schoolfees (W2 & W3)	
In the last 12 months, how much was spent on (Name) with respect to contributions to parent/ teacher association	s1fi_14i + s1fi_14ii/100 (W1) last12pta (W2 & W3)	
In the last 12 months, how much was spent on (Name) for uniforms and sports clothes	s1fi_15i + s1fi_15ii/100 (W1) last12uniforms (W2 & W3)	

In the last 12 months, how much was spent on (Name) for books and school supplies	s1fi_16i + s1fi_16ii/100 (W1)last12books (W2 & W3)	
In the last 12 months, how much was spent on (Name) for transportation to and from school	s1fi_17i + s1fi_17ii/100 (W1)last12transport (W2 & W3)	
In the last 12 months, how much was spent on (Name) for food, boarding and/or lodging at school	s1fi_18i + s1fi_18ii/100 (W1) last12foodboard (W2 & W3)	
In the last 12 months, how much was spent on (Name) for expenses on extra classes	s1fi_19i + s1fi_19ii/100 (W1) last12extraclass (W2 & W3)	
In the last 12 months, how much was spent on (Name) for in-kind expenses	s1fi_20i + s1fi_20ii/100 (W1) last12inkind (W2 & W3)	
If cannot break down, what was the total schooling expenditure spent on (Name) in the last 12 months	s1fi_21i + s1fi_21ii/100 (W1) last12totalexpend (W2 & W3)	
Who paid for most of the educational expenses	s1fi_22 (W1) whopaid (W2 & W3)	
(other) Who paid for most of the educational expenses	whopaidother (W2 & W3)	No W1
Did (Name) have a scholarship / bursary during the last 12 months	s1fi_23 (W1) last12scholarship (W2 & W3)	
What was the amount of the scholarship / bursary received for the past 12 months	s1fi_24i + s1fi_24ii/100 (W1) last12scholarshipamt (W2 & W3)	
Does (Name) have access to all the textbooks needed for school	s1fi_25 (W1) booksaccess (W2 & W3)	
Source of textbooks	s1fi_26 (W1)N/A (W2 & W3)	
Provided by school, can take home,	bookshow1 (W2 & W3)	No W1
Provided by school, cannot take home,	bookshow2 (W2 & W3)	No W1
Newly purchased from the school	bookshow3 (W2 & W3)	No W1
Newly purchased from private market	bookshow4 (W2 & W3)	No W1
Gift	bookshow5 (W2 & W3)	No W1
Passed down from older sibling	bookshow6 (W3)	W3 only
Other (please specify)	bookshow666 (W3)	W3 only

Refuse to answer	bookshow888 (W3)	W3 only
Do not know	bookshow999 (W3)	W3 only
(other) specify other	bookshowother (W2 & W3)	No W1
Does (Name) participate in a free feeding program at school	s1fi_27 (W1) feedingprogram (W2 & W3)	
Which meal(s) does (Name) receive at school	s1fi_28 (W1) mealsatschool (W3)	No W2. The data from this variable is also captured in the four mealsatschool meal type dummies
Which meal(s) does (Name) receive at school	N/A (W1) mealsatschool1-4 (W2)	Constructed dummies W1; renamed ELM (program-generated dummies) W2
Meal 1 index	meal_index_1 (W3)	W3 only
Meal 1 name	meal_name_1 (W3)	W3 only
Meal 1 times eaten at school per week	mealsatschoolperweek_1 (W3)	W3 only
Which meal(s) does (Name) receive at school	N/A (W1)mealsatschool1-4 (W2)	Constructed dummies W1; renamed ELM (program-generated dummies) W2
Meal 2 index	meal_index_2 (W3)	W3 only
Meal 2 name	meal_name_2 (W3)	W3 only
Meal 2 times eaten at school per week	mealsatschoolperweek_2 (W3)	W3 only
Which meal(s) does (Name) receive at school	N/A (W1)mealsatschool1-4 (W2)	Constructed dummies W1; renamed ELM (program-generated dummies) W2
Meal 3 index	meal_index_3 (W3)	W3 only
Meal 3 name	meal_name_3 (W3)	W3 only
Meal 3 times eaten at school per week	mealsatschoolperweek_3 (W3)	W3 only
Which meal(s) does (Name) receive at school	N/A (W1)mealsatschool1-4 (W2)	Constructed dummies W1; renamed ELM (program-generated dummies) W2
Meal 4 index	meal_index_4 (W3)	W3 only
Meal 4 name	meal_name_4 (W3)	W3 only
Meal 4 times eaten at school per week	mealsatschoolperweek_4 (W3)	W3 only
How many times per week does (Name) receive this food	s1fi_29 (W1) mealsatschoolperweek (W2)	No W3
What mode of transportation does (Name) use to go to school	s1fi_30 (W1)	Although trotro/shared taxi is not in W2 paper

	schooltransport (W2 & W3)	questionnaire, seems that it may have been given as a response category in W2 but not W1
(other) What mode of transportation does (Name) use to go to school	[Constructed] (W1) schooltransportother (W2 & W3)	
Is school in pre-loaded list?	schoolinlist (W2)	W2 only
School Code	s1fi_31ii (W1) schoolcode (W2)	No W3
Does NAME have one teacher for most or all of the subjects studied	s1fi_32 (W1) oneteacher (W2 & W3)	
ID of teacher	s1fi_33ii (W1) teachercode (W2)	No W3
How many days per month, on average, is this teacher absent	s1fi_34 (W1) teacherabsent (W2 & W3)	
English language teadher	s1fi_35ii (W1) englangteachercode (W2)	No W3
How many days in the month, on average, is the English teacher absent	s1fi_36 (W1) englangteacherabsent (W2 & W3)	
Math teacher	s1fi_37ii (W1) mathteachercode (W2)	No W3
How many days per month, on average, is the Math teacher absent	s1fi_38 (W1) mathteacherabsent (W2 & W3)	
Has [Name] ever repeated / did [Name] ever repeat a grade/level? 1. Yes 5. No >> Q50	repeatgradeever	W3 only
How many times has [Name] repeated / did [Name] repeat a grade/level?	repeatgradetimes	W3 only
Has [Name] ever / did [Name] ever skip a grade? 1. Yes 5. No >> Next section	skipgradeever	W3 only
How many times has [Name] skipped / did [Name] skip a grade/level?	skipgradetimes	W3 only
Did you apply to senior secondary school?	apply_secondary	W3 only
If yes: in which of the following programs?	apply_program	W3 only

general arts	apply_program_1	W3 only
general science	apply_program_2	W3 only
home economics	apply_program_3	W3 only
technical studies	apply_program_4	W3 only
visual arts	apply_program_5	W3 only
business	apply_program_6	W3 only
other (Specify)	apply_program_666	W3 only
refuse to answer	apply_program_888	W3 only
don't know	apply_program_999	W3 only
Applied to which program – other	apply_programother	W3 only
Were you admitted into any program?	admitted_secondary	W3 only
If yes, for which subject?	admitted_program	W3 only
Admitted to which program - other	admitted_programother	W3 only
Suppose you can study any possible subject, what would have been your ideal subject to apply to?	ideal_program	W3 only
Suppose you can study any possible subject, what would have been your ideal subject to apply to - other	ideal_programother	W3 only
Has Name ever attended technical / computer/ vocational school	s1fii_39 (W1) techcompvocever (W2 & W3)	
How long did name attend this school	s1fii_40 (W1) techcompvochowlong (W2 & W3)	
What was the highest certificate Name obtained	s1fii_41 (W1) highestcert (W2 & W3)	
(other) What was the highest certificate (Name) obtained	highestcertother (W2 & W3)	
Was the technical / computer / vocational school Name attended public or private	s1fii_42 (W1) techcompvoctype (W2 & W3)	
Has Name ever attended a tertiary educational institution (e. g. University, polytechnic, etc)	s1fii_43 (W1) tertiaryever (W2 & W3)	
How many years did Name attend	s1fii_44 (W1) tertiaryyears (W2 & W3)	Some negative numbers in original W2 data; meaning undefined or invalid?

What was the highest institution Name attended	s1fii_45 (W1) highestinst (W2 & W3)	
(other) What was the highest institution (Name) attended	highestinstother (W2 & W3)	
What was the highest qualification Name achieved	s1fii_46(W1) highestachieved (W2 & W3)	
46 (other) What was the highest qualification (Name) achieved	highestachievedother (W2 & W3)	
Was the tertiary institution Public or Private	s1fii_47 (W1) tertiarytype (W2 & W3)	
Has Name ever repeated / did Name ever repeat a grade/level	s1fii_48 (W1) repeatgradeever (W2)	W3 data in part I
How many times has Name repeated / did Name repeat a grade/level	s1fii_49 (W1) repeatgradetimes (W2)	W3 data in part I
Has Name ever / did Name ever skip a grade	s1fii_50 (W1) skipgradeever (W2)	W3 data in part I
How many times has Name skipped / did Name skip a grade/level	s1fii_51 (W1) skipgradetimes (W2)	W3 data in part I
If Name ever attended a secondary/tertiary institution, what was Name's major field(s) of study	s1fii_52(W1) majorfield (W2 & W3)	From questionnaires seems that both W1 and W2 allowed select multiple, but only W1 shows select multiple--possible that other W2 variables exist somewhere?
Science	majorfield_1	W3 only
Arts	majorfield_2	W3 only
Social Science	majorfield_3	W3 only
Engineering	majorfield_4	W3 only
Medicine	majorfield_5	W3 only
Law	majorfield_6	W3 only
Education	majorfield_7	W3 only
Other (please specify)	majorfield_666	W3 only
Not applicable	majorfield_888	W3 only
Refuse to answer	majorfield_999	W3 only
(other) If Name ever attended a secondary/tertiary institution, what was Name's major field(s) of study	majorfieldother (W2 & W3)	No W1
Is (Name) or has (Name) ever been an apprentice	s1fiii_62 (W1) apprenticeever (W2 & W3)	Data currently incorrectly recorded in stata file for literacy panel (next part)

How many month long is/was the apprentice-ship	s1fiii_63 (W1) apprenticehowlong (W2 & W3)	Data currently incorrectly recorded in stata file for literacy panel (next part)
Apprenticeship description	apprenticedescrip (W2)	No W1. Data currently incorrectly recorded in stata file for literacy panel (next part)
Describe the industry that this trade is connected to	s1fiii_64 (W1) apprenticeindustry (W2 & W3)	Data currently incorrectly recorded in stata file for literacy panel (next part)
ISCO code of above	s1fiii_65 (W1) apprenticecode (W2 & W3)	Data currently incorrectly recorded in stata file for literacy panel (next part)
Did (Name) pay a fee for this training	s1fiii_66 (W1) apprenticepay (W2 & W3)	Data currently incorrectly recorded in stata file for literacy panel (next part)
How much did (Name) pay for the training	s1fiii_67i + s1fiii_67ii/100 (W1)apprenticepayhowmuch (W2 & W3)	Data currently incorrectly recorded in stata file for literacy panel (next part)
Has (Name) ever attended other short training courses lasting not more than 6 months	s1fiii_68 (W1) shorttrainever (W2 & W3)	Data currently incorrectly recorded in stata file for literacy panel (next part)
What was the main subject of the most recent training	s1fiii_69 (W1) shorttrainsubject (W2 & W3)	Data currently incorrectly recorded in stata file for literacy panel (next part)

Literacy

Note: In the table below, the abbreviations W1, W2, and W3 are used to refer to the relevant variables in the raw datasets from survey waves 1, 2, and 3, respectively.

Question / Variable	***Variable name***	***Notes***
In what Ghanaian language can person read a phrase/sentence	s1fiii_53 (W1) ghanlangread1 - 5 (W2) ghanlangread (W3)	
None	ghanlangread_0	W3 only
Asante	ghanlangread_3	W3 only

Fanti	ghanlangread_4	W3 only
Akuapem	ghanlangread_5	W3 only
Kwahu	ghanlangread_6	W3 only
Brong/ Banda	ghanlangread_7	W3 only
Nzema	ghanlangread_8	W3 only
Ga	ghanlangread_9	W3 only
Dangme	ghanlangread_10	W3 only
Ewe	ghanlangread_11	W3 only
Guan	ghanlangread_12	W3 only
Buli	ghanlangread_13	W3 only
Mamprusi	ghanlangread_14	W3 only
Frafra/ Gruni	ghanlangread_15	W3 only
Kassene Nankana	ghanlangread_16	W3 only
Dagbani	ghanlangread_17	W3 only
Wali/ Dagari	ghanlangread_18	W3 only
Sissala	ghanlangread_19	W3 only
Kokomba	ghanlangread_20	W3 only
Nanumba	ghanlangread_22	W3 only
Gonja	ghanlangread_24	W3 only
Kusasi	ghanlangread_25	W3 only
Ahanta	ghanlangread_26	W3 only
Assin/ Asen	ghanlangread_27	W3 only
Hausa	ghanlangread_28	W3 only
Sefwi	ghanlangread_29	W3 only
Other (please specify)	ghanlangread_666	W3 only
Refuse to answer	ghanlangread_888	W3 only
Do not know	ghanlangread_999	W3 only
(other) In what Ghanaian language can (Name) read a phrase/ sentence	ghanlangreadother (W2 & W3)	No W1
In which language is (Name) most proficient	ghanlangreadbest (W2 & W3)	No W1
(other) In which language is (Name) most proficient	ghanlangreadbestother (W2 & W3)	W1 data seems to follow W1 codebook codes for main Ghana languages based on frequencies (e.g., largest share Asante), but several numbers that are not included; these seem to be taken from "Main Langauges Spoken at Home" from W1 questionnaire and codes above 30 are assumed

		to follow this; however, there could be internal inconsistencies within W1, checking needed; no recoding done for now
54 In what Ghanaian language can person write a phrase/sentence	s1fiii_54 (W1) ghanlangwrite1 – 5 (W2) ghanlangwrite (W3)	
None	ghanlangwrite_0	W3 only
Asante	ghanlangwrite_3	W3 only
Fanti	ghanlangwrite_4	W3 only
Akuapem	ghanlangwrite_5	W3 only
Kwahu	ghanlangwrite_6	W3 only
Brong/ Banda	ghanlangwrite_7	W3 only
Nzema	ghanlangwrite_8	W3 only
Ga	ghanlangwrite_9	W3 only
Dangme	ghanlangwrite_10	W3 only
Ewe	ghanlangwrite_11	W3 only
Guan	ghanlangwrite_12	W3 only
Buli	ghanlangwrite_13	W3 only
Mamprusi	ghanlangwrite_14	W3 only
Frafra/ Gruni	ghanlangwrite_15	W3 only
Kassene Nankana	ghanlangwrite_16	W3 only
Dagbani	ghanlangwrite_17	W3 only
Wali/ Dagari	ghanlangwrite_18	W3 only
Sissala	ghanlangwrite_19	W3 only
Kokomba	ghanlangwrite_20	W3 only
Nanumba	ghanlangwrite_22	W3 only
Gonja	ghanlangwrite_24	W3 only
Kusasi	ghanlangwrite_25	W3 only
Ahanta	ghanlangwrite_26	W3 only
Assin/ Asen	ghanlangwrite_27	W3 only
Hausa	ghanlangwrite_28	W3 only
Sefwi	ghanlangwrite_29	W3 only
Other (please specify)	ghanlangwrite_666	W3 only
Refuse to answer	ghanlangwrite_888	W3 only
Do not know	ghanlangwrite_999	W3 only
(other) In what Ghanaian language can (Name) write a phrase/ sentence	ghanlangwriteother (W2 & W3)	No W1
In which language is (Name) most proficient	ghanlangwritebest (W2 & W3)	No W1

(other) In which language is (Name) most proficient	ghanlangwritebestother (W2 & W3)	No W1
Can (Name) read a phrase/ sentence in English	s1fiii_55 (W1) readenglish (W2 & W3)	
Can (Name) write a sentence in English	s1fiii_56 (W1) writeenglish (W2 & W3)	W1 data seems to follow W1 codebook codes for main Ghana languages based on frequencies (e.g., largest share Asante), but several numbers that are not included; these seem to be taken from "Main Langauges Spoken at Home" from W1 questionnaire and codes above 30 are assumed to follow this; however, there could be internal inconsistencies within W1, checking needed; no recoding done for now
Language(s) person can speak fluently	s1fiii_57 (W1) mostfluent1 – 4 (W2) mostfluent (W3)	
None	mostfluent_0	W3 only
Asante	mostfluent_3	W3 only
Fanti	mostfluent_4	W3 only
Akuapem	mostfluent_5	W3 only
Kwahu	mostfluent_6	W3 only
Brong/ Banda	mostfluent_7	W3 only
Nzema	mostfluent_8	W3 only
Ga	mostfluent_9	W3 only
Dangme	mostfluent_10	W3 only
Ewe	mostfluent_11	W3 only
Guan	mostfluent_12	W3 only
Buli	mostfluent_13	W3 only
Mamprusi	mostfluent_14	W3 only
Frafra/ Gruni	mostfluent_15	W3 only
Kassene Nankana	mostfluent_16	W3 only
Dagbani	mostfluent_17	W3 only
Wali/ Dagari	mostfluent_18	W3 only
Sissala	mostfluent_19	W3 only
Kokomba	mostfluent_20	W3 only
Nanumba	mostfluent_22	W3 only

Gonja	mostfluent_24	W3 only
Kusasi	mostfluent_25	W3 only
Ahanta	mostfluent_26	W3 only
Assin/ Asen	mostfluent_27	W3 only
Hausa	mostfluent_28	W3 only
Sefwi	mostfluent_29	W3 only
Other (please specify)	mostfluent_666	W3 only
Refuse to answer	mostfluent_888	W3 only
Do not know	mostfluent_999	W3 only
(other) What languages does Name speak most fluently	mostfluentother (W2 & W3)	No W1
Can (Name) do written calculations	s1fiii_58 (W1) writtencalculations (W2 & W3)	
Has (Name) ever attended a literacy course	s1fiii_59 (W1) litcourseever (W2 & W3)	
Why is person not attending/ has attended literacy course	s1fiii_60 (W1)	W1 only
For how many months has (Name) been attending / attended a literacy course	s1fiii_61 (W1) litcoursemonths (W2 & W3)	

Immigration

Note: In the table below, the abbreviations W1, W2, and W3 are used to refer to the relevant variables in the raw datasets from survey waves 1, 2, and 3, respectively.

Question / Variable	***Variable name***	***Notes***
Was Name born in this community	bornhere (W2 & W3)	No W1
If in Ghana, where was person born	s1gi_5 (W1)	W1 only
Where was name born – region code	whereborn_region (W2)	W2 only
Where was name born – region	whereborn_region (W2)	W2 only
Where was name born – district code W1	s1gi_6 (W1)	W1 only
Where was name born – district code	whereborn_district (W2)	W2 only

Where was name born – district	whereborn_district (W2)	W2 only
Where was name born - country	s1gi_7 (W1) whereborn_country (W2)	W2 only
5D Did Name have a job at the previous place where he/she lived	xjobbefore (W2) jobbefore (W3)	No W1
What was [Name's] daily wage/earnings in the job that (Name) had just before leaving previous place	s1gi_8i + s1gi_8ii/100 (W1) wagesjobbefore (W2) wagesbefore (W3)	
(years) How long ago did (Name) last move to this place	s1gi_2i (W1) movedyears (W2 & W3)	
(months) How long ago did (Name) last move to this place	s1gi_2ii (W1) movedmonths (W2 & W3)	
Does (Name) intend to stay for a year or more in this village/town/community	s1gi_3 (W1) stayforyear (W2 & W3)	
What was the main reason for moving to this village/town	s1gi_4 (W1) reasonformove (W2 & W3)	
(other) What was the main reason for moving to this village/town	reasonformoveother (W2)	W2 only
Has Name ever had a job in this community since he arrived	xjobcurrent (W2) jobcurrent (W3)	No W1
What was [Name's] daily wage/earnings in the job that (Name) first had in this village	s1gi_9i + s1gi_9ii/100 (W1) wagescurrent (W2 & W3)	
ID of person who helped person get his/her first job in the village	s1gi_10ii (W1)	W1 only
ID of person for whom person worked for just after arriving in village	s1gi_11ii (W1)	W1 only
If (Name) knew anyone other than a household member who was an important reason for moving here, who was this person	s1gi_12ii (W1)	W1 only

Migration History

Note: In the table below, the abbreviations W1, W2, and W3 are used to refer to the relevant variables in the raw datasets from survey waves 1, 2, and 3, respectively.

Question / Variable	***Variable name***	***Notes***
Has [Name] ever lived outside of this community at least 3 months? 1. Yes 5. No	livedaway	W3 only
How many times has [Name] lived in another community for at least 3 months?	s1gii_15 (W1) livedawaytimes (W3)	No W2
Travel destination for place 1 (Town - Ghana)	s1gii_16i	W1 only
Name of other urban area 1 [Name] travelled to	s1gii_16_11	W1 only
Name of other rural area 1 [Name] travelled to	s1gii_16_112	W1 only
Travel destination for place 2 (Town - Ghana)	s1gii_16ii	W1 only
Name of other urban area 2 [Name] travelled to	s1gii_16_211	W1 only
Name of other rural area 2 [Name] travelled to	s1gii_16_212	W1 only
Travel destination for place 3 (Town - Ghana)	s1gii_16iii	W1 only
Name of other urban area 3 [Name] travelled to	s1gii_16_311	W1 only
Name of other rural area 3 [Name] travelled to	s1gii_16_312	W1 only
Travel destination for place 4 (Town - Ghana)	s1gii_16iv	W1 only
Name of other urban area 4 [Name] travelled to	s1gii_16_411	W1 only
Name of other rural area 4 [Name] travelled to	s1gii_16_412	W1 only
Travel destination for place 1 (Town - Ghana)	s1gii_16i	W1 only
Name of other urban area 1 [Name] travelled to	s1gii_16_11	W1 only

Name of other rural area 1 [Name] travelled to	s1gii_16_112	W1 only
Travel destination for place 2 (Town - Ghana)	s1gii_16ii	W1 only
Destination index	dest_index	W3 only
(region) If in Ghana, what was the destination?	s1gii_17i – iv (W1) mregion (W2) wheremigrate_region (W3)	W1 has 4 entries for this, unclear why this is the case. It seems that each correspond to a specific hh member (if hh level data), but this would be a repeat as this is in an individual level data.
(region) If in Ghana, what was the destination?	mrcode	W2 only
(district) If in Ghana, what was the destination?	mdistrict (W2) wheremigrate_district (W3)	No W1
(district) If in Ghana, what was the destination?	mdcode	W2 only
(country) Name of country, if outside Ghana	s1gii_18i – iv (W1) mcountry (W2) wheremigrate_country (W3)	W1 has 4 entries for this, unclear why this is the case. It seems that each correspond to a specific hh member (if hh level data), but this would be a repeat as this is in an individual level data.
(country) Name of country, if outside Ghana	mcountrycode	W2 only
In what year did [Name] move TO [Place Name]?	yearmoveto	W3 only
How old was Name when Name moved to Place?	s1gii_19i – iv (W1) ageatmoveto (W2 & W3)	W1 has 4 entries for this, unclear why this is the case. It seems that each correspond to a specific hh member (if hh level data), but this would be a repeat as this is in an individual level data.
In what year did [Name] move FROM [Place Name]?	yearmovefrom	W3 only
How old was Name when Name moved from this Place?	s1gii_20i – iv (W1) ageatmovefrom (W2 & W3)	W1 has 4 entries for this, unclear why this is the case. It seems that each correspond to a specific hh member (if hh level data), but this would

		be a repeat as this is in an individual level data.
Why did you move to this place	s1gii_21i – iv (W1) whymove (W2 & W3)	W1 has 4 entries for this, unclear why this is the case. It seems that each correspond to a specific hh member (if hh level data), but this would be a repeat as this is in an individual level data.
(other) Why did you move to this place	whymoveother	W3 only
Whom did you know before moving to Place	s1gii_22i – iv (W1) whodidknow (W2 & W3)	W1 has 4 entries for this, unclear why this is the case. It seems that each correspond to a specific hh member (if hh level data), but this would be a repeat as this is in an individual level data.
Parents	whodidknow_1	W3 only
Children	whodidknow_2	W3 only
Spouse/fiancé	whodidknow_3	W3 only
Other relative	whodidknow_4	W3 only
Acquaintance	whodidknow_5	W3 only
No one	whodidknow_6	W3 only
Refuse to answer	whodidknow_888	W3 only
Do now know	whodidknow_999	W3 only
Did you ever work for wages/earnings at this Place	s1gii_23i – iv (W1) workatplace (W2 & W3)	W1 has 4 entries for this, unclear why this is the case. It seems that each correspond to a specific hh member (if hh level data), but this would be a repeat as this is in an individual level data.
How did you find a job at destination	s1gii_24i – iv (W1) jobhowfind (W2 & W3)	W1 has 4 entries for this, unclear why this is the case. It seems that each correspond to a specific hh member (if hh level data), but this would be a repeat as this is in an individual level data.
During the time between arriving at destination and finding a job, what was your main means of support	s1gii_25i – iv (W1) supportenroute (W2 & W3)	W1 has 4 entries for this, unclear why this is the case. It seems that each correspond to a specific hh member (if hh level data), but this would

		be a repeat as this is in an individual level data.
How long after coming to destination did it take you to find a job (months)	s1gii_26i – iv (W1) howlongjob (W2 & W3)	W1 has 4 entries for this, unclear why this is the case. It seems that each correspond to a specific hh member (if hh level data), but this would be a repeat as this is in an individual level data.
Did you work for a family member in your first job at destination	s1gii_27i – iv (W1) workforfamily (W2 & W3)	W1 has 4 entries for this, unclear why this is the case. It seems that each correspond to a specific hh member (if hh level data), but this would be a repeat as this is in an individual level data.
(describe) What were your main duies at first job of this destination	mainduties (W2 & W3)	No W1
(ISCO Code) What were your main duies at first job of this destination	s1gii_28i – iv (W1) maindutiescode (W2 & W3)	W1 has 4 entries for this, unclear why this is the case. It seems that each correspond to a specific hh member (if hh level data), but this would be a repeat as this is in an individual level data.
(describe) What type of industry was your first job at destination	industrydest (W2 & W3)	No W1
(ISCO Code) What type of industry was your first job at destination	s1gii_29i – iv (W1) industrydestcode (W2 & W3)	W1 has 4 entries for this, unclear why this is the case. It seems that each correspond to a specific hh member (if hh level data), but this would be a repeat as this is in an individual level data.

Non-Resident Relatives

Note: In the table below, the abbreviations W1, W2, and W3 are used to refer to the relevant variables in the raw datasets from survey waves 1, 2, and 3, respectively.

Question / Variable	***Variable name***	***Notes***
Relative ID	s2a_nrmid (W1) relativeid (W2 & W3)	
Gender	s2a_3 (W1) relativegender (W2 & W3)	
Relationship	s2a_4 (W1) relativerelationship (W2 & W3)	
Year in which person was born	s2a_5 (W1) relativeyearborn (W2 & W3)	
At what age did person stop living with parents	s2a_6 (W1) relativeageleft (W2 & W3)	
Highest level of education of relative	s2a_7 (W1) relativeeducation (W2 & W3)	
(other) Highest level of education of relative	relativeeducationother (W2 & W3)	No W1
What was the age of person at first marriage	s2a_8 (W1) relativeagemarry (W2 & W3)	
Highest level of education completed of person's most recent spouse	s2a_9 (W1) relativereled (W2 & W3)	
(other) Highest level of education completed of person's most recent spouse	relativereledother (W2 & W3)	No W1
Ethnic group of current/most recent spouse	s2a_10 (W1) relativerelethnic (W2 & W3)	
(other) Ethnic group of current/most recent spouse	relativerelethnicother (W2 & W3)	No W1
Number of sons	s2a_11i (W1) relativesons (W3)	No W2
Number of daughters	s2a_12i (W1) relativedaughters (W3)	No W2
Has person ever held a political office	s2a_13 (W1)	

	relativepolitoff (W2 & W3)	
(other) Has person ever held a political office	relativepolitoffother (W2)	W2 only
Does person still hold a political office	s2a_14 (W1) relativepolitstill (W2 & W3)	
Has person ever held a traditional office	s2a_15 (W1) relativetradoffice (W2 & W3)	
(other) Has person ever held a traditional office	relativetradofficeother (W2)	W2 only
Does person still hold a traditional office	s2a_16 (W1) relativetradstill (W2 & W3)	
Is person still alive	s2a_17 (W1) relativealive (W2 & W3)	
What year did person die	s2a_18 (W1) relativedie (W2)	No W3
How many visits did person make to your hh past year	s2a_19 (W1) relativevisits (W2 & W3)	
What year did person last visit	s2a_20 (W1) relativeyearlastvisit (W2 & W3)	
other How many visits did person make to your hh past year	relativevisitsother (W3 only)	W3 only
Number of phone calls, letters, or other contacts	s2a_21 (W1) relativecommun (W2 & W3)	
other Number of phone calls, letters, or other contacts	relativecommunother (W3 only)	W3 only
How many people currently live in person's hh	s2a_22 (W1) relativehhppl (W2 & W3)	
Do you farm together with person	s2a_23 (W1) relativefarmwith (W2 & W3)	
Does person live in your village	s2a_24 (W1) relativeinvillage (W2 & W3)	
HH ID of person if lives in EA	s2a_25 (W1)	W1 only
If in Ghana, where does person live	s2a_26 (W1)	W1 only
(class) If in Ghana, where does person live	relativewhere_class (W2)	W2 only

(region code) If in Ghana, where does person live	relativewhere_rcode (W2)	W2 only
(region) If in Ghana, where does person live	relativewhere_region (W2 & W3)	No W1
(district) If in Ghana, where does person live	relativewhere_district (W2 & W3)	No W1
(district code) If in Ghana, where does person live	relativewhere_dcode (W2)	W2 only
(country) What country does person live in ?	s2a_28 (W1) relativewhere_country (W2 & W3)	W1 question is slightly different (28 If outside Ghana, in which country does person live?)
(country code) What country does person live in ?	relativewhere_countrycode (W2)	W2 only
What is or was main occupation of person	**relativeoccupation (W1)** s2a_29 (wave 1)	W1 only
With whom does [foster child] live	**foster_livewhom (W1)** s2a_30 (wave 1)	W1 only
Does [foster child] attend school	**foster_attendshool (W1)** s2a_31 (wave 1)	W1 only
Why did you send [foster child] to live away]?	**foster_whyaway (W1)** s2a_32 (wave 1)	W1 only

Non-Resident Spouses

Note: In the table below, the abbreviations W1, W2, and W3 are used to refer to the relevant variables in the raw datasets from survey waves 1, 2, and 3, respectively.

Question / Variable	***Variable name***	***Notes***
Who is the household member to whom "Absent Spouse" is married	s2b_3 (W1) memhhmid (W2 & W3)	

Whether a new spouse	new_spouse (W3)	W3 only
Interviewee index	s1gi_1 (W1) interviewedid (W2 & W3)	
Spouse ID	nr_sid (W1) spouseid (W2 & W3)	
In what year was (absent spouse) born	s2b_4 (W1) spouseyearborn (W2 & W3)	
At what age did (absent spouse) stop living with his/her parents	s2b_5 (W1) spouselefthome (W2 & W3)	
How old was (absent spouse) when he/she was married to [present spouse]	s2b_6 (W1) spouseagemarried (W2 & W3)	
To what ethnic group does (absent spouse) belong	s2b_7 (W1) spouseethnicit (W2 & W3)	
(other) To what ethnic group does (absent spouse) belong	spouseethnicityother (W2 & W3)	No W1
What is the highest level of schooling completed by [absent spouse]	s2b_8 (W1) spouseeducation (W2 & W3)	
(other) What is the highest level of schooling completed by [absent spouse]	spouseeducationother (W2 & W3)	No W1
When did (absent spouse) last live with [HH member]	s2b_9 (W1) spouselastlive (W2 & W3)	
What is the primary occupation of (absent spouse)	s2b_10 (W1) spouseoccupation (W2 & W3)	
(other) What is the primary occupation of (absent spouse)	spouseoccupationother (W2)	W2 only
How many visits has (absent spouse) made to [present spouse] in the past year	s2b_11 (W1) spousevisits (W2 & W3)	
other How many visits has (absent spouse) made to [present spouse] in the past year	spousevisitsother (W3)	W3 only
What was the last year that [absent spouse] visited [present spouse]	s2b_12 (W1) spouselastyearvisit (W2 & W3)	

How many phone calls, letters, or other contacts (other than personal visits) has [absent spouse] made to [present spouse] in the last 12 months	s2b_13 (W1) spousecontact (W2 & W3)	
Other How many phone calls, letters, or other contacts (other than personal visits) has [absent spouse] made to [present spouse] in the last 12 months	spousecontactother (W3)	W3 only
Has (absent spouse) ever held political office	s2b_14 (W1) spousepolit (W2 & W3)	
(other) Has (absent spouse) ever held political office	spousepolitother (W2 & W3)	No W1
Does (Absent Spouse) still hold this office	s2b_15 (W1) spousepolitstill (W2 & W3)	
Has (Absent spouse) ever held a traditional office	s2b_16 (W1) spousetrad (W2 & W3)	
(other) Has (Absent spouse) ever held a traditional office	spousetradother (W2 & W3)	No W1
Does (Absent spouse) still hold this office	s2b_17 (W1) spousetradstill (W2 & W3)	
Does absent spouse live in this community	spouseincomm (W2 & W3)	No W1
If in Ghana, where does (absent spouse) primarily live?	s2b_18 (W1)	W1 only
(region) Where does (absent spouse) primarily live	spousewhere_region (W2 & W3)	No W1
(region code) Where does (absent spouse) primarily live	spousewhere_rcode (W2)	W2 only
(district) Where does (absent spouse) primarily live	s2b_19 (W1) spousewhere_district (W2 & W3)	
(district code) Where does (absent spouse) primarily live	spousewhere_dcode (W2 & W3)	W2 only
(country) Where does (absent spouse) primarily live	s2b_20 (W1) spousewhere_country (W2 & W3)	

(country) Where does (absent spouse) primarily live	spousewhere_countrycode (W2 & W3)	W2 only

Household Health

Insurance

Note: In the table below, the abbreviations W1, W2, and W3 are used to refer to the relevant variables in the raw datasets from survey waves 1, 2, and 3, respectively.

Question / Variable	**Variable name**	**Notes**
Has [Name] ever registered or been covered with a health insurance scheme? 1.Yes 5.No	s6a_a1 everinsured (wave 2 &3)	
What type of health insurance scheme does [Name] have? (Circle all that apply in 1-5) 0. None 1.National / District health insurance scheme (NHIS) >>A4 2.Health insurance through employer 3.Mutual health org. / community base health insurance 4.Other private purchase commercial health insurance -666. Other (Specify) -888. Refuse to Answer -999. Don't know	wave1: s6a_a2_1 s6a_a2_2 wave 2: insurancetype1 insurancetype2 insurancetype3 insurancetype4 insurancetype5 insurancetype6 insurancetype_ELM_0 insurancetype_ELM_1 insurancetype_ELM_2 insurancetype_ELM_3 insurancetype_ELM_4 insurancetype_ELM_95 wave 3 : insurancetype_0 insurancetype_1 insurancetype_2 insurancetype_3 insurancetype_4 insurancetypeother insurancetype_666	The observations are variables as they can choose multiple answers. This question is from wave 3.

	insurancetype_888 insurancetype_999	
Why is [Name] not registered with (NHIS)? Circle all that apply >>A15 1.Not heard of (NHIS) 2.Don't understand the (NHIS) 3.Cannot afford premium 4.Do not need health insurance 5.NHIS does not cover health insurance [Name] needs 6. Travel time is too great 7. Travel costs are too great -666. Other (Specify) -888. Refuse to Answer -999. Don't know	s6a_a3_1 (wave 1) s6a_a3_2 (wave 1) s6a_a3_3 (wave 1) whynotnhis (wave 2) whynotnhis_1 (wave 3) whynotnhis_2 (wave 3) whynotnhis_3 (wave 3) whynotnhis_4 (wave 3) whynotnhis_5 (wave 3) whynotnhis_6 (wave 3) whynotnhis_7 (wave 3) whynotnhis_666 (wave 3) whynotnhis_888 (wave 3) whynotnhis_999 (wave 3) whynotnhisother(wave 3)	The observations are variables as they can choose multiple answers. This question is from wave 3. Wave 1 has three variables, wave 2 has 1 and wave 3 has
Would [Name] register with NHIS if it he/she could do so using mobile money?	mobilemoney	Only wave 3
Who is currently paying [Name's] health insurance cost? (Circle all that apply in 1-11) 1.HH Member 2.Relative / friend 3.Employer 4.SSNIT contribution 5.Exempted (as child) 6.Exempted (as elderly) 7.Exempted (as pregnant woman) 8.Exempted (as pensioner) 9.Exempted as indigent (poor) 10.L.E.A.P Programme -666. Other (Specify) -888. Refuse to Answer -999. Don't know -777. NA	s6a_a4_1(wave 1) S6a_a4_2 (wave 1) Wave 2: whopayshealth1 whopayshealth1 whopayshealth2 whopayshealth3 whopayshealth4 whopayshealth5 whopayshealth6 whopayshealth7 whopayshealth8 whopayshealth9 whopayshealth10 whopayshealth11 whopayshealth12 whopayshealth_ELM_1 whopayshealth_ELM_2 whopayshealth_ELM_3 whopayshealth_ELM_4 whopayshealth_ELM_5 whopayshealth_ELM_6 whopayshealth_ELM_7 whopayshealth_ELM_8 whopayshealth_ELM_9	The observations are variables as they can choose multiple answers. This question is from wave 3.

	whopayshealth_ELM_10 whopayshealth_ELM_95 whopayshealth_ELM_96 Wave 3: whopayshealth whopayshealth_1 whopayshealth_2 whopayshealth_3 whopayshealth_4 whopayshealth_5 whopayshealth_6 whopayshealth_7 whopayshealth_8 whopayshealth_9 whopayshealth_10 whopayshealth_666 whopayshealth_777 Whopayshealth_888 whopayshealth_999 whopaysother	
. Please indicate the household member who pays for Name's health insurance (if A4 is 1)	s6a_a4i (wave 1) whopayshhmid (wave 2 & 3)	
Does [Name] hold a valid NHIS card? 1.Yes (CARD seen) >>A7 2.Yes (CARD NOT seen) 5.No	s6a_a5 (wave 1) nhiscard (wave 2 &3)	
Why is [Name] not holding NHIS card? 1.Registered, (Not paid fully) 2.Registered, (card not received) 3.Registered, (waiting period) 4.Not renewed registration 5.Lost card 95.Other (specify)	s6a_a6 (wave 1) nhiscardwhynot(wave 2 &3) nhiscardwhynotother (wave 3)	
How much money has [Name] paid in total for insurance for the current year?	S6a_a7ai (wave 1) S6a_a7aii (wave 1) insurancetotalpaid (wave 2& 3)	
How much money has [Name] expected to pay in total for insurance for the current insurance year?	s6a_a7bi (wave 1) S6a_a7bii (wave 1) insurancetotalexp(wave 2)	Only 1 & 2

How much money has[Name]paid or is expected to pay as registration fee to the current insurance year? 1.Amount paid (GH 2.Amount expected to pay	s6a_a8bii s6a_a8bi s6a_a8aii s6a_a8ai	Only wave 1
How many weeks did it take [Name] to obtain the NHIS card after the premium was paid in full?	s6a_a9 (wave 1) nhiscardweeks (wave 2)	Only W1 & W2
Has [Name] ever benefited from the NHIS? 1.Yes 5. No >>A12	s6a_a10 (wave 1) nhisbenefitted(wave 2 & 3)	
How many times has [Name] used NHIS card during the last 12 months? 1.Number of times	s6a_a11 (wave 1) nhisfirst (wave 2) nhistimes (wave 2 &3)	
How many times has [Name's] NHIS card renewed since first registration? 1.Number of times	s6a_a12 (wave 1) nhisrenewed (wave 2 & 3)	
Has Name' NHIS card been renewed for the current year? 1.Yes >>A15 5. No	s6a_a13 (wave 1) nhisvalid (wave 2 & 3)	
Why has [Name] not renewed current year's NHIS card? 1. Travel time is too great 2. Travel costs are too great 3. Doesn't have money 4. Has not been sick 5.Premium is expensive 6.Poor quality care for insurance card holders 7.Prefered services not covered 8.Use clinics / traditional practitioners who are not covered 9. Was not aware that it is necessary to renew	s6a_a14 (wave 1) nhisrenewwhynot (wave 2 &3)	

-666. Other (Specify) -888. Refuse to Answer -999. Don't know		
Which of the following group schemes does [Name] contribute to? Circle all that apply 0. None >>A17 1.Susu 2.Family contribution 3.Welfare association 4.Micro credit scheme -666. Other (Specify) -888. Refuse to Answer -999. Don't know	Wave 1: s6a_a15a s6a_a15b s6a_a15c s6a_a15d S6a_a15e s6a_a15f s6a_a15g s6a_a15h Wave 2: groupschemes1 groupschemes2 groupschemes3 groupschemes4 groupschemes5 groupschemes6 groupschemes_ELM_0 groupschemes_ELM_1 groupschemes_ELM_2 groupschemes_ELM_3 groupschemes_ELM_4 groupschemes_ELM_95 Wave 3: groupschemes groupschemes_0 groupschemes_1 groupschemes_2 groupschemes_3 groupschemes_4 groupschemes_666 groupschemes_888 Groupschemes_999 groupschemesother	The observations are variables as they can choose multiple answers. This question is from wave 3.
Does [Name] derive any health care financing benefit from the group schemes in which he/she participates? [Ask in regards to A – D below] 1. Yes 5.No for those selected in Q15	Wave 1: s6a_a16a s6a_a16b s6a_a16c s6a_a16d S6a_a16e s6a_a16f s6a_a16g S6a_a16h	The observations are variables as they can choose multiple answers. This question is from wave 3.

A..Susu B.Family contribution C.Welfare associatio8n D.Micro credit scheme -666. Other (Specify) -888. Refuse to Answer -999. Don't know	s6a_a16i S6a_a16j Wave 2: groupschemesbenefit1 groupschemesbenefit2 groupschemesbenefit3 groupschemesbenefit4 groupschemesbenefit5 groupschemesbenefitother Wave 3: groupschemesbenefit groupschemesbenefit_0 groupschemesbenefit_1 groupschemesbenefit_3 groupschemesbenefit_4 groupschemesbenefit_666	
.Is[Name] willing topay one off premium to renew or register for membership under the NHIS? 1.Yes 2.No >> next person	s6a_a17	Wave 1 only
If yes, is [Name] willing to pay 200% increase or more? 1.Yes >>A19 2.No	s6a_a18i	Wave 1 only
.If yes, is [Name] willing to pay 100% increase? 1.Yes >>A19 2.No	s6a_a18ii	Wave 1 only
If yes, is [Name] willing to pay 50% increase? 1.Yes >>A19 2.No	s6a_a18iii	Wave 1 only
If yes, is [Name] willing to pay 20% increase? 1.Yes >>A19	s6a_a18iv	Wave 1 only

2.No		
If yes, is [Name] willing to pay 10% increase? 1.Yes 2.No	s6a_a18v	Wave 1 only
What is the maximum percentage increase is [Name] prepared to pay?	s6a_a19	Wave 1 only

Anthropometry

Note: In the table below, the abbreviations W1, W2, and W3 are used to refer to the relevant variables in the raw datasets from survey waves 1, 2, and 3, respectively.

Question / Variable	***Variable name***	***Notes***
Was [Name] measured? 1. Yes 5. No	s6b_1 (wave 1) measured (waves 2 & 3)	
If not, why? 1. Not home during survey period, 2. Too ill, 3. Handicapped or Deformed, 4. Not willing, 95. Other (specify)	s6b_2(wave 1) measuredwhynot measuredwhynotother (waves 2 & 3)	
Was height measured standing or lying down? 1. Standing, 5. Lying down	s6b_3 (wave 1) heighthow (waves 2 & 3)	
What is Name's Height in Centimeters?	s6b_4 (wave 1) height (waves 2 & 3)	
What is Name's Weight in Kilograms?	s6b_5 (wave 1) weight_(waves 2 & 3)	
What is Name's Hip Size in centimeters	s6b_6 (wave 1) hipsize (waves 2 & 3)	
What is Name's Waist Size in centimeters?	s6b_7 (wave 1) waistsize (waves 2 & 3)	

Immunization

Note: In the table below, the abbreviations W1, W2, and W3 are used to refer to the relevant variables in the raw datasets from survey waves 1, 2, and 3, respectively.

Question / Variable	***Variable name***	***Notes***
Has [Name] ever been immunized? 1. Yes 5. No >> C12	s6c_1 (wave 1) immunized (wave 2 &3)	
Has [Name] received the BCG vaccine? 1. Yes, 5. No,	s6c_2 (wave 1) bcg (wave 2 &3)	
. How many polio vaccines has [Name] received? (Circle all that apply) 0.None 1. "0 2. "1 3. "2 4. "3 5. "4 6. Booster	s6c_3 (wave 1) polio(wave 3) Wave 2: polio1 polio2 polio3 polio4 polio5 polio6 polio7 polio_ELM_0 polio_ELM_1 polio_ELM_2 polio_ELM_3 polio_ELM_4 polio_ELM_5 polio_ELM_6	
. How many DPT shots has (NAME) received? (Circle all that apply) 0. None 1. "1, 3. "2, 5. "3	s6c_4 (wave 1) dpt (wave 3) Wave 2: dpt1 dpt2 dpt3 dpt4 dpt_ELM_0 dpt_ELM_1 dpt_ELM_3 dpt_ELM_5	

Has [Name] received the five in one vaccine? 1. Yes, 5. No,	s6c_5 (wave 1) fiveinone (wave 2 & 3)	
Has [Name] received the measles vaccine? 1. Yes, 5. No,	s6c_6 (wave 1) measles (wave 2 &3)	
. Has [Name] received the Vitamin 'A' vaccine? 1. Yes, 5. No,	s6c_7 (wave 1) vitamina (wave 2 &3)	
Has [Name] received the Yellow Fever vaccine? 1. Yes, 5. No,	s6c_8 (wave 1) yellowfever (wave 2 &3)	
Did [Name] have to pay any fees for these vaccinations? 1. Yes, 2. No >> Next Person	s6c_9 (wave 1) everpayfees (wave 2)	Only wave 1 &2
How much was paid? (GHcedis and pesawas)	s6c_10i s6c_10ii	Only wave 1
. How much did it cost Name to receive the BCG vaccine?	s6c_111i (wave 1) s6c_111ii (wave 1) bcgfees (wave 2)	Only wave 1 &2
How much did it cost Name to receive the Polio vaccine?	s6c_112i (wave 1) s6c_112ii (wave 1) poliofees (wave 2)	Only wave 1 &2
. How much did it cost Name to receive the DPT vaccine?	s6c_113i (wave 1) s6c_113ii (wave 1) dptfees (wave 2)	Only wave 1 &2
How much did it cost Name to receive the 5-in-1 vaccine?	s6c_114i (wave 1) s6c_114ii (wave 1) fiveinonefees(wave 2)	Only wave 1 &2
How much did it cost Name to receive the Measles vaccine?	s6c_115i (wave 1) s6c_115ii (wave 1) measlesfees (wave 2)	Only wave 1 &2
How much did it cost Name to receive the Vitamin A vaccine?	s6c_116i (wave 1) s6c_116ii (wave 1) vitamina (wave 2)	Only wave 1 &2
How much did it cost Name to receive the Yellow Fever vaccine?	s6c_117i (wave 1) s6c_117ii (wave yellowfeverfees (wave 2)	Only wave 1 &2

[Ask only if answer to Q1 was 5. No] . If [Name] is not immunized, why? 1. Too young, 2. Didn't know [Name] had to be immunized, 3. Health Care center is too far, 4. Shortage of supply, -666. Other (Specify) - OT -888. Refuse to Answer - RA -999. Don't know - DK	s6c_12 (wave 1) immunewhynot (wave 2) Immunwhynot (wave 3) immunwhynotothern (wave 3)	This question is from wave 3

Other Health Information

Note: In the table below, the abbreviations W1, W2, and W3 are used to refer to the relevant variables in the raw datasets from survey waves 1, 2, and 3, respectively.

Question / Variable	***Variable name***	***Notes***
Who will be answering these questions about Name? Name appears to choose.		No variable found
If [Name] had to carry a heavy load (e.g. size 34 Bucket of water) without any help for 20 meters, could he/she do it? 1. Easily 2. With difficulty 3. Not at all	s6d_1 (wave 1) carryheavy(wave 2 &3)	
If not easily, could (NAME) have been able to do this 10 years ago? 1.Yes 5.No 96. Too young	s6d_2 (wave 1) carryheavy10yearsago (wave 2 &3)	
If yes, how long has [Name] had difficulty/ been unable to do this? a. Years (yy) b. Months (m)	s6d_3i (wave 1) s6d_3ii (wave 1) carryheavyhowlongnoyears (wave 2 &3) carryheavyhowlongnomonths (wave 2 &3)	
. If [Name] had to bathe him/herself without any help, could he/she do it?	s6d_4 (wave 1) bathe (wave 2 &3)	

1. Easily 2. With difficulty 5. Not at all		
If not easily, how long has [Name] had difficulty/ been unable to do this? a. Years b. Months	s6d_5i (wave 1) s6d_5ii (wave 1) bathehowlongnoyears (wave 2 &3) bathehowlongnomonths(wave 2 &3)	
In general, how would you rate your health? 1. Very healthy, 2. Somewhat healthy, 3. Somewhat unhealthy, 4. Unhealthy	s6e_1 (wave 1) healthrating (wave 2 &3)	
Have you ever had any sores or irritations on the feet that took more than four weeks to heal? 1. Yes 2. No	s6e_2 (wave 1) sores (wave 2 &3)	
In the last 3 months, have you had numbness or tingling in the hands or feet, other than numbness/tingling of the hands or feet resulting from falling asleep, foot aches, or long walks? 1. Yes 2. No	s6e_3 (wave 1) numbness (wave 2 &3)	
Have you ever had the habit of chewing tobacco, smoking pipe, smoking self-rolled cigarettes, or smoking cigarettes/ cigars?1. Yes 2. No >>15	s6e_4 (wave 1) tobacco(wave 2 &3)	
At what age did you begin this habit? 1. Age in years	s6e_5 (wave 1) agestarttobacco (wave 2 &3)	
Are you still in this habit? 1. Yes>>E9 5. No	s6e_6 (wave 1) stilltobacco (wave 2 &3)	
How many years ago did you quit? 1. Years	s6e_7 (wave 1) quithowlong (wave 2 &3)	
Before quitting, how many cigars/cigarettes did you consume in one day? 1. number >> E15	s6e_8 (wave 1) cigarettesperdaypast (wave 2 &3)	
In one day how many cigars/cigarettes do you consume now? 1. Number	s6e_9 (wave 1) cigarettesperdaynow (wave 2 &3)	

. In the last 12 months has (NAME) tried to stop smoking? 1. Yes; 2. No	s6e_10 (wave 1) triedtoquit (wave 2 &3)	
Would (NAME) like to stop smoking some time in life? 1. Yes; 2. No	s6e_11 (wave 1) everwanttoquit (wave 2 &3)	
If so, when? DO NOT PROMPT. 1. In the next 30 days, 2. In theext year, 3. In the next 5 years, 4. When I get sick	s6e_12 (wave 1) whenwantquit (wave 2 &3)	
Will you actually quit smoking in the next 6 months? 1. Yes; 2. No	s6e_13 (wave 1) quitnext6months (wave 2 &3)	
Are you so addicted to smoking that you will need some sort of help to quit? 1. Yes 2. No	s6e_14 (wave 1) addictedhelp (wave 2 &3)	
How often do you consume alcoholic beverages? 0. Never >> (next section) 1. Occasionally, less than once a week >> E16 5. Once a week or more >>E15	alcoholfreq (wave 2 &3)	
How many days in the week do you consume alcoholic beverages?1. days	alcoholperweek (wave 2 &3) s6e_15 (wave 1)	
Would name need help to quit if s/he decided to stop or cut down on drinking?	alcoholhelp (wave 3)	Only wave 3
In the past two weeks has [Name] suffered any illness or injury? 0. Neither>>F8 1. Illness>>F2 2. Injury >>F5 3. Both >>F2	s6f_1 (wave 1) anyillness (wave 2 &3)	
What was the illness that [Name] suffered? 1. Watery diarrhea 2. Diarrhea with blood>>Q5 3. Fever>>Q5 4. Cold/cough>>Q5 5. Guinea Worm>>Q5	s6f_2 (wave 1) whatillness (wave 3) whatillnessother (wave 3) Wave 2: whatillness1 whatillness2 whatillness3	

6. Bilharzia >>Q5 -666. Other (Specify) >>Q5 -888. Refuse to Answer>>Q5 -999. Don't know>>Q5	whatillness4 whatillness5 whatillness6 whatillness7 whatillness_ELM_1 whatillness_ELM_2 whatillness_ELM_3 whatillness_ELM_4 whatillness_ELM_5 whatillness_ELM_6 whatillness_ELM_95	
What was the most important liquid that was given to [Name] to drink? 0. Nothing >>F5 1. Oral Rehydration Salt (ORS) 2. Rice Water 3. Soup 4. Homemade sugar/saltwater solution, 5. Milk or infant formula, 6. Coconut water, 7. Water -666. Other (Specify)	s6f_3 (wave 1) whatdrink (wave 2 &3) whatdrinkother (wave 3)	
. If watery diarrhea, was [Name] given the same amount to drink as before the watery diarrhea, or more, or less? 1. Same 2. More 5. Less	s6f_4 (wave 1) howmuchdrink (wave 2 &3)	
For how many days during the last 2 weeks has [Name] suffered from this condition? (1-14 days)	s6f_5 (wave 1) howmanydays(wave 2 &3)	
During the last 2 weeks did [Name] have to stop the usual activities because of this condition? 1. Yes 5. No (>>F8)	s6f_6 (wave 1) stopactivities(wave 2 &3)	
For how many days did [Name] have to stop his/her usual activity? (1-14 days)	s6f_7 (wave 1) howmanystop (wave 2&3)	

. During the last 2 weeks, has [Name] consulted any health care facility? 1. Yes 5. No >>F23	s6f_8 (wave 1) consultfacility (wave 2 &3)	
. On the most recent visit, who did [Nae] consult? 1. Doctor, 2. Dentist, 3. Nurse, 4. Medical Asst., 5. Midwife, 6. Pharmacist, 7. Drug/Chemical seller, 8. Traditional Healer, 9. Trained TBA, 10. Untrained TBA, 11. Spiritualist, 666. Other (Specify) -888. Refuse to Answer -999. Don't know	s6f_9 (wave 1) consultwho (wave 2 &3) consultwhoother (wave 3)	
What was the reason for the most recent visit? 1. Illness, 2. Injury, 3. Follow-up, 4. Check-up, 5. Prenatal care, 6. Postnatal care, 7. Vaccination, 666. Other (Specify) -888. Refuse to Answer -999. Don't know	s6f_10 (wave 1) consultreason (wave 2 &3) consultreasonother (wave 2& 3)	
Where did the consultation take place? 1. Hospital/Polyclinic 2. Clinic, 3. MCH Clinic, 4. Maternity home, 5. Pharmacy, 6. Chemical Store, 7. Consultant's home, 8.Patient's home, If Patient's home, >> F15 9. Community epicenter,	s6f_11 (wave 1) consultwhere (wave 2 &3) consultwhereother (wave 3)	

10. CHPS compound -666. Other (Specify) -888. Refuse to Answer -999. Don't know		
What was the name of the health care facility? Name will be filled in after code is selected.	s6f_12 (wave 1)	Variable found in only wave 1
Code of Facility -Community Roster, or code NV if not in community	s6f_13 (wave 1) consultcode (wave 2) healthcode (wave 3)	
Was this a public or private facility? 1. public religious, 2. public non-religious 3. private religious 4. private non-religious	s6f_14 (wave 1) consultprivate (wave 2&3)	
. How much did Name pay for this consultation? If response to F11 had been "8. Patient's home" then >> F20	s6f_15i(wave 1) s6f_15ii(wave 1) consultcost (wave 2 &3)	Two variables for two different currency in wave 1
How much did Name pay to travel and return?	s6f_16i (wave 1) s6f_16ii (wave 1) consulttravcost (wave 2&3)	Two variables for two different currency
How much time did it take to travel to and from the facility? (TRAVEL TIME) 1. Hours 2. Minutes	s6f_17i (wave 1) s6f_17ii (wave 1) consulttravelhrs (wave 2&3) consulttravelmins (wave 2&3)	Two variables for hours and additional minutes
How long did [Name] wait in the health facility before being attended to by a health officer? (WAITING TIME) 1. Hours 2. Minutes	s6f_18i (wave 1) s6f_18ii (wave 1) consultwaithrs (wave 2 &3) consultwaitmins (wave 2&3)	Two variables for hours and additional minutes
How much TOTAL time (Waiting and Receiving treatment) did [Name] spend at the health facility? (CONSULTATION TIME) 1. Hours 2. Minutes	s6f_19i (wave 1) s6f_19ii (wave 1) consulttotalhrs (wave 2&3) consulttotalmins (wave 2&3)	Two variables for hours and additional minutes
During last 2 weeks was [Name] admitted to a hospital/ health care facility on account of an illness/ injury? (Include traditional healing centers)	s6f_20 (wave 1) admitted (wave 2&3)	

1. Yes, 5. No >>F23		
How many nights did [Name] spend in the health center during the past 2 weeks? (1-14 nights)	s6f_21 (wave 1) admittednights (wave 2&3)	
How much did/will [Name] pay for staying in the health center during the last 2 weeks? (GH cedis and pesawas)	s6f_22i (wave 1) s6f_22ii (wave 1) admittedcost (wave 2&3)	Two variables for two different currency in wave 1
During the last 2 weeks did [Name] purchase any medicine or medical supplies? 1. Yes, 5. No >> F26	s6f_23 (wave 1) purchasemeds (wave 2&3)	
How much did [Name] pay altogether for these medicine/medical supplies? (GH cedis and pesawas)	s6f_24i (wave 1) s6f_24ii (wave 1) medcostsupplies (wave 2&3)	Two variables for two different currency in wave 1
Were all the medical/medicinal supplies obtainable from the health facility? 1. Yes, 5. No	s6f_26 (wave 1) medavailable (wave 2&3)	
Total medical expenses over the last 2 weeks (If cannot, give breakdown) (GH cedis and pesawas)	s6f_25i (wave 1) s6f_25ii (wave 1) medcosttotal (wave 2&3)	Two variables for two different currency in wave 1
Were all the medical/medicinal supplies obtainable from the health facility? 1. Yes, 2. No	s6f_26(wave 1)	
In the past 12 months, was [Name] hospitalized for any sickness or injury? 1. Yes, >> G2 5. No >>G3	s6g_1 (wave 1) hospitalized (wave 2 &3)	
If yes, how many days was NAME hospitalized? 1.number of days	s6g_2(wave 1) hospitalizeddays (wave 2 &3)	
.What is the total cost of hospitalization? (GH cedis and pesawas)	s6g_2i (wave 1) ˜cedis s6g_2ii (wave 1) ˜pessewas hospitalizedcost (wave 2 &3)	

Who pays for the majority of medical expenses including consultations and hospital stays (if any)? ID of 1. Household member, 2. Other relative 3. Employer 4. Household member's employer 5. Health insurance 666. Other (specify) -888. Refuse to answer -999. Don't know	s6g_3 (wave 1) medwhopays (wave 2 &3) medwhopaysother (wave 3)	
Which household member paid for Name's medical expenses? Name and ID	s6g_3i (wave 1) ~cedis medwhopaysid (wave 2 &3) medwhopaysname (wave 3)	
During the last 12 months did (NAME) suffer from onchocerciasis? 1. Yes 2 .No>> next person	s6g_4	Wave 1 only
What were the effects of onchocerciasis that name suffered from? Circle all that apply 1. Blindness 2 .Body itches 3 .Skin rashes 4 .Other (specify)	s6g_5	Wave 1 only
Did (NAME) take any oncho control drugs? 1.Yes>> F35 2. No	s6g_6	Wave 1 only
Why did (NAME) not take the oncho control drug 1.drug not available 2because of side effect of drug previously 3.Drug not useful	s6g_7	Wave 1 only

4.did not trust distributer 5other (specify) (next person)		
How many tablets did (NAME) take during the last 12 months?	s6g_8	Wave 1 only
Did name experience any reactions from the oncho control drug that (NAME)took? 1. Yes 2. No>>G11	s6g_9	Wave 1 only
If yes, list the reactions (NAME) experienced from the oncho control drug? 1.Nausea 2. laziness 3.Sleepiness 4.body pains 5.Other (specify)	s6g_10	Wave 1 only
Did (NAME) pay for the oncho control drug that (NAME) took 1. Yes 2.No	s6g_11	Wave 1 only
If yes, how much did name pay for the oncho control drug that (NAME) took (GH cedis and pesawas)	s6g_12i s6g_12ii	Wave 1 only
Did name incur any other cost on the treatment of oncho during the last 12 months? 1. Yes 2 .No	s6g_13	Wave 1 only
List those other means of controlling oncho on which (NAME) incurred cost.	s6g_14i s6g_14ii s6g_14iii	Wave 1 only
Give the total of all the other cost incurred on the control of oncho during the last 12	s6g_15i s6g_15ii	Wave 1 only Two variables for two different currencies

months. (GH cedis and pesawas)		
During the last 12 months did (NAME) have to stop his/her usual activity because of oncho? 1. Yes 2. No	s6g_16	Wave 1 only
If yes to F43, how many days did (NAME) have to stop his/her usual activity because of oncho?	s6g_17	Wave 1 only

Women's Health

Note: In the table below, the abbreviations W1, W2, and W3 are used to refer to the relevant variables in the raw datasets from survey waves 1, 2, and 3, respectively.

Question / Variable	***Variable name***	***Notes***
At what age did (Name) BEGIN menstruating?	s7a_1(wave 1) agemenarche (wave 2 & 3))	
At what age did (Name) STOP menstruating? Enter -1 for not yet.	s7a_2(wave 1) agemenopause (wave 2 and 3)	
Has (Name) gone more than three months without menstruating at least once in the last 12 months? 1. Yes 5. No	s7a_3 (wave1) threemonthsnomens (wave 2 and3)	
At what age was (Name) first sexually active? Enter -1 for not yet.	s7a_4 (wave 1) ageactivesex(wave 2 & 3)	
In the future, how many more boys does (Name) see herself having?	s7a_5i (wave 1) howmanymoreboys (wave 2 &3)	

In the future, how many more girls does (Name) see herself having?	s7a_5ii (wave 1) howmanymoregirls (wave 2 &3)	
Do you think that you will have a child within the next three years? 1. Yes 5. No	s7a_6 (wave 1) childnextthreeyears (wave 2 &3)	
Have you ever been pregnant? 1. Yes 5. No>>Part B	s7a_7 (wave 1) everpregnant (wave 2 & 3)	
Has (NAME) ever given birth to a child? 1. Yes 5. No >>15	s7a_8 (wave 1) evergivenbirth (wave 2&3)	
How many GIRLS have you given birth to?	s7a_9 (wave 1) borngirls (wave 2 &3)	
How many BOYS have you given birth to?	s7a_10 (wave 1) bornboys (wave 2 & 3)	
"I would like to make sure (Name) has given birth to (A9+A10) TOTAL number of children"	S7a_11 (wave 1) Borntotal (wave 2 &3)	
"I would like to make sure that this is the total number of children born to you. "(A9+A10) TOTAL number of children" (the program automatically adds the two figures and report the total) 1. Yes 5. No	borntotalcheck	Only in wave 2 and 3.
How many GIRLS are alive today?	s7a_12 (wave 1) alivegirls (wave 2 & 3)	
How many BOYS are alive today?	s7a_13 (wave 1) aliveboys (wave 2& 3)	
"I would like to make sure (Name) has given birth to (A9+A10) TOTAL number of children.	s7a_14 (wave 1) alivetotal (wave 2 & 3)	

Did (Name) have any pregnancy that did not end in a live birth? 1. Yes 5. No >>17	S7a_15 (wave 1) nonaliveany (only wave 2 and 3)	
How many of those pregnancies did not end in a live birth?	s7a_16 (wave 1) nonalivehowmany (wave2 & 3)	
From what you have told me, it sounds likes you have given birth to more children than are currently alive. Is this correct?	s7a_17 (wave 1) childcheck (wave 2 &3)	
Information about dead child 1		There are a maximum of five children they can report.
Name of 1st child died?	n.a	n.a
Year born of 1st child that died?	s7a_18ii (wave 1) deadchild1_babyyearborn (wave 2) babyyearborn_1 (wave 3)	
Sex of 1st child that died?	s7a_18iii (wave 1) deadchild1_babygender (wave 2) babysex_1 (wave 3)	
Age of 1st child that died?	s7a_18di s7a_18dii (wave 1) deadchild1_babyageatdeathmonths deadchild1_babyageatdeathyears(wave 2) babyageyears_1 babyagmonths_1 (wave 3)	There are two variables for this question one is age in years and one is in months
Information about dead child 2		
Name of 2nd child died?	n.a	No variable found
Year born of 2nd child that died?	s7a_19ii (wave 1) deadchild2_babyyearborn (wave 2) babyyearborn_1 (wave 3)	
Sex of 2nd child that died?	s7a_19iii (wave 1) deadchild1_babygender (wave 2) babysex_1 (wave 3)	

Age of 2nd child that died?	s7a_19di s7a_19dii (wave 1) deadchild2_babyageatdeathmonths deadchild2_babyageatdeathyears(wave 2) babyageyears_2 babyagmonths_2 (wave 3)	There are two variables for this question one is age in years and one is in months
Information about dead child 3		
a) Name of 3rd child died?	n.a	No variable found
b) Year born of 3rd child that died?	s7a_20ii (wave 1) deadchild3_babyyearborn (wave 2) babyyearborn_3 (wave 3)	
c) Sex of 3rd child that died?	s7a_20iii (wave 1) deadchild3_babygender (wave 2) babysex_3 (wave 3)	
d) Age of 3rd child that die	s7a_20di s7a_20dii (wave 1) deadchild3_babyageatdeathmonths deadchild3_babyageatdeathyears(wave 2) babyageyears_3 babyagmonths_3 (wave 3)	There are two variables for this question one is age in years and one is in months
Information about dead child 4		
a) Name of 4th child died?	n.a	No variable found
b) Year born of 4th child that died?	s7a_21ii (wave 1) deadchild4_babyyearborn (wave 2) babyyearborn_4 (wave 3)	
c) Sex of 4th child that died?	s7a_21iii (wave 1) deadchild4_babygender (wave 2) babysex_4 (wave 3)	
d) Age of 4th child that died?	s7a_21di s7a_21dii (wave 1) deadchild4_babyageatdeathmonths deadchild4_babyageatdeathyears(wave 2) babyageyears_4	There are two variables for this question one is age in years and one is in months

	babyagmonths_4 (wave 3)	
Information about dead child 5		
a) Name of 5th child died?	n.a	No variable found
b) Year born of 5th child that died?	s7a_22ii (wave 1) deadchild5_babyyearborn (wave 2) babyyearborn_5 (wave 3)	
c) Sex of 5th child that died?	s7a_22iii (wave 1) deadchild5_babygender (wave 2) babysex_5 (wave 3)	
d) Age of 5th child that died?	s7a_22di s7a_22dii (wave 1) deadchild5_babyageatdeathmonths deadchild5_babyageatdeathyears(wave 2) babyageyears_5 babyagmonths_5 (wave 3)	There are two variables for this question one is age in years and one is in additional months
Do you have any children that are 6 months or younger?	na	Couldn't find a variable for this. This question is in wave 3
Are you breastfeeding now? 1. Yes 5. No	s7a_23 (wave 1) breastfeedingnow (wave 2 & 3)	This is question 23 in wave 1 and 2.
Is (Name) pregnant now? 1. Yes >>29 5. No	s7a_24 (wave 2) pregnantnow (wave 2 & 3)	
.Just before this pregnancy began, did you yourself want to have a/another baby at some time? 1. Yes 2. No. 3. Not sure	yourselfwantbaby_pregnant	Only wave 3 (part of question 24)
. Couples do not always have the same feelings about the number or timing of children. Just before this pregnancy began, did your	partnerwantbaby_pregnant	Only wave 3 (part of question 24)

partner/spouse want to have a/another baby? ? 1. Yes 2. No 3. Partner was not sure -999. Don't know (Skip to 29)		
Do you yourself want to have a/another baby now? 1. Yes 2. No. 3. Not sure	yourselfwantbaby	Only wave 3 (part of question 24)
Couples do not always have the same feelings about the number or timing of children. Does your partner/spouse want to have a/another baby now? 1. Yes 2. No 3. Partner was not sure -999. Don't know	partnerwantbaby	Only wave 3 (part of question 24)
During the last 12 months have you been pregnant? 1. Yes 5. No >> 36	s7a_25 (wave 1) pregnantlastyear (wave 2 &3)	
How did this pregnancy end? 1. Live Birth 2. Still birth (7+ months) >>29 3. Mis-carriage >>29 4. Abortion>>29 -666. Other (specify) >>29 -888. Refuse to answer >>29 -999. Don't know >>29	s7a_26(wave 1) preglastyearend (wave 2 & 3)	
Specify other	preglastyearendother (wave 2 & 3)	Only wave 2 & 3
What was the weight of the child at birth? (Kg)	s7a_27 (wave 1) weightatbirth (wave 2 &3)	
Is that child still alive? 1. Yes 5. No	s7a_28 (wave 1) stillalive (wave 2 & 3)	
During this [current or last 12 months] pregnancy did (Name) receive any pre-	s7a_29 (wave 1) prenatany (wave 2 &3)	

natal care? 1. Yes 5. No >> 35		
How old was (Name's) pregnancy when (Name) first received pre-natal care? 1. Weeks	s7a-30 (wave 1) prenat_firstreceived (wave 2 & 3)	Questions in wave 2 are well organized for this
From where did (Name) receive pre-natal care? 1. Private Clinic – PC 2. Public Clinic – PU 3. Hospital – HO 4. Maternity Home – MH 5. Home practitioner – PH 6. Comm. Epicenter – CE 666. Other (specify) -888. Refuse to answer -999. Don't know	s7a31 (wave 1) prenatwhere (wave 2 & 3)	
Specify other	prenatwhereother	Only wave 2 & 3
Question	Variable in raw data	Note
From who did (Name) receive pre-natal care? 1. Doctor – DO 2. Nurse – NU 3. Medical Asst. – MA 4. Midwife – MW 5. Pharmacist – PH 6. Chemical Seller --CS 7. Traditional Healer -- TH 8. Trained TBA – TT 9. Untrained TBA – UT 10. Spiritualist – SP 666. Other (specify) -888. Refuse to answer -999. Don't know	s7a_32 (wave 1) Prenatwho (wave 2 &3)	
33b. Specify other	prenatwhoother	Only wave 2 &3
34. How many times did (Name) go there? 1. Visits	s7a_33 (wave 1) prenatvisits (wave 2 & 3)	
35. How much did the FIRST pre-natal consultation cost? 1. GH Cedis, Pesawas (>> 36)	s7a_34i and s7a_34ii (wave 1) prenatfirstcost (wave 2 &3)	There are two variables for this question in wave 1, one in cedis and one in pesawas
Why didn't (Name) go for prenatal care? 1. Can't Afford – CA	S7a_35 (wave 1) prenatwhynot (wave 2 & 3)	

2. No health care – NC 3. Distance too far – TF 4. Not Necessary – NN 95. Other, specify All >>37		
specify other	prenatwhynotother	Only wave 2 & 3
How many years have passed since you were last pregnant?	s7a_36i (wave 1) lastpregnantyears (wave 2 &3)	
. How many months have passed since you were last pregnant?	s7a_36ii (wave 1) Lastpregnantmonths (wave 2 & 3)	
After your last child, how many months passed before (Name's) period came back? 1. Months (Not Yet – (code-1)	S7a_37 (wave 1) lastchildmenses (wave 2 &3)	
After (Name's) last child, how many months passed before (Name) resumed sexual relationships 1. Months (Not Yet – (code - 1)	s7a_38 (wave 1) lastchildresumesex (wave 2&3)	
For how many months did you breastfeed your last child? 1. Months (If still breastfeeding enter -1)	s7a_39 lastchildbreastfeed (wave 2&3)	
Does your husband provide you with money to buy food for the household? 1. Yes 5. No >> 3	s7b_1(wave 1) husbandprovide (wave 2 &3)	
How much in total did your husband provide you with in the last 30 days? 1. GH Cedis & pesewas	s7b_2i S7b_2ii (wave 1) husbandprovidetotal (wave 2&3)	Wave 1 has two variables for this, one is cedis and one is pesawas
In the last 30 days, has there been any physical violence in your neighbor's household? 1. Yes 5. No	s7b_3 (wave 1) violenceneighbor (wave 2 &3)	
In the last 30 days, has there been any physical violence in your household? 1. Yes 5. No	S7b_4 (wave 1) violenceown (wave 2 & 3)	

Do you know any woman who has received a gift or money in exchange for sex 1. Yes 5. No	s7b_5(wave 1) knowmoneyforsex (wave 2 &3)	
Have you ever received a gift or money in exchange for sex 1. Yes 5. No	s7b_6(wave 1) moneyforsex(wave 2 &3)	
The important decisions in the family should be made only by the men of the family? 1. Agree 5. Disagree	s7b_7(wave 1) importantbymen (wave 2 &3)	
A wife has a right to express her opinion even when she disagrees with what her husband is saying? 1. Agree 5. Disagree	s7b_8(wave 1) wifecanexpress (wave 2 &3)	
A wife should tolerate being beaten by her husband in order to keep the family together? 1. Agree 2. Disagree	s7b_9(wave 1) wifetoleratebeating (wave 2 &3)	
It is better to send a son to school than it is to send a daughter? 1. Agree 5. Disagree	s7b_10(wave 1) bettersontoschool	
When a wife has earned some money she has the right to spend it on herself or her children without asking her husband? 1. Agree 5. Disagree	s7b_11(wave 1) wifespendowmoney(wave 2 &3)	
A wife is correct in refusing to have sex with her husband when she knows her husband has sex with other women? 1. Agree 5. Disagree	s7b_12(wave 1) wifecanrefusesex (wave 2 &3)	

If a wife refuses sex, is it correct for her man to withhold money from her? 1. Agree 5. Disagree	s7b_13(wave 1) wife_refusesexholdmoney (wave 2 &3)	
If a wife refuses sex, is it correct for her man to beat her? 1. Agree 5. Disagree	s7b_14(wave 1) Ifrefusehusbandbeat (wave 2 &3)	
Over the last 12 months has name been involved in a relationship? 1. Yes 5. No	s7b_15(wave 1) Inrelationshiplast12 (wave 2 &3)	
Your partner frequently accused you of being unfaithful? 1. Agree 5. Disagree	s7b_16(wave 1) accusedinfidelity (wave 2 &3)	
Your partner frequently tried to limit your contact with your family? 1. Agree 5. Disagree	s7b_17 (wave 1) limitedcontact (wave 2& 3)	
Your partner insisted on knowing where you were at all times? 1. Agree 5. Disagree	s7b_18 (wave 1) knowwherealltimes (wave 2& 3)	
Your partner did not trust you with money? 1. Agree 5. Disagree	s7b_19 (wave 1) nottrustmoney (wave 2& 3)	
In the last 12 months, how often did your partner insult you? 0.Never 1.Sometimes 3.Often 5.Very Often	s7b_20 (wave 1) husbandinsulted (wave 2& 3)	
. In the last 12 months, how often did your partner threaten to hurt you or someone close to you? 0.Never	s7b_21 (wave 1) husbandthreatened (wave 2& 3)	

1. Once 2. Daily 3. Weekly 4. Monthly 5. Less than monthly		
In the last 12 months, how often did your partner push, hit, slap or throw something at you? 0.Never 1. Once 2. Daily 3. Weekly 4. Monthly 5. Less than monthly	s7b_22 (wave 1) husbandpushhitthrow (wave 2& 3)	
In the last 12 months, how often did your partner kick, drag, or beat you up? 0.Never 1. Once 2. Daily 3. Weekly 4. Monthly 5. Less than monthly	s7b_23 (wave 1) husbandkickdragbeat (wave 2& 3)	
If you have a small amount of money, such as 0.70 or 2.80 GHS, you can typically decide how to spend it on your own. 1. Agree a lot 2. Somewhat agree 3. Somewhat disagree 4. Not agree at all	ownspendingdecision	Only wave 3
When an expensive item [like a bicycle or a cow] is purchased by the household, your opinion is typically listened to in the decision of what to buy. Would you say you agree a lot, somewhat agree,	ownopinioheard	Only wave 3

somewhat disagree, or do not agree at all? 1. Agree a lot 2. Somewhat agree 3. Somewhat disagree 4. Not agree at all		

Men's Health

Note: In the table below, the abbreviations W1, W2, and W3 are used to refer to the relevant variables in the raw datasets from survey waves 1, 2, and 3, respectively.

Question / Variable	***Variable name***	***Notes***
1. At what age were you first sexually active? 1. Years (If Not Yet code -1)	s8a_1 firstsexactive	Same variable for women in section 7
Do you think that you will have a child within the next three years? 1. Yes 5. No	s8a_2 childnextthreeyears	Same variable for women in section 7
In the future, how many more boys do you see yourself having?	s8a_3i howmanymoreboys	Same variable for women in section 7
In the future, how many more girls do you see yourself having? (if Q1 is not yet,-1, skip to nest section, B)	s8a_3ii howmanymoregirls	Same variable for women in section 7
Have you been sexually active in the last 12 months? 1. Yes 5. No >> Part B	s8a_4 sexactivelastyear	
Do you have more than one woman? 1. Yes 5. No >> Part B	s8a_5 morethanonewoman	
How many spouses do you have? (Number 0-5)	s8a_6 howmanywomen	
Is (Name)'s spouse pregnant now?1. Yes 5. No >>24c	pregnantnow	Only wave 3

Just before this pregnancy began, did you yourself want to have a/another baby at some time? 1. Yes 2. No. 3. Not sure	yourselfwantbaby_pregnant	Only wave 3 Same variable for women in section 7
Couples do not always have the same feelings about the number or timing of children. Just before this pregnancy began, did your partner/spouse want to have a/another baby? ? 1. Yes 2. No 3. Partner was not sure -999. Don't know	partnerwantbaby_pregnant	Only wave 3 Same variable for women in section 7
Do you yourself want to have a/another baby now? 1. Yes 2. No. 3. Not sure	yourselfwantbaby	Same variable for women in section 7
Couples do not always have the same feelings about the number or timing of children. Does your partner/spouse want to have a/another baby now? 1. Yes 2. No 3. Partner was not sure -999. Don't know	partnerwantbaby	Only wave 3 (part of question 24)
Do you provide your spouse(s) with money to buy food for the household? 1. Yes 5. No>>B5	s8b_1(wave 1) providemoney(wave 2 &3)	
How much in total did you provide your first spouse in the last 30 days? 1. GH Cedis & pesewas	s8b_2i s8b_2ii (wave 1) providetotalfirst(wave 2&3)	Has two variables for wave 1 one in cedis and one is pesewas
If at least 2 spouses, how much in total did you provide your second spouse in the last 30 days? 1. GH Cedis & pesewas	s8b_3i s8b_3ii (wave 1) providetotalsecond(wave 2&3)	Has two variables for wave 1 one in cedis and one is pesewas
If at least 3 spouses, how much in total did you provide your third spouse	s8b_4i s8b_4ii(wave 1) providetotalthird(wave 2&3)	Has two variables for wave 1 one in cedis and one is pesewas

in the last 30 days? 1. GH Cedis & pesewas		
In the last 30 days, has there been any physical violence in your neighbor's household? 1. Yes 5. No	s8b_5 (wave 1) violenceneighbor (wave 2 &3)	Same variable for women in section 7
In the last 30 days, has there been any physical violence in your household? 1. Yes 5. No	s5b_6 (wave 1) violenceown (wave 2 & 3)	Same variable for women in section 7
Do you know anyone who has received a gift or money in exchange for sex 1. Yes 5. No	s8b_7(wave 1) knowmoneyforsex (wave 2 &3)	Same variable forwomen in section 7
Have you ever received a gift or money in exchange for sex 1. Yes 5. No	s8b_8(wave 1) moneyforsex(wave 2 &3)	Same variable for women in section 7
The important decisions in the family should be made only by the men of the family? 1. Agree 5. Disagree	s8b_9(wave 1) importantbymen (wave 2 &3)	Same variable for women in section 7
10. A wife has a right to express her opinion even when she disagrees with what her husband is saying? 1. Agree 5. Disagree	s8b_10(wave 1) wifecanexpress (wave 2 &3)	Same variable for women in section 7
A wife should tolerate being beaten by her husband in order to keep the family together? 1. Agree 2. Disagree	s8b_11(wave 1) wifetoleratebeating (wave 2 &3)	Same variable for women in section 7
It is better to send a son to school than it is to send a daughter? 1. Agree 5. Disagree	s8b_12(wave 1) bettersontoschool	Same variable for women in section 7
When a wife has earned some money she has the right to spend it on herself or her children without asking her husband?	s8b_13(wave 1) wifespendowmoney(wave 2 &3)	Same variable for women in section 7

1. Agree 5. Disagree		
A wife is correct in refusing to have sex with her husband when she knows her husband has sex with other women? 1. Agree 5. Disagree	s8b_14(wave 1) wifecanrefusesex (wave 2 &3)	Same variable for women in section 7
If a wife refuses sex, is it correct for her man to withhold money from her? 1. Agree 5. Disagree	s8b_15(wave 1) wife_refusesexholdmoney (wave 2 &3)	Same variable for women in section 7
If a wife refuses sex, is it correct for her man to beat her? 1. Agree 5. Disagree	s8b_16(wave 1) Ifrefusehusbandbeat (wave 2 &3)	Same variable for women in section 7
Over the last 12 months have you been involved in a relationship? 1. Yes 5. No >>Next Person (this question does not appear for married men whose spouses are in the data)	s8b_17(wave 1) inrelationshiplast12 (wave 2 &3)	Same variable for women in section 7
You frequently accused her of being unfaithful 1. Agree 5. Disagree	s8b_18(wave 1) accuseinfidelity (wave 2 &3)	
You tried to limit her contact with her family 1. Agree 5. Disagree	s8b_19 (wave 1) limitedcontact (wave 2& 3)	
You insisted on knowing where she was at all times 1. Agree 5. Disagree	s8b_20 (wave 1) knowwherealltimes (wave 2& 3)	
You did not trust her with money 1. Agree 5. Disagree	s8b_21 (wave 1) nottrustmoney (wave 2& 3)	
In the last 12 months, how often did you insult her? 0. Never	s8b_22 (wave 1) insultedher (wave 2& 3)	

1. Sometimes 3. often 5. Very often		
In the last 12 months, how often did you threaten to hurt her or someone close to her? 0.Never 1. Once 2. Daily 3. Weekly 4. Monthly 5. Less than monthly	s8b_23 (wave 1) threatenedher(wave 2& 3)	
In the last 12 months, how often did you push, hit, slap or throw something at her? 0.Never 1. Once 2. Daily 3. Weekly 4. Monthly 5. Less than monthly	s8b_24 (wave 1) pushhitthrowher (wave 2&3)	
In the last 12 months, how often did you kick, drag, or beat her up? 0. Never 1. Once 2. Daily 3. Weekly 4. Monthly 5. Less than monthly	S8b_25 (wave 1) kickdragbeather	

Agricultural Production

Note: In the table below, the abbreviations W1, W2, and W3 are used to refer to the relevant variables in the raw datasets from survey waves 1, 2, and 3, respectively.

Question / Variable	***Variable name***	***Notes***
Plot ID	Plot_no (wave 1) plotid (wave 2 & 3)	

ID of plot holder or cultivator and person interviewed 1. ID owner / user 2. ID interviewed	wave1: s4ai_a1i s4ai_a1ii(wave 1) plotowner (wave 2) interviewedid (wave 2 &3)	
What year did you first begin to use/own this land	s4ai_a2 (wave 1) yearsfarming (wave 2 &3)	
Could you leave the land empty for a period of several months without being worried about losing it? 1. Yes 2. No >> A 6	s4ai_a3 (wave 1) leaveland (wave 2 & 3)	
How long do you think you could leave the land alone without losing it? 1. Years (yy) 2.Months	s4ai_a4i (wave 1) s4ai_a4ii leavelandduration (wave 2 & 3)	
Why or how would you lose the land? 1. Lose title-LT 2. Land would be given to someone else-GS 3. Someone else might start to use it -US 4. Other (specify)-OT	S4ai_a5 (wave 1) leavelandlose (wave 3) leavelandlose_'i' (wave 3) Here 'i'=1-3,666,888,999 Leavelandloseother (wave 3)	
Have you ever had a dispute with anyone over this land? 1. Yes 2. No	s4ai_a6 (wave 1) dispute (wave 2 & 3)	
What was the nature of the dispute? 1. Boundaries of land– BO 2. Multiple claims to land–MC	S4ai_a7 (wave 1) disputenature (wave 2 & 3) disputeother	

3. Breach of contract by former owner–BF 4. Breach of contract by potential buyer–BB 5. Other (specify)–OT		
Please give the name and HH ID of the person whom you had the dispute with. (If not in EA write NV) 1. Name 2. ID	s4ai_a8	Wave 1 Only
Relationship to this person? 1. Same family member–SF 2. Member of same ethnic group-SE 3. Member of a different ethnic group–DE 4. The state/ government entity–ST 5. Commercial enterprise/ entity–CE	s4ai_a9 disputerelationship	
Can [Name] provide the size of plot [#]: [Plot Name] in acres? 1-Yes>> H9 5-No	S4aii_a10 (wave 1) plotsizeacres (wave 2&3)	
What unit does [Name] use to measure plot [#]: {Plot Name]? 1-Poles 2-Robes 3-Plots -666-Other (please specify)	s4aii_a11 (wave 1) plotsizeunit (wave 2&3)	
Are you familiar with the describe test area in this community)?	s4aii_a12	Wave 1 only

1. Yes 2. No		
Is this farm bigger or smaller than the test area? 1. Bigger–BI 2. Smaller–SM >> A15 3. About the same– AS >> 15b	s4aii_a13	Wave 1 only
How many of the test area would fit in this farm (if bigger)? 1. Number	s4aii_a14	Wave 1 only
How many of this farm would fit into the test area (if smaller)? 1. Number	s4aii_a15i	Wave 1 only
How far is this plot from your house?	s4aii_a15ii	Wave 1 only
What is the travel time (in minutes) from your house to this plot	s4aii_a15iii	Wave 1 only
What is the approximate size in [chosen unit] of plot [#]: [Plot Name], including portions that are uncultivated or being farmed by someone outside your household?	totalsize	Only Wave 2 & 3
. What was the year when the last fallow period began? 1.Year (yy) 2.Don't know (DK) Prompt: Duration since last plow	s4aii_a18a s4aii_a18b	Only Wave 1

What was the year when the last fallow period began? 1.Year (yy) 2.Don't know (DK) prompt:	s4aii_a19a s4aii_a19b	Only Wave 1
Considering this entirety of plot [#]: [Plot Name], how many [chosen unit] did [Name] leave fallow or uncultivated during the last farming season	fallowunits	Only Wave 2 & 3
Why did [Name] leave some or all of plot [#]: [Plot Name] fallow or uncultivated during the last farming season (2017)? Select all that apply. 1-Erosion control 2-Weed control 3-Pest/disease control 4-Soil nutrient replenishment 5-Lack of labor 6-Lack of inputs -666-Other (please specify)	fallowwhy (wave 2 &3) wave:2 fallowwhy_1 fallowwhy_2 fallowwhy_3 fallowwhy_4 fallowwhy_5 fallowwhy_6 fallowwhy_666 fallowwhy_888 fallowwhy_999 fallowwhyother	Only Wave 2 & 3
Did [Name] or a member of the same household cultivate plot [#]: [Plot Name] during the last farming season ? 1. Yes, whole plot>>H17a 2. Yes, part of plot 3. No>>H21	cultivated	Only Wave 2 & 3
How many [chosen unit] of plot [#]: [Plot Name] did [Name] or a member of the same household cultivate during the last farming season	cultivatedunits	Only Wave 2 & 3

a How many crops were grown on plot [#]: [Plot Name] did [Name] during the last farming season (2017)? This included tree crops still growing, cassava that was planted a year ago etc. and also intercropped crops.	cropshowmany	Only Wave 2 & 3
What crops did you grow on plot [#]: [Plot Name] during the last farming season (2017)? Select all that apply. See code below	Wave 2: crops`i'_cropname crops`i'_cropcode Here i=1-10 cropset_ELM_`j' Here `j'=1-43 Wave3: cropsgrown cropsgrown_i Here i=1-44 cropgrown_666 cropgrownother	Only Wave 2 & 3
What was the main crop grown on plot [#]: [Plot Name] during the last farming season? The crops selected in H17 appear for selection	Wave 2: main maincropcode Maincropname Wave 3: maincrop	
How many crops were intercropped on plot [#]: [Plot Name] during the last farming season?	interhowmany	Only Wave 2 & 3
Which crop(s) were intercropped on plot [#]: [Plot Name] during the last farming season?	Wave 2: intercroppedlist'i' Here 'i'=1-5 intercroppedlist_ELM_'j' Here 'j'=1-10 intercropped'k'_cropname intercropped'k'_cropcode Here 'k'=1-5	Only Wave 2 & 3

	Wave 3: intercroppedlist intercroppedlist_'i' Here i=1-44 intercroppedlist_666	
Which person in your household works to intercrop on plot [#]: [Plot Name]? Names appear for selection	intercropperson	Only Wave 2 & 3
. How would you describe the soil of this plot? 1 Moist, 2 Dry 3 Loamy 4.Rocky/gravely 5 Sandy 6 Silty 7 Clay-filled 8 Packed/dense 9 Drains poorly 10 Drains well 11 Exhausted 12 Other,	Wave 1: s4aiii_a24 Wave 2: soil'i' soil_ELM_'i' Here 'i'=1-12 Wave 3: soil soil_'j' Here 'j'=1-11,666,888,999 soilother (wave 2&3)	
. How wet is this land compared to other lands in your community? 1….morewet 2….less wet 3…About the same	s4aiii_a20 (wave 1) soilwet (wave 2&3)	
B24 Is the soil on this plot deep or shallow? Deep……1 Shallow..2	s4aiii_a21 (wave 1) soildeepyn (wave 2&3)	
How deep is the soil? 1... Up to one foot 3….One to three feet 5….More than three feet	s4aiii_a22 (wave 1) soildepth (wave 2 &3)	
What is the main color of the soil? 1.Red	s4aiii_a23 (wave 1) soilcolor (wave 2 &3)	

2.Black 3.Grey 4.Yellow 5.Brown 6.White		
Does it take this plot hours, days or weeks to drain after rainfall? 0.None 1.Minutes 3.Hours 5. Days 7. Weeks	soildrainunits (wave 2 &3)	Only wave 2 &3
How many units chosen in B27a does it take to drain after rain fall?	soildraintime (wave 2 &3) Wave 1: s4aiii_a25i s4aiii_a25ii	
Is the land watered from a source other than rain water? 1.Yes 5. No >>H32	S4aiii_a26 (wave 1) othersource (wave 2 &3)	
B29 What is your primary source of watering? 1…. Well 2… Borehole 3…. Pond/tank 4… Weir 5…River, stream 95. Other (specify)	s4aiii_a27 (wave 1) wave 2 &3: primarywatersource primarywatersourceother	
Is this source of water ever dry? 1.Yes 5.No	s4aiii_a28 (wave 1) othersourceeverdry (wave 2 &3)	
In what month does it usually become filled? Select all that apply.	s4aiii_a29 (wave 1) Wave 2: othersourcefilled'i' othersourcefilled_ELM_'i' Here 'i'=1-12 Wave 3: othersourcefilled othersourcefilled_'i'	

	Here 'i'=1-12	
In what month does it usually become dry? Select all that apply.	s4aiii_a30 (wave 1) Wave 2: othersourceempty'i' othersourceempty_ELM_'i' Wave 3: othersourceempty othersourceempty_'i' Here 'i'=1-12	
Can you walk to this plot from here? 1.Yes 5. No	plotwalkto (wave 2 &3)	Only wave 2 &3
How far is this plot from your home? If distance is greater than 5 miles in B34), Where is this plot located?	plotdistance (wave 2 &3) plotlocation_region (wave 2 &3) plotlocation_district (wave 2 &3) Plotlocation_rcode (wave 2) plotlocation_dcode (wave 2) plotlocation_country (wave 2) plotlocation_countrycode (wave 2)	Only wave 2 &3
Does the land have clear boundaries 1. Yes 2. No >> 18	s4aii_a16	Wave 1 only
Did you or someone else do something to create These boundaries? (e.g. plant trees, make a fence) 1. Yes 2. No, has natural boundaries (e.g. a river)	s4aii_a17	Wave 1 only
Please circle the two most important of such investments: 1. Bore wel BW 2. Deepening well DW 3. Dig a pond– DP 4. Installing dug well–ID 5. Other (specify– OT	s4aiii_a34	Wave 1 only

What were the total Cash spending hours on all the related irrigation investments and improvements during the last 3 years? 1.GH cedis and pesewas 2.Family labor hours	s4aiii_a35.1i s4aiii_a35.1ii s4aiii_a35ii	Two variables for two currency and one for family labor Wave 1 only
Have you made any soil and water conservation improvements on this land in the past three years? 1. Yes 2. No >> A39	s4aiii_a36	Wave 1 only
Please circle the two most important of such investments: 1. Leveling the terrain LT 2. Land leveling/Terracing LL 3. Bunding for soil and water Conservation BC 4. Mulching MU 5. Fencing FE 6. Reclamation –RE 7. Other (specify)	s4aiii_a37	Wave 1 only
What were the total cash spending/ days on all the related conservation investments and improvements during the last 3 years? 1. GH cedis and pesewas 2.Family labor hours	s4aiii_a381i s4aiii_a381ii s4aiii_a38ii	Two variables for two currency and one for family labor Wave 1 only

Have you planted trees in the past three years? 1. Yes 2. No	s4aiii_a39 trees(wave 2&3)	
How many trees have you planted in the past 3 years? 1. Number of trees / 3 years	s4aiii_a40 tresshowmany (wave 2&3)	
Are there permanent and/or sem- permanent structures on this land 1. Yes 2. No	s4aiv_a41	Wave 1 only
How many structures? 1.Number	s4aiv_a42	Wave 1 only
Please circle (up to two) most important structures on this land: 1. Farm building FB 2. Animal Shed–AS 3. Fence–FE 4. Other(specify)–OT	s4aiv_a43	Wave 1 only
Have you made any improvements to the structures in the past three years? 1. Yes 2. No	s4aiv_a44 improvementslastyear(wave 2&3)	
Does the land have clear boundaries 1. Yes 2. No >> 18	s4aii_a16	Wave 1 only
Did you or someone else do something to create These boundaries? (e.g. plant trees, make a fence)	s4aii_a17	Wave 1 only

1. Yes 2. No, has natural boundaries (e.g. a river)		
A 48What are the most important improvements [Name] has made? Select all which apply. You may use the list to prompt the respondent	Wave 2: improvementsimportant_ELM_'i' Here i=1-12,95 Improvementsimportant'i' Here i=1-13 Wave 3: improvementsimportant Improvementsimportant_'i' Here 'i'=1-12,666,888,999	Wave 2 & 3
Has plot [#]: [Plot Name] been burned since the last survey? 1 Yes 3 Partially 5. No	burned	Wave 2 & 3
How did [Name] obtain plot [#]: [Plot Name], or gain the right to farm plot [#]: [Plot Name]? 1 Purchased 2 Inherited from family member 3 Rented (for cash or kind), or sharecropped 4 Allocated free of charge 5. Begged 6. Borrowed -666. Other (please specify)	s4aiv_a45 (wave 1) obtainhow (wave 2&3)	
From whom did [Name] obtain plot [#]: [Plot Name] when [Name] began to use or own it? 1 – Member of this household 2 – Other relative>>I4 3 – Chief>>I4 4 – Other non relative>>I4	obtainfromwho (wave 2&3)	

Which household member did you obtain this plot from? [Names appear for selection]	obtainhhmember (wave 2&3)	
How many years ago was plot [#]: [Plot Name] purchased? In what year was this plot purchased?	purchasedyears (wave 2&3) s4aiv_a46	
How much did you pay for the land when you began to own it (cedis) and	s4aiv_a47ii s4aiv_a47i	
Did [Name] pay in cash or in kind for plot [#]: [Plot Name], or both? Is the payment [Name] makes on plot [#]: [Plot Name] in-kind, cash, or both? In-kind payment includes sharecropping	purchasedcashinkind (wave 2&3)	Wave 2 & 3
How much cash [Name] pay in total for plot [#]: [Plot Name] when [Name] began to own it? Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	cashamount (wave 2&3)	Wave 2 &3
What is the approximate total value of the in kind contribution that [Name] gave when [Name] began to own plot [#]: [Plot Name]?	inkindtotalvalue (wave 2&3) s4aiv_a48i s4aiv_a48i	
C15 How did [Name] finance plot [#]: [Plot Name] purchase?	cashfinanced (wave 2&3) cashfinanced_'i' (wave 3)	

	Here ‘i’=1-1,666,888,999	
C 16 Is any amount currently outstanding on the purchase of plot [#]: [Plot Name]? 1.Yes 5. No>>I32	Inkindoutstanding (wave 2&3)	
What is the amount which is outstanding on the purchase of plot #1: a? If the payment was made in kind, estimate its current market value. Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	inkindoutstandingvalue (wave 2&3) Wave1 : s4aiv_a49i s4aiv_a49ii	
How much was the annual rental value in cash of plot [#]: [Plot Name] at the time of the agreement (not including in-kind payment or sharecrop)?	rentpayment (wave 2&3) rentpaymentannualvalue Wave 1: s4aiv_a52i s4aiv_a52ii	
Please select the time unit for which the rental agreement for plot [#]: [Plot Name] covers. 1.Years 2. Months	rentcashlengthunit (wave 2&3)	
How many [time unit chosen] does the rental agreement for plot [#]: [Plot Name] cover? In years and months	rentcashlength (wave 2&3) Wave 1: s4aiv_a53i s4aiv_a53ii	
How many years ago was the rental agreement for plot [#]: [Plot Name] made?	rentcashyears (wave 2&3) Wave 1: s4aiv_a54i s4aiv_a54ii	

How much of the agreed rent has been paid to date? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas. >>I26 If I18 – 1 cash	rentcashpaid (wave 2&3) s4aiv_a55i s4aiv_a55ii	
Is a share of the produce from plot [#]: [Plot Name] due to the landlord (i.e. as a sharecrop)? 1.Yes 5. No >>I26	sharecropped (wave 2&3)	
What proportion of the crops from plot [#]: [Plot Name]t is due to the landlord? 1---Two thirds (2/3) 2-- Half (1/2) 3--- One third (1/3) 4--- One quarter (1/4) 5---- One fifth (1/5) - Other (please specify	scroppedproportion (wave 2&3) scroppedproportionother (wave 2&3) wave1: s4aiv_a58	
What is the value of goods in-kind (not including sharecrop)	scroppedinkindvalue (wave 2&3)	
How has [Name] financed the rent 'payments for plot [#]: [Plot Name]? Select all that apply.	rentfinanced (wave 2&3) rentfinancedother (wave 2&3) rentfinanced_'i'(wave 3) Here 'i'=1-18,666,888,999	
In the last 12 months, has the landlord provided any inputs for plot [#]: [Plot Name]? 1-Yes 2-No >>I29	rentlandlordinput (wave 2&3) s4aiv_a56	
What was the value of the inputs that the landlord provided for plot [#]: [Plot	rentlandlordinputvalue (wave 2&3) s4aiv_a57i s4aiv_a57ii (wave 1)	

Name]t in the last 12 months? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas		
Does [Name] make all the farming decisions about plot [#]: [Plot Name]?	decisions (wave 2&3)	
What qualifies (or qualified) [Name] to be allocated plot [#]: [Plot Name] free of charge? 1 Lineage (living) 2 Member of the community, including those unrelated to the chief 3 Friend of owner 4 Employee of owner 5 Someone in the community vouched for me -666. Other (please specify) (question is skipped if from household member) >> I32	freequalify (wave 2&3) freequalifyother (wave 2&3) Wave 1: s4aiv_a59	
What qualifies (or qualified) [Name] to beg plot [#]: [Plot Name]? 1 Lineage (living) 2 Member of the community, including unrelated to the chief 3 Friend of owner 4 Employee of owner 5 Someone in the community vouched for me -666 Other (please pecify) (question Is skipped if from household member	freequalifybeg freequalifybegother	(wave 2&3 only
Does the household	righttosell	(wave 2&3 only

have the right to sell plot [#]: [Plot Name] or use it as collateral for security? 1. Can sell 2. Can use for collateral 3. Both 4. Neither		
Was plot [#]: [Plot Name] farmed by somebody outside your household in the last farming season (e.g. sharecropped, rented out, or allocated to another person)? 1.Yes 5. No >>I47	farmedbyother (wave 2&3) S4aiv_a65 (wave 1)	
For how many years has this land been farmed by somebody outside the household?	otheryears (wave 2&3) s4aiv_a66i (wave 1) s4aiv_a66ii	
How many [chosen units] of plot [#]: [Plot Name] were cultivated by someone else this year?	otheracrescultivated (wave 2&3)	
What was the main reason [Name] decided to rent out or sharecrop this land? 1 Needed money 2 Plot was undesirable 3 Did not want to continue farming 4 Already had enough land 5 Wanted to help the recipient 6 Other (please specify	otherreason (wave 2&3) otherreasonother (wave 2&3) s4aiv_a67 (wave 1)	
Does [Name] allow the tenant/recipient to make all the farming decisions about the land? 1.Yes 5. No	otherdecisions (wave 2&3) Wave 1: s4aiv_a68	

Under what type of contract has the land been given out to its current user? 1 Rented 2 Sharecropped 3 Begged 4 Borrowed 5 Mortgaged -666 Other (please specify)	othercontract (wave 2&3) othercontractother (wave 2&3) Wave 1: s4aiv_a69	
Was there a formal contract at the time when [Name] first gave out the land to the current user? 1 Yes, there was a formal written contract 2…. No, it was a verbal agreement -666…….. Other (please specify)	othercontractformal (wave 2&3) otherformalother (wave 2&3) Wave 1: s4aiv_a70	
What was the duration of the contract or agreement when [Name] first gave out the land to the current user? 1 No fixed duration 2 Fixed for one season 3 Fixed for one year 4 Multiple years -666 Other (please specify)	othercontractduration (wave 2&3) s4aiv_a71(wave 1) otherdurationother (wave 2&3)	
What is [Name]'s relationship with the current user of the land? 1 Relative 2 Friend 3 Landlord 4 Another member of this community 5 Another person outside the community	otherrelationship (wave 2&3) s4aiv_a72(wave 1)	
During the last 12 months, what is the value of inputs	otherinputvalue (wave 2&3)	

[Name] provided for this land? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	s4aiv_a73ii	
During the last 12 months has [Name] received any income or any of the produce from this land? 1… Yes , received rental income 2… Yes received a share of the produce (>> I45) 3… Yes, received other goods in kind (>> I46) 5… No	otherincome (wave 2&3) otherincome'i' (wave 2) otherincome_ELM_'i' Here 'i'=1,2,3,5 otherincome_'i'(wave 3) Here 'i'=1,2,3,5,888,999 otherrent(wave 2 &3)	
What proportion of the crops produced comes to [Name]? 1 Two thirds (2/3) 2 Half (1/2) 3 One third (1/3) 4 One quarter (1/4) 5 One fifth (1/5) -666 Other (please specify)	othercropproportion (wave 2&3) otherproportionother (wave 2&3) s4aiv_a76(wave 1)	
What is the value of the goods in kind [Name] received in return for this land? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas	othergoodsvalue (wave 2&3) s4aiv_a75ii(wve 1) s4aiv_a75i	
. Did [Name] use a tractor or draft/draught animal (bullock/ox, bull, cow) on	ploughanytime	

plot [#]: [Plot Name], at any time this past farming season, from land preparation to post-harvest, whether operated by [Name] him/herself, a relative, a friend, a communal laborer, a hired laborer, or traveling tractor or draft/draught animal (e.g. bullock/ox, bull, cow) man??		
Did [Name] use a tractor or draft/draught animal (bullock/ox, bull, cow) during any of the following farming stages? Select all that apply. 1 Clearing /land preparation 2 Ploughing 3 Planting 4 Fertilizer application processing 5 Weeding 6 Harvesting 7 Post-harvest processing	Wave 2: ploughstagesused'i' ploughstagesused_ELM_i i=1-7 Wave 3: ploughstagesused ploughstagesused_'i' 'i'=1-7,888,999	
Did [Name] use a tractor, a draft/draught animal (bullock/ox, bull, cow), or a hoe and his/her own hands to plough plot [#]: [Plot Name]? 0. Did not plow >>next plot 1 Tractor 2 Draft/draught animal 3 Hoe/hands >>next plot	Wave 2 ploughtype'i' plough_ELM_j j=0,1,3,5 i=1-4 Wave 3 ploughtype ploughtype_'i' Here 'i'=0-3,888,999	
What month did [Name] begin ploughing plot [#]: [Plot Name] for the 2017 season?	ploughmonth ploughday	

What day did [Name] begin ploughing plot [#]: [Plot Name] for the 2017 season?		
D5 Who owned the tractor or draft/draught animal (bullock/ox, bull, cow) used during the ploughing stage on plot [#]: [Plot Name]? 1 Self 2 Family member/friend 3 Communal labor 4 Hired labor 5 Traveling tractor man 6 Traveling bullock man -666 Other (please specify)	ploughowner (wave 3) ploughownerother (wave 2&3)	
D6 Who operated the tractor or draft/draught animal (bullock/ox, bull, cow) used during the ploughing stage on plot [#]: [Plot Name]?	ploughoperator (wave 2&3) ploughoperatorother (wave 3)	
Did any member of your household, including [Name], supervise the ploughing work done on plot [#]: [Plot Name]?	ploughsupervisor	
Which member of your household supervised the ploughing work done on plot [#]: [Plot Name]?	ploughsupervisorhh	
If D5 or D6= 1 or 2 If [Name] had hired a paid laborer to do the same amount of ploughing work on plot [#]: [Plot Name], how much would it have cost in total?	ploughhypothetical	
If D5 or D6 = 4, 5 or 6	ploughpayment	

Did [Name] pay for the tractor or draft/ draught animal (bullock/ox, bull, cow work during the ploughing stage on plot [#]: [Plot Name]? 1 Yes 5 No >> next plot	ploughpaymenttype_'i' Here 'i'=1-4,666,888,999 ploughpaymenttypeother	
D11How did [Name] pay for the tractor or draft/draught animal (bullock/ox, bull, cow) work during the ploughing stage on plot [#]: [Plot Name]? 1… Paid cash at ploughing time 2… Paid cash at harvest time 3….. Paid in kind at ploughing time >>J13 4…. Paid in kind at harvest time >>J13 -666 Other (please	ploughpaymenttype ploughpaymenttype_'i' Here 'i'=1-4, 666,888,999 ploughpaymentother	
If D11 = 1 or 2 How much CASH did [Name] pay in total for the tractor or draft/draught animal (bullock/ox, bull, cow) work during the ploughing stage on plot [#]: [Plot Name]]? This includes the tractor, draught animal, and labor >> next plot.	ploughpaymentcash	
If D11 = 3 or 4 Can you describe what [Name] paid IN-KIND for the tractor or draft/draught animal (bullock/ox, bull,	ploughpaymentinkind ploughpaymentother	

cow) work during the ploughing stage on plot [#]: [Plot Name]?		
Crop code	Cropcode (wave 2&3) Wave 1 major season: s4avii_248i s4aviii_253i S4aviii_258i s4aviii_263i wave 1 minor season: s4avii_269i s4aviii_274i S4aviii_279i s4aviii_284i	
Crop name	cropname (wave 2 &3) Wave 1 major season: s4aviii_248ii s4aviii_253ii S4aviii_258ii s4aviii_263ii Wave 1 minor season: s4avii_269ii S4aviii_274ii S4aviii_279ii s4aviii_284ii	
How did [Name] obtain the seeds/seedlings of [crop type] which he/she planted on plot [#]: [Plot Name] in the last major farming season ?	Wave 1 major season: s4aviii_250 s4aviii_255 S4aviii_260 s4aviii_265 Wave 1 minor season: s4aviii_271 s4aviii_276 s4aviii_281 s4aviii_286 Wave 2: obtainedseedshow'i' Here i=1-3 obtainedseedhow_ELM_0 Here i=0-7,95 Wave 3: obtainedseedshow obtainedseedshow_'i'	

	Here 'i'=1-7,666,888,999 obtainedseedshowother	
What organization did [Name] obtain your seeds from?	Wave 2: obtainedseedorg'i' Here i =1-3 obtainedseedorg_ELM_'i' Here 'i'=1-6,95 Wave 3: obtainedseedorg Obtainedseedorg_'i' Here 'i'=1-6,666,888,999	Only wave 2 &3
E3 Can [Name] describe the type, variety or brand of the seeds used on plot [#]: [Plot Name]?	Wave 2: obtainedseedorgseedvariety'i' Here 'i'=1-5, seedvariety_ELM_'i' Here 'i'=1-10,95 Wave 3: seedvariety_'i' i=1-125, 666,888,999 seedvarietyother	Only wave 2 &3
How much did [Name] pay for the seeds [Name] used on plot [#]: [Plot Name]?	seedpaid Wave 1 major season: s4avii_252i s4aviii_257i S4aviii_262i S4aviii_267i s4avii_252ii s4aviii_257ii S4aviii_262ii s4aviii_267ii Wave 1 minor season: s4avii_273i S4avii_273ii s4avii_278i S4avii_278ii s4avii_283i S4avii_283ii s4avii_288i s4avii_288ii	

How many units of seeds did [Name] use on plot [#]: [Plot Name]? In what unit does memasure the seeds	seedunits seedunitsothers seedquantity	Only wave 2 &3
If seed obtained from an individual within this EA, ID of person	Wave 1 major: s4aviii_'k'ii Here 'k'=251,256.261,266 Wave 1 minor: s4aviii_'k'ii Here 'k'=272,277.282,287	Only wave 1
Chemical code	chemcode	Wave 2 &3 only
Chemical name	chemname chemnameother (wave 3 only)	Wave 2 &3 only
In the last major farming season did you apply any chemicals such as fertilizer, weedicide or pesticide to any of your plots?	Wave 1 major season: s4avi_a'k' 'k'=162,170,178,186,194 Wave 1 minor season: s4avi_a'k' 'k'=203,211,219,227,235	
What was the first chemical you used during the last farming season ?	Wave 1 major season: s4avi_a'k'i Here 'k'=162.0,170.0,178.0,186.0,194.0 Wave 1 minor season: s4avi_a'k'i Here 'k'=203,211,219,227,235 Wave 2: chemcode chemname Wave 3: chemcode chemnameother	
What type of chemical is [Chemical Name]? 1 Fertilizer	Wave 1 major season: s4avi_a'j' Here 'j'=163,171,179,187,195	Only wave 3

2 Weedicide 3 Pesticide	Wave 1 minor season: s4avi_a'j' Here 'j'=204,212,220,228,236 chemtype	
What quantity of [Chemical Name] was used during the last farming season (2017)?	Wave 1 major: s4avi_a'k'i 'k'=164,172, 180,188,196 Wave 1 minor: s4avi_a'k'i 'k'=205,213, 221,229,237 Wave 2 &3 : chemquantityused	
What unit is the quantity used measured in? 1. Big bag (50kg) 2. Medium bag (25 kg) 3. Small bag (15kg). 4 Bowls 5.Litres 6.Grams -666 Other (please specify	Wave 1: s4avi_a'k'ii 'k'=164,172, 180,188,196 Wave 1 minor: s4avi_a'k'ii 'k'=205,213, 221,229,237 Wave 2: chemquantityusedunit Wave 3: chemquantityusedunit chemquantityusedunitother	
In which months was [chemical name] applied during the last major farming season (2017)	Wave 2: chemappliedmonth'i' 'i'=1-13 chemappliedmonth_ELM_'i' 'i'=1-13 Wave 3: chemappliedmonth_'i' 'i'=1-12	Only wave 2&3
F6 How was [chemical name] obtained?	Wave 2: chemobtained'i'	Only wave 2&3

1 Purchased from shop in town >>L8 2. Purchased from a local village seller>>L8 3 Exchanged>>L8 4 Borrowed (loan)>>L8 5 Gift>>L8 6 Organization came to village -666. Other (please specify)>>L8	Here 'i'=1-5 chemobtained_ELM_'i' Here 'i'=1-7,95 Wave 3: chemobtained_'i' Here i=1-6,666,888,999	
If F6=5/6: Which person/organization was [Chemical Name] obtained from?" 1 MoFa 2CARD 3 SADA 4 ADVANCe 5 MazaraN'Arziki 6 sfmc -666 Other (Specifiy)	Wave 2: chemobtainedorg'i' Her 'i'=1-3 chemobtainedorg_ELM_'i' Here i=1-4,95 Wave 3: chemobtainedorg_'i' Here i=1-6,666,888,999	Only wave 2&3
What quantity of [chemical name] was obtained for the last farming season ?	Wave 2: Chempurchased Wave 3: chempurchased	Only wave 2 &3
What unit is the quantity purchased measured in? 1. Big bag (50kg) 2. Medium bag (25 kg) 3. Small bag (15kg). 4 Bowls 5.Litres 6.Grams -666 Other (please specify)	Wave 1: s4avi_a'j'ii 'i'=167,175,183, 191,199 Wave 2:	

	chempurchasedunit Wave 2: chempurchasedunit chempurchasedunitother	
How was [Chemical name] paid for?	Wave 2 &3 : chempurchasedhow chempurchasedhowother Wave 3: chempurchasedhow_'i' Here 'i'=1-18,666,888,999	
Which plots was [Chemical Name] used on?	Wave 2: chemplots'i' chemplot_ELM_'i' Here 'i'=1-15 Wave 3: chemplots chemplots_'i' Here 'i'=1-20	
What quantity of [Chemical name] was used on plot [#]: [Plot name	Wave 2: chemperplot'i'_chemquant chemperplot'i'_chemquantother Here 'i'=1-10 Wave 3: chemperplot_chemquant_'i' Here 'i'=1-7	
Please select the unit in which this was measured. 1. Big bag (50kg) 2. Medium bag (25 kg) 3. Small bag (15kg). 4 Bowls 5.Litres 6.Grams -666 Other (please specify)	Wave 2: chemperplot'i'_chemunits Here 'i'=1-10 Wave 3: chemperplot_chemunits_'i' chemperplot_unitother_'i' Here 'i'=1-7	
At what stage of the plant's life did [Name] apply fertilizer on plot [#]: [Plot name]?	chemperplot_chemapply_'i' Here 'i'=1-7	Only wave 3

1. Basal dressing (applied during planting or within the first week of planting) 2. Top dressing (applied after the fourth week or when crop grows up to knee height) >> L13aii2 3. Both		
How did [Name] apply fertilizer on plot [#]: [Plot name]? 1. Side placement (placed near the base of the crop at one side) 2. Ring (placed round the base of the crop) 3. Broadcast (sprinkled on the farm) 4. Burial (buried by the side of the crop)	chemperplot_chemplace_'i' Here 'i'=1-7	Only wave 3
How did [Name] apply fertilizer on plot [#]: [Plot name]? 1. Side placement (placed near the base of the crop at one side) 2. Ring (placed round the base of the crop) 3. Broadcast (sprinkled on the farm) 4. Burial (buried by the side of the crop	chemperplot_chemplace2_'i' Here 'i'=1-7	Only wave 3
Did [Name] use any other chemicals during the last farming season (2017)? 1.Yes 5. No.		Only wave 3
In the last farming season , did [Name] take any steps to increase the amount of green manure on his/her plots?	greenmanure	Only wave 3

For the last farming season , which plots did [Name] make efforts to increase the amount of green manure on?	greenmanureplots greenmanureplots_'i' Here 'i'=1-20	Only wave 3
In the last farming season did [Name] take any steps to increase the amount of animal manure on his/her plots? This includes collecting and applying, and grazing animals.	animalmanure	Only wave 3
For the last agricultural season, which plots did [Name] make efforts to increase the amount of animal manure on?	animalmanureplots_'i' Here 'i'=1-20	Only wave 3
In the last farming season (2017), did [Name] take any steps to increase the amount of composted organic material, including food and crop residuals on the plots?	composted	Only wave 3
For the last farming season (2017), which plots did [Name] make efforts to increase the amount of composted organic material on?	compostedplots_'i' Here 'i'=1-20	Only wave 3
Did you obtain any chemical from government?	Wave 1 major: s4avi_a'i' 'i'=166,174,182, 190,198 Wave 1 minor: s4avi_'i' 'i'=207,215,223,231,239	Only wave 1
What quantity of chemical was obtained from this source (gov)? In what unit?	Wave 1 major: s4avi_a'j'i s4avi_a'j'ii 'j'=167,175,183,191,199	Only wave 1

	Wave 1 minor: s4avi_'j'i s4avi_'j'ii 'j'=208,216,224,232,240	
What is the value of the subsidy? In cedis and pessewas	Wave 1 major: s4avi_a'j'i s4avi_a'j'ii 'j'=168,176,184,192,200 Wave 1 minor: s4avi_'j'i s4avi_'j'ii 'j'=209,217,225,235,241	Only wave 1
to what crops was this chemical applied to.	s4avi_a'k'i s4avi_a'k'ii s4avi_a'k'iii s4avi_a'k'iv Here 'k'=210,218,226,236,242	Only wave 1
Did you do any activity on this plot before plowing?	any (W2 & W3)	
Did [Name] perform any of the following agricultural activities on plot [#]: [Plot Name] in the last farming season (2017)? 1- Clearing land preparation 2-Plowing/ploughing 3-Planting 4-Chemical application 5-Weeding 6-Harvesting 7-Post-harvest processing	any_1 to any_7 (W3)	W3 only
Who worked on this plot during this stage? 1 Yourself 2 Family, Relatives, or friends 3 Communal labor 4 Hired labor 5 Other (SPECIFY)	whoworked1 – 5 (W2) who worked_1 – 999 (W3)	This M2, M29,M56,M83

How many days did you personally work on this plot during this stage?	personaldays (W2 & W3)	This M2, M29,M56,M83=1
How many of your family, relatives, and/ or friends worked on this plot during the clearing and land preparation stage?	familyworkers (W2 & W3)	
How many of your family, relatives, and/ or friends who are women worked on this plot during this stage	familywomen (W2 & W3)	This is M5, M31, M59, M86
How many of your family, relatives, and/ or friends who are men worked on this plot this stage	familymen (W2 & W3)	
Approximately how many days ON AVERAGE did EACH OF your family, relatives, and/or friends who are women work on this plot during the clearing and land preparation stage?	familywomendays (W2 & W3)	If M5, M31, M59, M86 >0
Approximately how many days ON AVERAGE did EACH OF your family, relatives, and/or friends who are men work on this plot during this stage	familymendays (W2 & W3)	If M6, M32, M60, M87 >0
Approximately how many communal laborers worked on this plot during this stage?	communalworkers (W2 & W3)	
Approximately how many communal laborers WHO ARE WOMEN worked on this plot during this stage?	communalwomen (W2 & W3)	
Approximately how many communal laborers WHO ARE MEN worked on this plot during this stage?	communalwomendays (W2 & W3)	

Did the communal laborers require any supervision from a member of your household, including yourself?	communalmendays (W2 & W3)	
Which member of your household supervised the communal laborers? Names appear for selection	communalsupervision (W2 & W3)	
Which member of your household supervised the communal laborers?	communialwhosupervised (W2 & W3)	
Approximately how many hired laborers worked on this plot during this stage?	hiredworkers (W2 & W3)	
Approximately how many hired laborers WHO ARE WOMEN worked on this plot during this stage)	hiredwomen (W2 & W3)	
Approximately how many hired laborers WHO ARE MEN worked on this plot during this stage?	hiredmen (W2 & W3)	
Approximately how many days ON AVERAGE did EACH OF the hired laborers WHO ARE WOMEN work on this plot during this stage?	hiredwomendays (W2 & W3)	
Approximately how many days ON AVERAGE did EACH OF the hired laborers WHO ARE MEN work on this plot during the weeding stage?	hiredmendays (W2 & W3)	
Did the hired laborers require any supervision from a member of your household, including yourself?	hiredsupervision (W2 & W3)	
Which member of your household supervised the hired laborers? Names appear for selection	hiredwhosupervised (W2 & W3)	

Approximately how many other people worked on this plot during this stage?	otherworkers (W2 & W3)	
Approximately how many other people WHO ARE WOMEN worked on this plot during this stage?	otherwomen (W2 & W3)	
Approximately how many other people WHO ARE MEN worked on this plot during this stage	othermen (W2 & W3)	
Approximately how many days ON AVERAGE did EACH OF the other person/people WHO ARE WOMEN work on this plot during this stage?	otherwomendays (W2 & W3)	
Approximately how many days ON AVERAGE did EACH OF the other person/people WHO ARE MEN work on this plot during this stage?	othermendays (W2 & W3)	
How did [Name] pay the hired labor? 1 Cash (GHS) 3 In Kind >> M195 5. Both -666 Other (please specify)	hiredhowpay (W3)	W3 only
How did [Name] pay the hired labor? Specify other	hiredhowpayother (W3)	W3 only
If male hired laborers reported How much on average did [Name] pay each man as hired labor during the last farming season (2017)? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	hiredavgpayman (W3)	W3 only
If female hired laborers reported	hiredavgpaywoman (W3)	W3 only

How much on average did [Name] pay each woman as hired labor during the last farming season (2017)? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.		
Does [Name] pay those amounts per day or per acre? 1 Per day 2 Per week 3 Per month 4 Per plot 5 Per acre 6 Per pole 7 Per rope -666 Other (specify)	hiredpayunit (W3)	W3 only
Does [Name] pay those amounts per day or per acre? Specify other	hiredpayunitother (W3)	W3 only
What did [Name] use to pay in kind (does not include meals)?	hiredinkindpay (W3)	W3 only
When [Name] has communal laborers working on [Name]'s plots, do(es) he/she/you provide them food? 1-Yes 2-No >> M199	commlabfood (W3)	W3 only
On average, how much does [Name] pay to provide a meal for all [Name]'s communal laborers? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	commlabfoodcost (W3)	W3 only

On average, how many communal laborers are fed by the meal [Name] prepares?	commlabhowmanyfed (W3)	W3 only
When [Name] has hired laborers working on [Name]'s plots, do(es) he/she/you provide them food? 1 Yes 5 No >> next section	hiredfood (W3)	W3 only
On average, how much does [Name] pay to provide a meal for all [Name]'s hired laborers? Consider a meal to be the entire pot of food for one day. Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	hiredfoodcost (W3)	W3 only
On average, how many hired laborers are fed by the meal [Name] prepares?	hiredhowmanyfed (W3)	W3 only
How much casual labor was provided by men? 1. # of days 2.Average hours per day 3.Average # of workers	 Major season: s4aix_290i s4aix_290ii S4aix_290iii Minor season: s4aix_327i s4aix_327ii s4aix_327iii	W1 only
How much casual labor was provided by women? 1. # of days 2.Average hours per day 3.Average # of workers	Major season: s4aix_291i s4aix_291ii S4aix_291iii Minor season: s4aix_328i s4aix_328ii s4aix_328iii	W1 only
How much casual labor was provided by children?	Major season: s4aix_292i	W1 only

1. # of days 2.Average hours per day 3.Average # of workers	s4aix_292ii S4aix_292iii Minor season: s4aix_329i s4aix_329ii s4aix_329iii	
How much permanent labor was provided by men? 1. # of days 2.Average hours per day 3.Average # of workers	Major season: s4aix_293i s4aix_293ii S4aix_293iii Minor season: s4aix_330i s4aix_330ii s4aix_330iii	W1 only
How much permanent labor was provided by women? 1. # of days 2.Average hours per day 3.Average # of workers	Major season: s4aix_294i s4aix_294ii S4aix_294iii Minor season: s4aix_331i s4aix_331ii s4aix_331iii	W1 only
How much permanent labor was provided by children? 1. # of days 2.Average hours per day 3.Average # of workers	Major season: s4aix_295i s4aix_295ii S4aix_295iii Minor season: s4aix_332i s4aix_332ii s4aix_332iii	W1 only
How much family labor was provided by men? 1. # of days 2.Average hours per day 3.Average # of workers	Major season: s4aix_296i s4aix_296ii S4aix_296iii Minor season: s4aix_333i s4aix_333ii s4aix_333iii	W1 only
How much family labor was provided by women? 1. # of days 2.Average hours per day 3.Average # of workers	Major season: s4aix_297i s4aix_297ii S4aix_297iii Minor season: s4aix_334i s4aix_334ii s4aix_334iii	W1 only

How much family labor was provided by children? 1. # of days 2.Average hours per day 3.Average # of workers	Major season: s4aix_298i s4aix_298ii S4aix_298iii Minor season: s4aix_335i s4aix_335ii s4aix_335iii	W1 only
Plot ID	plotid (W2 & W3)	
Plot Owner ID	plotowner (W2)	W2 only
Did you do any weeding on this plot? Weeding does NOT include using weedicide. 1 Yes 5 No (-> next plot)	cultivated (W3)	Questionnaire in both W2 & W3, but no data for W2
Agricultural Stage	stage (W2) stagename (W3)	
Agricultural Stage Code	stagenum (W2) stageid (W3)	
Did [Name] perform any of the following agricultural activities on plot [#]?	any (W2 & W3)	
Did [Name] perform any of the following agricultural activities on plot [#]: [Plot Name] in the last farming season (2017)? 1- Clearing land preparation 2-Plowing/ploughing 3-Planting 4-Chemical application 5-Weeding 6-Harvesting 7-Post-harvest processing	any_1 to any_7 (W3)	W3 only
During the [agricultural labor activity] stage: Who worked on plot [#]: [Plot Name]? Select all that apply. Do not include any tractor activities. 1 Self	whoworked (W3)	W3 only

2 Family/Relatives/friends 3 Communal labor 4 Hired labor -666 Other (please specify		
Who worked on this plot during the weeding stage? Remember, weeding does NOT include using weedicide. 1 Yourself 2 Relative/friends 3 Communal labor 4 Hired labor 5 Other (SPECIFY)	whoworked1 – 5 (W2) who worked_1 – 999 (W3)	
How many days did you personally work on this plot during the weeding stage?	personaldays (W2 & W3)	If M110 = 1, M111
How many of your family, relatives, and/ or friends worked on this plot during the weeding stage?	familyworkers (W2 & W3)	If M110 = 2, M112
How many of your family, relatives, and/ or friends WHO ARE WOMEN worked on this plot during the weeding stage?	familywomen (W2 & W3)	If M110 = 2
How many of your family, relatives, and/ or friends WHO ARE MEN worked on this plot during the weeding stage?	familymen (W2 & W3)	If M110 = 2
Approximately how many days ON AVERAGE did EACH OF your family, relatives, and/ or friends WHO ARE WOMEN work on this plot during the weeding stage?	familywomendays (W2 & W3)	If M112 > 0
Approximately how many days ON AVERAGE did EACH OF your family, relatives, and/ or friends WHO ARE MEN work on this plot during the weeding stage?	familymendays (W2 & W3)	If M112 > 0

Approximately how many communal laborers worked on this plot during the weeding stage?	communalworkers (W2 & W3)	If M110 = 3
Approximately how many communal laborers WHO ARE WOMEN worked on this plot during the weeding stage?	communalwomen (W2 & W3)	If M110 = 3
Approximately how many communal laborers WHO ARE MEN worked on this plot during the weeding stage?	communalmen (W2 & W3)	If M110 = 3
Approximately how many days ON AVERAGE did EACH OF the communal laborers WHO ARE WOMEN work on this plot during the weeding stage?	communalwomendays (W2 & W3)	If M110 = 3
Approximately how many days ON AVERAGE did EACH OF the communal laborers WHO ARE MEN work on this plot during the weeding stage?	communalmendays (W2 & W3)	If M110 = 3
Did the communal laborers require any supervision from a member of your household, including yourself?	communalsupervision (W2 & W3)	If M110 = 3
Which member of your household supervised the communal laborers?	communialwhosupervised (W2 & W3)	If M110 = 3
Approximately how many hired laborers worked on this plot during the weeding stage?	hiredworkers (W2 & W3)	If M110 = 4
Approximately how many hired laborers WHO ARE WOMEN worked on this plot during the weeding stage	hiredwomen (W2 & W3)	If M110 = 4
Approximately how many other people WHO ARE	hiredmen (W2 & W3)	If M110 = 4

MEN worked on this plot during the weeding stage?		
Approximately how many days ON AVERAGE did EACH OF the hired laborers WHO ARE WOMEN work on this plot during the weeding stage?	hiredwomendays (W2 & W3)	If M110 = 4
Approximately how many days ON AVERAGE did EACH OF the hired laborers WHO ARE MEN work on this plot during the weeding stage?	hiredmendays (W2 & W3)	If M110 = 4
Did the hired laborers require any supervision from a member of your household, including yourself?	hiredsupervision (W2 & W3)	If M110 = 4
Which member of your household supervised the hired laborers?	hiredwhosupervised (W2 & W3)	If M110 = 4
Approximately how many other people worked on this plot during the weeding stage?	otherworkers (W2 & W3)	If M110 = 5
Approximately how many other people WHO ARE WOMEN worked on this plot during the weeding stage?	otherwomen (W2 & W3)	If M110 = 5
Approximately how many other people WHO ARE MEN worked on this plot during the weeding stage?	othermen (W2 & W3)	If M110 = 5
Approximately how many days ON AVERAGE did EACH OF the other person/people WHO ARE WOMEN work on this plot during the weeding stage?	otherwomendays (W2 & W3)	If M110 = 5
Approximately how many days ON AVERAGE did EACH OF the other person/people WHO ARE	othermendays (W2 & W3)	If M110 = 5

MEN work on this plot during the weeding stage?		
How did [Name] pay the hired labor? 1 Cash (GHS) 3 In Kind >> M195 5. Both -666 Other (please specify)	hiredhowpay (W3)	W3 only
How did [Name] pay the hired labor? Specify other	hiredhowpayother (W3)	W3 only
If male hired laborers reported How much on average did [Name] pay each man as hired labor during the last farming season (2017)? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	hiredavgpayman (W3)	W3 only
If female hired laborers reported How much on average did [Name] pay each woman as hired labor during the last farming season (2017)? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	hiredavgpaywoman (W3)	W3 only
Does [Name] pay those amounts per day or per acre? 1 Per day 2 Per week 3 Per month 4 Per plot 5 Per acre 6 Per pole 7 Per rope -666 Other (specify)	hiredpayunit (W3)	W3 only

Does [Name] pay those amounts per day or per acre? Specify other	hiredpayunitother (W3)	W3 only
What did [Name] use to pay in kind (does not include meals)?	hiredinkindpay (W3)	W3 only
When [Name] has communal laborers working on [Name]'s plots, do(es) he/she/you provide them food? 1-Yes 2-No >> M199	commlabfood (W3)	W3 only
On average, how much does [Name] pay to provide a meal for all [Name]'s communal laborers? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	commlabfoodcost (W3)	W3 only
On average, how many communal laborers are fed by the meal [Name] prepares?	commlabhowmanyfed (W3)	W3 only
When [Name] has hired laborers working on [Name]’s plots, do(es) he/she/you provide them food? 1 Yes 5 No >> next section	hiredfood (W3)	W3 only
On average, how much does [Name] pay to provide a meal for all [Name]’s hired laborers? Consider a meal to be the entire pot of food for one day. Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2	hiredfoodcost (W3)	W3 only

Ghana cedis and 50 pesewas.		
On average, how many hired laborers are fed by the meal [Name] prepares?	hiredhowmanyfed (W3)	W3 only
Plot ID	s4aix1_plotno, s4aix2_plotno, s4aix3_plotno, s4aix4_plotno, s4aix5_plotno, s4aix6_plotno, s4aix7_plotno, s4aix8_plotno (W1) plotid (W2 & W3)	
Plot Owner ID	plotowner (W2)	W2 only
Did you harvest on this plot? Harvesting is defined as plucking the crop. It does NOT include removing corn husks, or any other form of processing. Harvesting is only the action of plucking/picking. If there are multiple harvests (for example, yam), you should include all of them. 1 Yes 5 No (-> next plot)	cultivated (W3)	Questionnaire in both W2 & W3, but no data for W2 No W1
Agricultural Stage	stage (W2) stagename (W3)	No W1
Agricultural Stage Code	stagenum (W2) stageid (W3)	No W1
Did [Name] perform any of the following agricultural activities on plot [#]?	any (W2 & W3)	No W1
Did [Name] perform any of the following agricultural activities on plot [#]: [Plot Name] in the last farming season (2017)? 1- Clearing land preparation 2-Plowing/ploughing 3-Planting 4-Chemical application 5-Weeding 6-Harvesting 7-Post-harvest processing	any_1 to any_7 (W3)	W3 only

During the [agricultural labor activity] stage: Who worked on plot [#]: [Plot Name]? Select all that apply. Do not include any tractor activities. 1 Self 2 Family/Relatives/friends 3 Communal labor 4 Hired labor -666 Other (please specify	whoworked (W3)	W3 only
M137 Who worked on this plot during the harvesting stage? Remember, harvesting is defined as plucking the crop. It does NOT include removing corn husks, or any other form of processing. Harvesting is only the action of plucking/picking. If there are multiple harvests (for example, yam), you should include all of them. Groundnut payment in-kind should be counted as "hired labor." 1 Yourself 2 Relative/friends 3 Communal labor 4 Hired labor 5 Other (SPECIFY)	whoworked1 – 5 (W2) who worked_1 – 999 (W3)	No W1
How many days did you personally work on this plot during the harvesting stage?	personaldays (W2 & W3)	If M137 = 1 No W1
How many of your family, relatives, and/ or friends worked on this plot during the harvesting stage?	familyworkers (W2 & W3)	If M137 = 2 No W1
How many of your family, relatives, and/ or friends WHO ARE WOMEN	s4aix_315i + s4aix_352i (W1) familywomen (W2 & W3)	If M137 = 2 Combines minor and major season for W1

worked on this plot during the harvesting stage?		
How many of your family, relatives, and/ or friends WHO ARE MEN worked on this plot during the harvesting stage?	s4aix_314i + s4aix_351i (W1) familymen (W2 & W3)	If M137 = 2 Combines minor and major season for W1
If M139>0, Approximately how many days ON AVERAGE did EACH OF your family, relatives, and/ or friends WHO ARE WOMEN work on this plot during the harvesting stage?	s4aix_315iii + s4aix_352iii (W1) familywomendays (W2 & W3)	If M139 > 0 Combines minor and major season for W1
If M139>0, Approximately how many days ON AVERAGE did EACH OF your family, relatives, and/ or friends WHO ARE MEN work on this plot during the harvesting stage?	s4aix_314iii + s4aix_351iii (W1) familymendays (W2 & W3)	If M139 > 0 Combines minor and major season for W1
Average hours per day worked by women as family labor	s4aix_315ii + s4aix_352ii (W1)	W1 only. Combines minor and major seasons.
Average hours per day worked by men as family labor	s4aix_314ii + s4aix_351ii (W1)	W1 only. Combines minor and major seasons.
Number of days of family labor worked by children	s4aix_316i + s4aix_353i (W1)	W1 only. Combines minor and major seasons.
Average hours per day worked by children as family labor	s4aix_316ii + s4aix_353ii (W1)	W1 only. Combines minor and major seasons.
Average number of children that provide family labor	s4aix_316iii + s4aix_353ii (W1)	W1 only. Combines minor and major seasons.
Number of days casual + permanent labor provided by women [including exchange labor]	s4aix_309i + s4aix_312i + s4aix_346i + s4aix_349i	W1 only. Combines casual + permanent labor, during major and minor seasons
Average hours per day worked by women on casual + permanent labor [including exchange labor]	s4aix_309ii + s4aix_312ii + s4aix_346ii + s4aix_349ii	W1 only. Combines casual + permanent labor, during major and minor seasons

Average number of women casual workers [including exchange labor]	s4aix_309iii + s4aix_312iii + s4aix_346iii + s4aix_349iii	W1 only. Combines casual + permanent labor, during major and minor seasons
Number of days casual + permanent labor provided by men [including exchange labor]	s4aix_308i + s4aix_311i + s4aix_345i + s4aix_348i	W1 only. Combines casual + permanent labor, during major and minor seasons
Average hours per day worked by men on casual labor [including exchange labor]	s4aix_308ii + s4aix_311i + s4aix_345ii + s4aix_348ii	W1 only. Combines casual + permanent labor, during major and minor seasons
Average number of men casual workers [including exchange labor]	s4aix_308iii + s4aix_311iii + s4aix_345iii + s4aix_348iii	W1 only. Combines casual + permanent labor, during major and minor seasons
Number of days casual labor provided by children [including exchange labor]	s4aix_310i + s4aix_313i + s4aix_347i + s4aix_350i	W1 only. Combines casual + permanent labor, during major and minor seasons
Average hours per day worked by children on casual labor [including exchange labor]	s4aix_310ii + s4aix_313ii + s4aix_347ii + s4aix_350ii	W1 only. Combines casual + permanent labor, during major and minor seasons
Average number of children casual workers [including exchange labor]	s4aix_310iii +s4aix_313iii + s4aix_347iii + s4aix_350iii	W1 only. Combines casual + permanent labor, during major and minor seasons
Approximately how many communal laborers worked on this plot during the harvesting stage?	communalworkers (W2 & W3)	If M137 = 3 No W1
Approximately how many communal laborers WHO ARE WOMEN worked on this plot during the harvesting stage?	communalwomen (W2 & W3)	If M137 = 3 No W1
Approximately how many communal laborers WHO ARE MEN worked on this plot during the harvesting stage?	communalmen (W2 & W3)	If M137 = 3 No W1
Approximately how many days ON AVERAGE did EACH OF the communal laborers WHO ARE	communalwomendays (W2 & W3)	If M137 = 3 No W1

WOMEN work on this plot during the harvesting stage?		
Approximately how many days ON AVERAGE did EACH OF the communal laborers WHO ARE MEN work on this plot during the harvesting stage?	communalmendays (W2 & W3)	If M137 = 3 No W1
Did the communal laborers require any supervision from a member of your household, including yourself?	communalsupervision (W2 & W3)	If M137 = 3 No W1
Which member of your household supervised the communal laborers?	communialwhosupervised (W2 & W3)	If M137 = 3 No W1
Approximately how many hired laborers worked on this plot during the harvesting stage?	hiredworkers (W2 & W3)	If M137 = 4 No W1
Approximately how many hired laborers WHO ARE MEN worked on this plot during the harvesting stage?	hiredwomen (W2 & W3)	If M137 = 4 No W1
Approximately how many hired laborers WHO ARE MEN worked on this plot during the harvesting stage?	hiredmen (W2 & W3)	If M137 = 4 No W1
Approximately how many days ON AVERAGE did EACH OF the hired laborers WHO ARE WOMEN work on this plot during the harvesting stage?	hiredwomendays (W2 & W3)	If M137 = 4 No W1
Approximately how many days ON AVERAGE did EACH OF the hired laborers WHO ARE MEN work on this plot during the harvesting stage?	hiredmendays (W2 & W3)	If M137 = 4 No W1
Did the hired laborers require any supervision	hiredsupervision (W2 & W3)	If M137 = 4 No W1

from a member of your household, including yourself?		
Which member of your household supervised the hired laborers?	hiredwhosupervised (W2 & W3)	If M137 = 4 No W1
Approximately how many other people worked on this plot during the harvesting stage?	otherworkers (W2 & W3)	If M137 = 4 No W1
Approximately how many other people WHO ARE WOMEN worked on this plot during the harvesting stage?	otherwomen (W2 & W3)	If M137 = 4 No W1
Approximately how many other people WHO ARE MEN worked on this plot during the harvesting stage?	othermen (W2 & W3)	If M137 = 4 No W1
Approximately how many days ON AVERAGE did EACH OF the other person/people WHO ARE WOMEN work on this plot during the harvesting stage?	otherwomendays (W2 & W3)	If M137 = 4 No W1
Approximately how many days ON AVERAGE did EACH OF the other person/people WHO ARE MEN work on this plot during the harvesting stage?	othermendays (W2 & W3)	If M137 = 4 No W1
How did [Name] pay the hired labor? 1 Cash (GHS) 3 In Kind >> M195 5. Both -666 Other (please specify)	hiredhowpay (W3)	W3 only
How did [Name] pay the hired labor? Specify other	hiredhowpayother (W3)	W3 only
If male hired laborers reported How much on average did [Name] pay each man as	hiredavgpayman (W3)	W3 only

hired labor during the last farming season (2017)? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.		
If female hired laborers reported How much on average did [Name] pay each woman as hired labor during the last farming season (2017)? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	hiredavgpaywoman (W3)	W3 only
Does [Name] pay those amounts per day or per acre? 1 Per day 2 Per week 3 Per month 4 Per plot 5 Per acre 6 Per pole 7 Per rope -666 Other (specify)	hiredpayunit (W3)	W3 only
Does [Name] pay those amounts per day or per acre? Specify other	hiredpayunitother (W3)	W3 only
What did [Name] use to pay in kind (does not include meals)?	hiredinkindpay (W3)	W3 only
When [Name] has communal laborers working on [Name]'s plots, do(es) he/she/you provide them food? 1-Yes 2-No >> M199	commlabfood (W3)	W3 only

On average, how much does [Name] pay to provide a meal for all [Name]'s communal laborers? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	commlabfoodcost (W3)	W3 only
On average, how many communal laborers are fed by the meal [Name] prepares?	commlabhowmanyfed (W3)	W3 only
When [Name] has hired laborers working on [Name]'s plots, do(es) he/she/you provide them food? 1 Yes 5 No >> next section	hiredfood (W3)	W3 only
On average, how much does [Name] pay to provide a meal for all [Name]'s hired laborers? Consider a meal to be the entire pot of food for one day. Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	hiredfoodcost (W3)	W3 only
On average, how many hired laborers are fed by the meal [Name] prepares?	hiredhowmanyfed (W3)	W3 only
Did you do any post-harvest processing on this plot? Processing includes peeling, drying, removing corn husks, washing, or anything else that needs to be done before bringing crops to market.	cultivated (W3)	Questionnaire in both W2 & W3, but no data for W2 No W1
Agricultural Stage	stage (W2)	No W1

	stagename (W3)	
Agricultural Stage Code	stagenum (W2) stageid (W3)	No W1
Did [Name] perform any of the following agricultural activities on plot [#]?	any (W2 & W3)	No W1
Did [Name] perform any of the following agricultural activities on plot [#]: [Plot Name] in the last farming season (2017)? 1- Clearing land preparation 2-Plowing/ploughing 3-Planting 4-Chemical application 5-Weeding 6-Harvesting 7-Post-harvest processing	any_1 to any_7 (W3)	W3 only
Who worked on this plot during post-harvest processing stage? Remember, processing includes peeling, drying, removing corn husks, washing, or anything else that needs to be done before bringing crops to market. 1 Yourself 2 Relative/friends 3 Communal labor 4 Hired labor 5 Other (SPECIFY)	whoworked1 – 5 (W2) who worked_1 – 999 (W3)	No W1
How many days did you personally work on this plot during the post-harvest processing stage?	personaldays (W2 & W3)	No W1
How many of your family, relatives, and/ or friends worked on this plot during the post-harvest processing stage?	familyworkers (W2 & W3)	No W1
How many of your family, relatives, and/ or friends WHO ARE WOMEN worked on this plot during	s4aix_324i + s4aix_361i (W1) familywomen (W2 & W3)	Combines major and minor seasons in W1

the post-harvest processing stage?		
How many of your family, relatives, and/ or friends WHO ARE MEN worked on this plot during the post-harvest processing stage?	s4aix_323i + s4aix_360i (W1) familymen (W2 & W3)	Combines major and minor seasons in W1
Approximately how many days ON AVERAGE did EACH OF your family, relatives, and/ or friends WHO ARE WOMEN work on this plot during the post-harvest processing stage?	s4aix_324iii + s4aix_361iii (W1) familywomendays (W2 & W3)	Combines major and minor seasons in W1
Approximately how many days ON AVERAGE did EACH OF your family, relatives, and/ or friends WHO ARE MEN work on this plot during the post-harvest processing stage?	s4aix_323iii + s4aix_360iii (W1) familymendays (W2 & W3)	Combines major and minor seasons in W1
Average hours per day worked by women as family labor	s4aix_324ii + s4aix_361i (W1)	W1 only. Combines major and minor seasons.
Average hours per day worked by men as family labor	s4aix_323ii + s4aix_360ii (W1)	W1 only. Combines major and minor seasons.
Number of days of family labor worked by children	s4aix_325i + s4aix_362i (W1)	W1 only. Combines major and minor seasons.
Average hours per day worked by children as family labor	s4aix_325ii + s4aix_362ii (W1)	W1 only. Combines major and minor seasons.
Average number of children that provide family labor	s4aix_325iii + s4aix_362iii (W1)	W1 only. Combines major and minor seasons.
Number of days casual + permanent labor provided by women [including exchange labor]	s4aix_318i + s4aix_321ii + s4aix_355i + s4aix_358i	W1 only. Combines casual + permanent labor, during major and minor seasons
Average hours per day worked by women on casual + permanent labor [including exchange labor]	s4aix_318ii + s4aix_321ii + s4aix_355ii + s4aix_358ii	W1 only. Combines casual + permanent labor, during major and minor seasons

Average number of women casual workers [including exchange labor]	s4aix_318iii + s4aix_321iii + s4aix_355iii + s4aix_358iii	W1 only. Combines casual + permanent labor, during major and minor seasons
Number of days casual + permanent labor provided by men [including exchange labor]	s4aix_317i + s4aix_320i + s4aix_354i + s4aix_357i	W1 only. Combines casual + permanent labor, during major and minor seasons
Average hours per day worked by men on casual labor [including exchange labor]	s4aix_317ii + s4aix_320ii + s4aix_354ii + s4aix_357ii	W1 only. Combines casual + permanent labor, during major and minor seasons
Average number of men casual workers [including exchange labor]	s4aix_317iii + s4aix_320iii + s4aix_354iii + s4aix_357iii	W1 only. Combines casual + permanent labor, during major and minor seasons
Number of days casual labor provided by children [including exchange labor]	s4aix_319i + s4aix_322i + s4aix_356i + s4aix_359i	W1 only. Combines casual + permanent labor, during major and minor seasons
Average hours per day worked by children on casual labor [including exchange labor]	s4aix_319ii + s4aix_322ii + s4aix_356ii + s4aix_359ii	W1 only. Combines casual + permanent labor, during major and minor seasons
Average number of children casual workers [including exchange labor]	s4aix_319iii +s4aix_322iii + s4aix_356iii + s4aix_359iii	W1 only. Combines casual + permanent labor, during major and minor seasons
Approximately how many communal laborers worked on this plot during the post-harvest processing stage?	communalworkers (W2 & W3)	If M137 = 3 No W1
Approximately how many communal laborers WHO ARE WOMEN worked on this plot during the post-harvest processing stage?	communalwomen (W2 & W3)	If M137 = 3 No W1
Approximately how many communal laborers WHO ARE MEN worked on this plot during the post-harvest processing stage?	communalmen (W2 & W3)	If M137 = 3 No W1
Approximately how many days ON AVERAGE did EACH OF the communal laborers WHO ARE	communalwomendays (W2 & W3)	If M137 = 3 No W1

WOMEN work on this plot during the post-harvest processing stage?		
Approximately how many days ON AVERAGE did EACH OF the communal laborers WHO ARE MEN work on this plot during the post-harvest processing stage?	communalmendays (W2 & W3)	If M137 = 3 No W1
Did the communal laborers require any supervision from a member of your household, including yourself?	communalsupervision (W2 & W3)	If M137 = 3 No W1
Which member of your household supervised the communal laborers?	communialwhosupervised (W2 & W3)	If M137 = 3 No W1
Approximately how many hired laborers worked on this plot during the post-harvest processing stage?	hiredworkers (W2 & W3)	If M137 = 4 No W1
Approximately how many hired laborers WHO ARE WOMEN worked on this plot during the post-harvest processing stage?	hiredwomen (W2 & W3)	If M137 = 4 No W1
Approximately how many hired laborers WHO ARE MEN worked on this plot during the post-harvest processing stage?	hiredmen (W2 & W3)	If M137 = 4 No W1
Approximately how many days ON AVERAGE did EACH OF the hired laborers WHO ARE WOMEN work on this plot during the post-harvest processing stage?	hiredwomendays (W2 & W3)	If M137 = 4 No W1
Approximately how many days ON AVERAGE did EACH OF the hired laborers WHO ARE MEN work on this plot during the post-harvest processing stage?	hiredmendays (W2 & W3)	If M137 = 4 No W1

Did the hired laborers require any supervision from a member of your household, including yourself?	hiredsupervision (W2 & W3)	If M137 = 4 No W1
Which member of your household supervised the hired laborers?	hiredwhosupervised (W2 & W3)	If M137 = 4 No W1
Approximately how many other people worked on this plot during the post-harvest processing stage?	otherworkers (W2 & W3)	If M137 = 4 No W1
Approximately how many other people WHO ARE WOMEN worked on this plot during the post-harvest processing stage?	otherwomen (W2 & W3)	If M137 = 4 No W1
Approximately how many other people WHO ARE MEN worked on this plot during the post-harvest processing stage?	othermen (W2 & W3)	If M137 = 4 No W1
Approximately how many days ON AVERAGE did EACH OF the other person/people WHO ARE MEN work on this plot during the post-harvest processing stage?	otherwomendays (W2 & W3)	If M137 = 4 No W1
Approximately how many days ON AVERAGE did EACH OF the other person/people WHO ARE WOMEN work on this plot during the post-harvest processing stage?	othermendays (W2 & W3)	If M137 = 4 No W1
How did you pay your hired labor? HIRED LABOR INCLUDES PAYMENT IN-KIND (SUCH AS WOMEN WHO HELP WITH GROUNDNUT HARVEST). IT DOES NOT INCLUDED FOOD	hiredhowpay (W3)	W3 only

PREPARED FOR LABORERS. 1 Cash (GHC) 3 In Kind (-> M195) 5. Both 95 Other (SPECIFY)		
How did [Name] pay the hired labor? Specify other	hiredhowpayother (W3)	W3 only
How much on average did you pay each man as hired labor during the last farming season?	hiredavgpayman (W3)	W3 only
How much on average did you pay each woman as hired labor during the last farming season?	hiredavgpaywoman (W3)	W3 only
How much on average did you pay each child as hired labor during the last farming season?	hiredpayunit (W3)	W3 only
Do you pay those amounts per day or per acre? 1.Per day 2. Per week 3. Per month 4. Per plot 5. Per acre 6. Per pole 7. Per rope 8. Other Specify.	hiredpayunitother (W3)	W3 only
What did you use to pay in-kind (DOES NOT INCLUDE LUNCH)? Enter text of at most 60 characters	hiredinkindpay (W3)	W3 only
When you have communal laborers working on your plots, do you provide them food?	commlabfood (W3)	W3 only
On average, how much do you pay for the entire meal for all your communal laborers? (ENTIRE POT OF FOOD FOR ONE DAY, FEEDS ALL COMMUNAL	commlabfoodcost (W3)	W3 only

LABORERS FOR THE DAY)		
On average, how many communal laborers are fed by the meal you prepare?	commlabhowmanyfed (W3)	W3 only
When you have hired laborers working on your plots, do you provide them food?	hiredfood (W3)	W3 only
On average, how much do you pay for the entire meal for all your communal laborers? (ENTIRE POT OF FOOD FOR ONE DAY, FEEDS ALL COMMUNAL LABORERS FOR THE DAY)	hiredfoodcost (W3)	W3 only
On average, how many communal laborers are fed by the meal you prepare?	hiredhowmanyfed (W3)	W3 only
What unit do you use to measure your harvest of this crop from this plot? See code below	wave 3, wave 2: harvestunit harvestunitother harvestquantity	
How many units of this CROP TYPE has been harvested from PLOT A? If there has been more than one harvest from the plot, give the total quantity which has been harvested over the last 12 months. Quantity	wave 3, wave 2: harvestquantity	Codes for units of crop harvest and crops sales: American tin -02 Basket-04 Bowl-06 Bucket-29 Buncch-08 Bundle-09 Crate-30 Calabash-40 Fingers-11 Kilogram-14 Margarine tin-17 Maxi bag-18 Mini bag-19 Single-37 Stick-23 Tonne-24 Set-36

		100 pieces of crop-91 Other(specify)-99
In which month(s) did you harvest the CROP TYPE from PLOT A? 1for Jan, 2 for Feb ect. Select all that applies.	wave 3: harvestmonths harvestmonths_1 harvestmonths_2 harvestmonths_3 harvestmonths_4 harvestmonths_5 harvestmonths_6 harvestmonths_7 harvestmonths_8 harvestmonths_9 harvestmonths_10 harvestmonths_11 harvestmonths_12 wave 2: harvestmonths1 harvestmonths2 harvestmonths3 harvestmonths4 harvestmonths5 harvestmonths6 harvestmonths_ELM_1 harvestmonths_ELM_2 harvestmonths_ELM_3 harvestmonths_ELM_4 harvestmonths_ELM_5 harvestmonths_ELM_6 harvestmonths_ELM_7 harvestmonths_ELM_8 harvestmonths_ELM_9 harvestmonths_ELM_10 harvestmonths_ELM_11 harvestmonths_ELM_12	
What unit do you use to measure your expected harvest of this crop from this plot? See code below	wave 3, wave 2: harvestexpectunits harvestexpectunitsother	
N6. IF N2=2 or 5 How many units of this crop type do you expect to harvest from PLOT A (IF N3=2 do not include what has been harvested already). Quantity	wave 3, wave 2: harvestexpectquantity	Codes for units of crop harvest and crops sales: American tin -02 Basket-04 Bowl-06 Bucket-29 Buncch-08 Bundle-09 Crate-30

		Calabash-40 Fingers-11 Kilogram-14 Margarine tin-17 Maxi bag-18 Mini bag-19 Single-37 Stick-23 Tonne-24 Set-36 100 pieces of crop-91 Other(specify)-99
While still in the field, was any of your CROP TYPE from PLOT A damaged by pests, rotting, or any other reason?	wave 3, wave 2: damaged	1.Yes 5. No
What was/were the [crop type] lost to? Select up to 3 choices. Rotting Disease Fire Flood Drought Birds Insects Ants Bees Cockroaches Grasshoppers Locust Termites Caterpillars Centipedes Saligu Pandochirsi Z Tambepelgu Rodents Mice Rats Grasscutters	wave 3: damagedhow damagedhow_1 damagedhow_2 damagedhow_3 damagedhow_4 damagedhow_5 damagedhow_6 damagedhow_7 damagedhow_8 damagedhow_9 damagedhow_10 damagedhow_11 damagedhow_12 damagedhow_13 damagedhow_14 damagedhow_15 damagedhow_16 damagedhow_17 damagedhow_18 damagedhow_19 damagedhow_20 damagedhow_21 damagedhow_22 damagedhow_23 damagedhow_24 damagedhow_25 damagedhow_26 damagedhow_27 damagedhow_28 damagedhow_29 damagedhow_666 damagedhow_888 damagedhow_999 damagedhowther wave 2: damaged damagedhow1 damagedhow2 damagedhow3 damagedhow_ELM_1 damagedhow_ELM_2 damagedhow_ELM_3	Code for crop lost: 1 Rotting 2 Disease 3 Fire 4 Flood 5 Drought 6 Birds 7Insects 8 Ants 9.Bees 10. Cockroaches 11. Grasshoppers 12. Locust 13. Termites 14. Caterpillars 15. Centipedes 16. Saligu 17 Pandochirsi 18 Zunzuya 19 Tambepelgu 20 Rodents 21 Mice 22 Rats 23 Grasscutters 24 Squirrels 25 Monkeys

Squirrels Monkeys Sheep Goats Cattle Bandicoot Other (please specify)	damagedhow_ELM_4 damagedhow_ELM_5 damagedhow_ELM_6 damagedhow_ELM_7 damagedhow_ELM_8 damagedhow_ELM_9 damagedhow_ELM_10 damagedhow_ELM_11 damagedhow_ELM_12 damagedhow_ELM_13 damagedhow_ELM_14 damagedhow_ELM_15 damagedhow_ELM_17 damagedhow_ELM_18 damagedhow_ELM_20 damagedhow_ELM_21 damagedhow_ELM_22 damagedhow_ELM_23 damagedhow_ELM_24 damagedhow_ELM_25 damagedhow_ELM_26 damagedhow_ELM_27 damagedhow_ELM_28 damagedhow_ELM_29 damagedhow_ELM_95 damagedhowother	26 Sheep 27 Goats 28 Cattle 29 Bandicoot 95 Other (SPECIFY)
What percent of your crop was lost?	wave 3, wave 2: damagedquantity	
Crop Type Crops planted on this plot are loaded		
Have you harvested CROP TYPE from PLOT B?		1 Yes, fully (no CROP TYPE is remaining on PLOT A) 3 Yes, partially (some of CROP TYPE is yet to be harvested from PLOT A) 5 No (all of CROP type is yet to be

		harvested from PLOT A)àN6
What unit do you use to measure your harvest of this crop from this plot? See code below		
How many units of this CROP TYPE has been harvested from PLOT B? If there has been more than one harvest from the plot, give the total quantity which has been harvested over the last 12 months. Quantity		Codes for units of crop harvest and crops sales: American tin -02 Basket-04 Bowl-06 Bucket-29 Buncch-08 Bundle-09 Crate-30 Calabash-40 Fingers-11 Kilogram-14 Margarine tin-17 Maxi bag-18 Mini bag-19 Single-37 Stick-23 Tonne-24 Set-36 100 pieces of crop-91 Other(specify)-99
In which month(s) did you harvest the CROP TYPE from PLOT B? 1for Jan, 2 for Feb ect. Select all that applies.		
What unit do you use to measure your expected harvest of this crop from this plot? See code below		
N6. IF N2=2 or 5 How many units of this crop type do you expect to harvest from PLOT B (IF N3=2 do not include what has been harvested already). Quantity		Codes for units of crop harvest and crops sales: American tin -02 Basket-04 Bowl-06 Bucket-29

		Buncch-08 Bundle-09 Crate-30 Calabash-40 Fingers-11 Kilogram-14 Margarine tin-17 Maxi bag-18 Mini bag-19 Single-37 Stick-23 Tonne-24 Set-36 100 pieces of crop-91 Other(specify)-99
While still in the field, was any of your CROP TYPE from PLOT B damaged by pests, rotting, or any other reason?		1.Yes 5. No
What was/were the [crop type] lost to? Select up to 3 choices. Rotting Disease Fire Flood Drought Birds Insects Ants Bees Cockroaches Grasshoppers Locust Termites Caterpillars Centipedes Saligu Pandochirsi Z Tambepelgu Rodents		Code for crop lost: 1 Rotting 2 Disease 3 Fire 4 Flood 5 Drought 6 Birds 7Insects 8 Ants 9.Bees 10. Cockroaches 11. Grasshoppers 12. Locust 13. Termites 14. Caterpillars 15. Centipedes 16. Saligu 17 Pandochirsi 18 Zunzuya 19 Tambepelgu 20 Rodents 21 Mice 22 Rats

Mice Rats Grasscutters Squirrels Monkeys Sheep Goats Cattle Bandicoot Other (please specify)		23 Grasscutters 24 Squirrels 25 Monkeys 26 Sheep 27 Goats 28 Cattle 29 Bandicoot 95 Other (SPECIFY)
What percent of your crop was lost?		

Non-Farm Assets

Note: In the table below, the abbreviations W1, W2, and W3 are used to refer to the relevant variables in the raw datasets from survey waves 1, 2, and 3, respectively.

Question / Variable	***Variable name***	***Notes***
Which of these animals does your household own? [Enumerator goes through list and checks relevant animals]	panel, wave 2, and wave 3: quantity wave 1: s3ai_1	
[For each animal type the respondent reports having] How many [animal type] are currently owned by people in this household? Enter -888 for "Refuse to answer". Enter -999 for "Don't know".		only wave 3
List the IDs of up to two people who own this animal? 1. Owner 1 2. Owner 2	wave 1: s3ai_2i(ID of owner 1) s3ai_2ii(ID of owner 2)	Only wave 1

3. Owned by whole household		
Who in the household owns [animal type]? 1-Individual 2-Whole household >>2 Please select the names of the household members that own [animal type]. Select up to 2 choices.	panel, wave 2, and wave 3: ownersask1 ownersask2	
What is the current value of the [animal type], if you sold all of them? Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	panel, wave 2, and wave 3: currentvalue wave 1: s3ai_3i(cedis) s3ai_3ii(pesewas)	question 3 in wave 1 and wave 2
In the last 12 months, have you spent money to maintain the [animal type] owned by this household? 1. Yes 5. No >> 11a	panel, wave 2, and wave 3: maintain wave 1: s3ai_4	question 4 in wave 1 and wave 2
How much have you spent on fodder/ feed that is produced outside your home in the last 12 months? Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	panel, wave 2, and wave 3: feedfromoutside wave 1: s3ai_5i(cedis) s3ai_5ii(pesewas)	question 5 in wave 1 and wave 2
How much has been spent on veterinary expenses in the last 12 months? Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2	panel, wave 2, and wave 3: vetexpenses wave 1: s3ai_7i(cedis) s3ai_7ii(pesewas)	question 7 in wave 1 and wave 2

Ghana cedis and 50 pesewas.		
How much has been spent on enclosure, shelter, restraint and related expenses in the last 12 months? Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	panel, wave 2, and wave 3: shelterexpenses wave 1: s3ai_8i(cedis) s3ai_8ii(pesewas)	question 8 in wave 1 and wave 2
How much has been spent on hired labor to maintain this animal in the last 12 months? Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	panel, wave 2, and wave 3: laborexpenses wave 1: s3ai_9i(cedis) s3ai_9ii(pesewas)	question 9 in wave 1 and wave 2
How much has been spent on access to water to maintain this animal in the last 12 months? Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	panel, wave 2, and wave 3: waterexpenses wave 1: s3ai_10i(cedis) s3ai_10ii(pesewas)	question 10 in wave 1 and wave 2
How much has been spent on other expenses to maintain this animal in the last 12 months? Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	panel, wave 2, and wave 3: otherexpenses wave 1: s3ai_11i(cedis) s3ai_11ii(pesewas)	question 11 in wave 1 and wave 2

What is the value of fodder/feed produced within your home in the last 12 months? Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2 Ghana cedis and 50 pesewas. s	panel, wave 2, and wave 3: feedfrominside wave 1: s3ai_6i(cedis) s3ai_6ii(pesewas)	question 6 in wave 1 and wave 2
How many [animal type] have you sold in the last 12 months? If 0, >> 12 Enter -888 for "Refuse to answer". Enter -999 for "Don't know".	wave 3: quantitysold	not in wave 1
How much revenue have you earned from sales of [animal type] in the last 12 months? Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	panel, wave 2, and wave 3: productrevenue	only wave 3
How much revenue have you earned from products of [animal type] in the last 12 months? Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2 Ghana cedis and 50 pesewas. Are there any other animals owned by your household or by someone in your household that are used for production or for food?	wave 1: s3ai_12i(cedis) s3ai_12ii(pesewas) panel, wave 2, and wave 3: animalrevenue	not in wave 1

1. Yes >> repeat section for new animal(s) 5. No >> next section		
How many of the following tools (in working condition) does your household own? [For each selected tool type] How many [tool type] are currently owned by people in this household?	panel: ownersask1 wave 3, wave 2: quantity	
List two owners of these tools. If all are owned by whole household, code HH	panel, wave 2, and wave 3: ownersask2 wave 1: s3aii_b1(ID of owner 1) s3aii_b2(ID of owner 2)	only in wave 1
Who in the household owns [tool type]? 1-Individual 5-Whole household	wave 3: ownersask ownersask_id ownersask_id_1 ownersask_id_2 ownersask_id_3 ownersask_id_4 ownersask_id_5 ownersask_id_6 ownersask_id_7 ownersask_id_8 ownersask_id_9 ownersask_id_10 ownersask_id_11 ownersask_id_12 ownersask_id_13 ownersask_id_14 ownersask_id_15 ownersask_id_16 ownersask_id_17 ownersask_id_18 ownersask_id_19 ownersask_id_20 ownersask_id_21 ownersask_id_22 ownersask_id_23 ownersask_id_24 ownersask_id_25 wave 2: ownersask_ELM_1 ownersask_ELM_2 ownersask_ELM_3 ownersask_ELM_4 ownersask_ELM_5	only in wave 3

	ownersask_ELM_6 ownersask_ELM_7 ownersask_ELM_8 ownersask_ELM_9 ownersask_ELM_10 ownersask_ELM_11 ownersask_ELM_12 ownersask_ELM_13 ownersask_ELM_14 ownersask_ELM_15 ownersask_ELM_16 ownersask_ELM_17 ownersask_ELM_18 ownersask_ELM_19 ownersask_ELM_20 ownersask_ELM_21 ownersask_ELM_22 ownersask_ELM_23 ownersask_ELM_24 ownersask_ELM_25 ownersask_ELM_26	
What is the current value this tool/these tools?	wave 1: s3aii_c1(cedis) s3aii_c2(pesewas)	only in wave 1
What is the current value of all the [tool type] you own in its present condition? Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	panel, wave 3, and wave 2: currentvalue	
Are there any other tools owned by your household? 1. Yes 5. No	wave 3 and wave 2 : xmoretools	
Please select the following durable goods that are currently owned by people in this household and are in working condition.	wave 1: s3aiii_0 s3aiii_a	

Select all that apply.		
How many [durable good type] are currently owned by people in this household?	wave 3 and wave 2: quantity	
Who in the household owns [durable good type]? 1-Individual 5- Whole household >>Q13c	wave 3: ownersask ownersask_id ownersask_id_1 ownersask_id_2 ownersask_id_3 ownersask_id_4 ownersask_id_5 ownersask_id_6 ownersask_id_7 ownersask_id_8 ownersask_id_9 ownersask_id_10 ownersask_id_11 ownersask_id_12 ownersask_id_13 ownersask_id_14 ownersask_id_15 ownersask_id_16 ownersask_id_17 ownersask_id_18 ownersask_id_19 ownersask_id_20 ownersask_id_21 ownersask_id_22 ownersask_id_23 ownersask_id_24 ownersask_id_25 wave 1: s3aiii_b1 s3aiii_b2	
Please select the names of the household members that own one or more [durable good type]. Select up to 2 choices.	panel and wave 2: ownersask1 ownersask2 (ID of owners) only in panel: ownerask1 ownerask2	
Q13c. What is the current value of all the [durable good type] you own in its present condition? Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	panel, wave 3, and wave 2: currentvalue wave 1: s3aiii_c1(cedis) s3aiii_c2(pesewas)	

Are there any other durable goods owned by your household or someone in your household? 1-Yes >> repeat for new good(s) 5-No >> next section >>Next section How many of such durable goods are owned by your household? What is the name of other durable good [#] that you own? After entering the names of all other durable goods, then the sequence of questions is repeated until there are no further goods.	wave 3 and wave 2: xmoredurablegoods	
When was this loan borrowed? 1. Year 2. Month	panel, wave 2, and wave 3: borrowyear borrowmonth wave 1: s3bi_1i s3bi_1ii	
For debt [#]: Who is the household member who owes this debt? Name and ID	wave 1: s3bi_2	question 2 in wave 2
Is [Name] the person who actually answered these questions?		
Is Name the person who actually answered these questions? 1. Yes 5. No	wave 1: s3bi_3	only in wave 2
In what month was this loan borrowed?		
What is the source of this loan?	panel, wave 3: borrowsource borrowsourceother	

	wave 1: s3bi_4	
If loan came from an individual in the village, please give ID and name of this person. 1. Name 2. ID See village roster, otherwise code NV. If organization, write Name preceded by 'F—	panel: sourceid wave 1: s3bi_5ii s3bi_5iii	Only in wave 1
For what purpose was the loan contracted? Select all that apply	panel: borrowpurpose1 borrowpurpose2 borrowpurpose3 borrowpurposeother wave 3: borrowpurpose borrowpurpose_1 borrowpurpose_2 borrowpurpose_3 borrowpurpose_4 borrowpurpose_5 borrowpurpose_6 borrowpurpose_7 borrowpurpose_8 borrowpurpose_9 borrowpurpose_666 borrowpurpose_777 borrowpurpose_888 borrowpurpose_999 wave 1: s3bi_6_11 s3bi_6_12 s3bi_6_13 s3bi_6 wave 2: borrowpurpose1 borrowpurpose2 borrowpurpose3 borrowpurpose4 borrowpurpose5 borrowpurpose6 borrowpurpose7 borrowpurpose8 borrowpurpose9 borrowpurpose10 borrowpurpose_ELM_1	not in wave 2 Question 6 in wave 1

	borrowpurpose_ELM_2 borrowpurpose_ELM_3 borrowpurpose_ELM_4 borrowpurpose_ELM_5 borrowpurpose_ELM_6 borrowpurpose_ELM_7 borrowpurpose_ELM_8 borrowpurpose_ELM_9 borrowpurpose_ELM_95 borrowpurposeother	
What kind of guarantee/collateral was required by the lender? Select all that apply	panel: borrowguarantee1 borrowguarantee2 borrowguaranteeother wave 3: borrowguarantee borrowguarantee_0 borrowguarantee_2 borrowguarantee_3 borrowguarantee_4 borrowguarantee_5 borrowguarantee_6 borrowguarantee_7 borrowguarantee_666 borrowguarantee_777 borrowguarantee_888 borrowguarantee_999 wave 1: s3bi_7 s3bi_7_1 s3bi_7_2 wave 2: borrowguarantee1 borrowguarantee2 borrowguarantee3 borrowguarantee_ELM_0 borrowguarantee_ELM_2 borrowguarantee_ELM_3 borrowguarantee_ELM_4 borrowguarantee_ELM_5 borrowguarantee_ELM_6	question 7 in wave 2 Question 7 in wave 1

	borrowguarantee_ELM_7 borrowguarantee_ELM_95 borrowguaranteeother	
What was the amount requested for the loan? Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	wave 2 and wave 3: borrowrequested	question 14 in wave 2 Question 8 in wave 1
Q7. What is the principal amount of this loan? Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	panel and wave 2: borrowprincipal wave 1: s3bi_8i s3bi_8ii	question 8 in wave 2 and wave 1
How many months was [Name] given to repay the loan in full? Enter -777 for "Not applicable (there is no set amount of time)	panel, wave 3, and wave 2: borrowlength	
Q9. Does [Name] have to pay interest on this loan? 1. Yes >> Q9a 5. No>> 8	panel, wave 3, and wave 2: borrowinterestyn(wave 2) borrowreportpctamt(wave 2) borrowreportmonthyear (wave 2) borrowinterestpercent_yr panel: borrowinterestpercent(wave 2) panel, wave 2: borrowinterestamount wave 1: s3bi_9a s3bi_9bi s3bi_9b2i s3bi_9b2ii	

9b. Would you prefer to answer in percent interest (i.e. 30%) or in amount interest (i.e. 20 GHS)? 1. Percent (%) 5. Amount (GHS)		not in wave 1
9b. Was the interest quoted to [Name] as per month or per year? 1. Per month > 5. Per year>>9d		not in wave 1
9c. What is the interest per month? >> 8		not in wave 1
9d. What is the percent of interest per year? >> 8		not in wave 1
9e. What is the amount of interest that was to be paid in the last 12 months?		not in wave 1
8. How often was [Name] required to make payments?	panel: borrowfrequency_yr borrowfrequency(wave 2) borrowfrequencyother(wave 2) wave 3: borrowinterestperyr borrowinterestpermth wave 1: s3bi_10	question 10 in wave 2 and wave 1
9f. For each payment period, how much was [Name] required to pay?	panel, wave 3, and wave 2: borrowpayment wave 1: s3bi_11i s3bi_11ii	not in wave 2 question 11 in wave 1
What is the amount paid back on this loan last 12 months?	panel, wave 3, and wave 2: borrowpaidbackyear(wave 1) borrowpaidbacktotal	

Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas	wave 1: s3bi_12i s3bi_12ii	
What is the outstanding amount of loan? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas	panel, wave 3, and wave 2: borrowoutstanding wave 1: s3bi_13i s3bi_13ii	question 13 in wave 1
Are there any other loans currently owed by household members that have not been fully repaid?	wave 3: xmore	
For loan [#]: Who is the household member who contracted or attempted to contract the loan? [Names appear for selection]		
Is [Name] the person who actually answered these questions? 1. Yes 5. No	wave 1 and wave 3: interviewdid	
In what year was this loan borrowed or attempted?	wave 1 and wave 3: borrowyear	
In what month was this loan borrowed or attempted? Month	wave 1 and wave 3: borrowmonth	
What was the source of this loan?	wave 1 and wave 3: borrowsource borrowsourceother	
For what purpose was the loan borrowed or attempted? Select all that apply.	wave 3: borrowpurpose borrowpurpose_1 borrowpurpose_2 borrowpurpose_3 borrowpurpose_4 borrowpurpose_5 borrowpurpose_6 borrowpurpose_7	

	borrowpurpose_8 borrowpurpose_9 borrowpurpose_666 borrowpurpose_777 borrowpurpose_888 borrowpurpose_999 borrowpurposeother	
What kind of guarantee/collateral was required for the loan?	wave 3: borrowguarantee borrowguarantee_0 borrowguarantee_2 borrowguarantee_3 borrowguarantee_4 borrowguarantee_5 borrowguarantee_6 borrowguarantee_7 borrowguarantee_666 borrowguarantee_777 borrowguarantee_888 borrowguarantee_999 borrowguaranteeother	
What was the amount requested for the loan? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.		
Was the loan granted? Yes……..1 >>Q8 No……5 >> Next loan	panel and wave 3: borrowgranted	
16. Why does [Name] think the loan was refused? >> Q13	panel and wave 3: borrowwhyrefused borrowwhyrefusedother	
What is the principal amount of this loan? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	wave 3: borrowprinicipal	

How many months was [Name] given to repay the loan in full? Enter -1 if no set amount of time.	wave 3: borrowlength	
Does [Name] or did [Name] have to pay interest on this loan? Yes……..1 >> Q9a No……5 >> 12	wave 3: borrowinterestyn borrowreportpctamt borrowreportmonthyear borrowinterestpermth borrowinterestperyr borrowinterestamount	
Would you prefer to answer in percent interest (i.e.30%) or in amount interest (i.e. 20 GHS)? 1. Percent (%) 5. Amount (GHS)		
Was the interest quoted to [Name] as per month or per year? 1. Per month >>Q9c 5. Per year>>Q9d If 9a is 5. Amount>>9e after any response in this question		
What is the interest per month? >>12		
What is the percent of interest per year?		
What is the amount of interest that was to be paid in the last 12 months?		
12. How often was [Name] required to make payments?	wave 3: borrowfrequency borrowfrequencyother	question 10 in wave 2
For each payment period, how much was [Name] required to pay? Indicate amount as a decimal value (in Ghana cedis and pesewas)	wave 3: borrowpayment	question 11 in wave 2

For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.		
What was the total amount paid back on this loan? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	wave 3: borrowpaidbacktotal	question 12 in wave 2
Are there any other loans that were attempted but denied or that were contracted but been fully repaid? 1. Yes >> repeat for additional loan(s). 5. No >> next section		
For credit [#]: Who is the household member to whom this debt is owed? [Names appear for selection]	wave 1: s3bii_15 wave 2 and wave 3: owedid	question 15 in wave 2 and wave 1
Who is the person who actually answered these questions? [Names appear for selection]	panel, wave 2: interviewedid wave 1: s3bii_16	question 16 in wave 2 and wave 1
To whom was this loan given?	panel and wave 3: loantowhom (wave 2) loantowhomother wave 1: s3bii_17	question 17 in wave 2 and wave 1
When was this loan made? 1. Year 2. Month	panel and wave 2: loanyear loanmonth loanday wave 1: s3bii_19i	

	s3bii_19ii s3bii_19iii wave 3: dateloanmade	
What kind of guarantee was required from the borrower?	panel and wave 3: loanguarantee loanguaranteeother wave 2: loanguarantee1 loanguarantee2 loanguarantee3 loanguarantee_ELM_0 loanguarantee_ELM_2 loanguarantee_ELM_3 loanguarantee_ELM_4 loanguarantee_ELM_5 loanguarantee_ELM_6 loanguarantee_ELM_7 loanguarantee_ELM_95 loanguaranteeother	
What is the principal amount of this loan? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	panel, wave 2, and wave 3: loanprincipal wave 1: s3bii_21i s3bii_21ii	
Does this loan receive interest?	panel, wave 2, and wave 3: loaninterest loanreportpctamt loaninterestpercent loaninterestamount wave 1: s3bii_22a s3bii_22bi s3bii_22b2i s3bii_22b2ii	
Would you prefer to answer in percent interest (i.e.		not in wave 1

30%) or in amount interest (i.e. 20 GHS? 1. Percent (%) 5. Amount (GHS) >>22c		
What is the percent of interest per year? >> 23		
What is the amount of interest that was to be paid in the last 12 months? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.		not in wave 1
1. What is the amount paid back on this loan last 12 months? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas	panel, wave 2, and wave 3: loanpaidback wave 1: s3bii_23i s3bii_23ii	
What is the outstanding amount of this loan? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas	panel, wave 2, and wave 3: loanoutstanding wave 1: s3bii_24i s3bii_24ii	
Are there any other debts (of goods or money) owed to members of this household?		
For payment #1: Who is the household member who sent the money/goods/gifts (without expecting to be repaid)?	wave 1: s3biii_26	

[Names appear for selection]		
Is [Name] the person who actually answered these questions?	wave 2 and wave 3: interviewedid	
Does the recipient live outside Ghana?		Only in wave 3
Please enter the name of the country.		
Name and ID of the person to whom transfer was sent: 1. Name 2. ID (if now a HH Member)	panel: localrecipient(id of person) wave 1: s3biii_27ii(ID of the person)	only in wave 1
Is the recipient a spouse of a household member?	panel: outspouserelative outspouserelativeid outspouse outspouseid wave 3: outspouse outspouseid	
Please select the name of the member.		
Is the recipient a blood relative of a household member?	panel, wave 2, and wave 3: outrelative outrelativeid wave 1: s3biii_28 wave 1: s3biii_29	
Please select the name of the member.		

>> 30a		
Give the ID of the relative (code 88 if not mentioned) 1. ID of relative (See section 1 part D & E for codes)		only in wave 1
Where does this recipient live?	panel: outlive_region(wave 3) outlive_district (wave 3) outlive_country wave 2: outlive_class outlive_region outlive_district outlive_rcode outlive_dcode outlive_country outlive_countrycode	only in wave 1
If given to an individual in this EA, give NAME and HH ID: 1.Name 2.HH ID (Code NV if not in EA)	panel: outrecipient wave 1: s3biii_31ii	only in wave 1
What is the name of the recipient?		
30a. In what region does the recipient live?		
In what district does the recipient live?		
In what community does the recipient live?		
Were these remittances made on a regular basis?	panel, wave 2, and wave 3: outfrequency outfrequencyother wave 1: s3biii_32	question 32 in wave 2
What were the three main reasons for this transfer? Select up to 3 choices.	panel: outreasons1 outreasons2 outreasons3 outreasons4 outreasons5 outreasonsother	question 33 in wave 2

	wave 1: s3biii_33 s3biii_33_1 s3biii_33_2 s3biii_33_3 s3biii_33_4 s3biii_33_5 wave 2: outreasons1 outreasons2 outreasons3 outreasons_ELM_1 outreasons_ELM_2 outreasons_ELM_3 outreasons_ELM_4 outreasons_ELM_5 outreasons_ELM_6 outreasons_ELM_7 outreasons_ELM_8 outreasons_ELM_9 outreasons_ELM_95 outreasonsother wave 3: outreasons outreasons_1 outreasons_2 outreasons_3 outreasons_4 outreasons_5 outreasons_6 outreasons_7 outreasons_8 outreasons_9 outreasons_666 outreasons_777 outreasons_888 outreasons_999	
What was the total amount of cash given to this person in the last 12 months? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	panel, wave 2, and wave 3: outcash wave 1: s3biii_34i s3biii_34ii	question 34 in wave 2

What was the total value of food given to this person in the last 12 months? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	panel, wave 2, and wave 3: outfood wave 1: s3biii_35i s3biii_35ii	question 35 in wave 2
What was the total value of other goods given to this person in the last 12 months? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	panel, wave 2, and wave 3: outgoods wave 1: s3biii_36i s3biii_36ii	question 36 in wave 2
Through what means did you send these remittances?	panel: outhow outhow1 outhow2 outhow3 outhowother wave 1: s3biii_37 wave 2: outhow1 outhow2 outhow3 outhow_ELM_1 outhow_ELM_2 outhow_ELM_3 outhow_ELM_4 outhow_ELM_5 outhow_ELM_6 outhow_ELM_95 wave 3: outhow outhow_1 outhow_2 outhow_3 outhow_4 outhow_5	question 37 in wave 2

	outhow_6 outhow_666 outhow_777 outhow_888 outhow_999 outhowother	
Is there anyone else to whom this household has sent money, goods, gifts in the last year without expecting to be repaid?	wave 3 and panel: xmore	
For receipt [#]: Who is the household member who received the money/good/gifts (without being expected to be repaid)? Names appear for selection	wave 1: s3biv_39ii (ID of the person)	question 39 in wave 2 and wave 1
Is [Name] the person who actually answered these questions?	panel and wave 3: interviewdid	
Does the sender live outside Ghana?		
Please enter the name of the country >> 43		
28a. Is the sender an absent spouse of a household member?	panel, wave 2, and wave 3: inspouse inspouseid	
Please select the name of the spouse. [Names appear for selection]		
28b. Is the sender a blood relative of a household member?	panel, wave 2, and wave 3: inrelative inrelativeid	
Please select the name of the relative.		

[Names appear for selection]		
40. If sender is not a household member, is this person a blood relative or spouse of a household member? 1. Yes 2. No >> 42	panel: inspouserelative wave 1: s3biv_40	only wave 1
41. Give the relative ID of the person who sent the money 1. ID of relative (See section 1 part D & E for codes) (code 88 if not mentioned)	panel: inspouserelativeid wave 1: s3biv_41	
41. What is the name of the sender?		
42. Where does this sender live?	wave 1: s3biv_42	only wave 1
43. If given by an individual in this EA, give NAME and HH ID: 1.Name 2.HH ID (Code NV if not in EA)	wave 1: s3biv_43ii	
42a. In what region does the sender live?	panel, wave 2, and wave 3: inlive_region	
42b. In what district does the sender live?	panel, wave 2, and wave 3: inlive_district	
42c. In what community does the sender live?	panel, wave 2: inlive_country	
43. Were these remittances made on a regular basis?	panel, wave 2, and wave 3: infrequency infrequencyother wave 1:	question 44 in wave 1

	s3biv_44	
What were the three main reasons for this transfer? Select up to 3 choices.	panel: inreasons1 inreasons2 inreasons3 inreasons4 inreasons5 inreasonsother wave 1: s3biv_45 s3biv_45_1 s3biv_45_2 s3biv_45_3 s3biv_45_4 s3biv_45_5 wave 2: inreasons1 inreasons2 inreasons3 inreasons_ELM_1 inreasons_ELM_2 inreasons_ELM_3 inreasons_ELM_4 inreasons_ELM_5 inreasons_ELM_6 inreasons_ELM_7 inreasons_ELM_8 inreasons_ELM_9 inreasons_ELM_95 inreasonsother wave 3: inreasons inreasons_1 inreasons_2 inreasons_3 inreasons_4 inreasons_5 inreasons_6 inreasons_7 inreasons_8 inreasons_9 inreasons_666 inreasons_777 inreasons_888 inreasons_999 inreasonsother	question 45 in wave 2 and wave 1

What was the total amount of cash received from this person in the last 12 months without an expectation to repay? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	panel, wave 2, and wave 3: incash wave 1: s3biv_46i s3biv_46ii	question 46 in wave 2 and wave 1
What was the total value of food received from this person in the last 12 months without an expectation to repay? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	panel, wave 2, and wave 3: infood wave 1: s3biv_47i s3biv_47ii	not in wave 2
What was the total value of other goods received from this person in the last 12 months without an expectation to repay? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	panel, wave 2, and wave 3: ingoods wave 1: s3biv_48i s3biv_48ii	only in wave 3
Through what means did [Name] receive these remittances?	panel: inhow inhow1 inhow2 inhow3 inhowother wave 1: s3biv_49	question 49 in wave 1

	wave 2: inhow1 inhow2 inhow3 inhow_ELM_1 inhow_ELM_2 inhow_ELM_3 inhow_ELM_4 inhow_ELM_5 inhow_ELM_6 inhow_ELM_95 wave 3: inhow inhow_1 inhow_2 inhow_3 inhow_4 inhow_5 inhow_6 inhow_666 inhow_777 inhow_888 inhow_999 inhowother	
Is there anyone else who has sent money, goods, gifts to members of this household in the last year without expecting to be repaid? 1. Yes >>Repeat questions from IV. In-Transfers Question 34 5. No >> Next Section	panel and wave 3: xmore	
For receipt [#]: Who is the household member who received the money/good/gifts? [Lists household members]		

Is [Name] the person who actually answered these questions?	wave 3: interviewedid	
Which of these institutions/ organization did [Name] receive money/goods from in the last year?		
Were these remittances made on a regular basis?		
What were the three main reasons for this transfer? Select up to 3 choices.	wave 3: inreasons inreasons_1 inreasons_2 inreasons_3 inreasons_4 inreasons_5 inreasons_6 inreasons_7 inreasons_8 inreasons_9 inreasons_666 inreasons_777 inreasons_888 inreasons_999 inreasonsother	
What was the total amount of cash received from this institution in the last 12 months? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	wave 3: incash	
What was the total value of food received from this institution in the last 12 months? Indicate amount as a decimal value (in Ghana cedis and pesewas)	wave 3: infood	

For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.		
What was the total value of other goods received from this institution in the last 12 months? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	wave 3: ingoods	
Through what means did [Name] receive these remittances?	wave 3: inhow inhow_1 inhow_2 inhow_3 inhow_4 inhow_5 inhow_6 inhow_666 inhow_777 inhow_888 inhow_999 inhowother	
Is there anyone else who has sent money, goods, gifts to members of this household in the last year without expecting to be repaid?		
For savings account #1: Who is the household member to whom this savings account belongs to? [Names appear for selection]		

Is [Name] the person who actually answered these questions?	panel, wave 2, and wave 3: interviewedid	
Does [Name] have any savings that are kept at home (i.e. not in a bank or susu)?	panel, wave 2, and wave 3: savingsathome wave 1: s3bv_51	question 51 in wave 2 and wave 1
Name and ID of the principal person who own/ control this savings:: 1. Name 2. ID	wave 1: s3bv_52ii	only in wave 1
What is the amount that [Name] has saved at home? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	panel, wave 2, and wave 3: savingsathomeamount wave 1: s3bv_53i(cedis) s3bv_53ii(pesewas)	question 52 in wave 2 and question 53 in wave 1
43. Does [Name] have any savings kept with a banking institution, susu or any other saving society/group?	panel, wave 2, and wave 3: savingswithoth wave 3: savingscommunity wave 1: s3bv_54	question 53 in wave 2 and question 54 in wave 1
In which community is this account located?		
At which institution is this account kept? [Names of financial institutions collected during the community survey appears for selection]	panel, wave 2, and wave 3: savingscode wave 1: s3bv_55	question 55 in wave 2 and wave 1
What is the current balance of this account?	panel, wave 2, and wave 3: savingsbalance wave 1:	question 56 in wave 2 and wave 1

Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	s3bv_56i(cedis) s3bv_56ii(pesewas)	
Are these savings through a susu collector or savings society?	panel: susuid1 susuid2 susuid3 susuid4 susuid5 susuyn(wave 2 and wave 3) wave 1: s3bv_57i s3bv_57ii s3bv_57iii s3bv_57iv s3bv_57v	question 57 in wave 2
How many contributions has [Name] made in the last 30 days?	panel, wave 2, and wave 3: savingscontributions wave 1: s3bv_58	question 58 in wave 2 and wave 1
How much is [Name]'s average monthly contribution? Indicate amount as a decimal value (in Ghana cedis and pesewas) For example, enter 2.50 for 2 Ghana cedis and 50 pesewas.	panel, wave 2, and wave 3: savingsaveragemonthly wave 1: s3bv_59i (cedis) s3bv_59ii(pesewas)	question 59 in wave 2 and wave 1
For what purpose is [Name] saving through the susu or the savings group/society? Select all that apply.	panel: savingswhysusu1 savingswhysusu2 savingswhysusu3 savingswhysusu4 savingswhysusu5 savingswhysusu6 savingswhysusuother	question 60 in wave 2 and wave 1

	wave 1: s3bv_60i wave 2: savingspurpose savingspurposeother wave 3: savingspurpose savingspurpose_1 savingspurpose_2 savingspurpose_3 savingspurpose_4 savingspurpose_666 savingspurpose_777 savingspurpose_888 savingspurpose_999 savingspurposeother	
Why does [Name] use a susu collector rather than a bank? Select all that apply.	wave 1: s3bv_61 s3v_61_1 s3v_61_2 s3v_61_3 s3v_61_4 s3v_61_5 s3v_61_6 wave 2: savingswhysusu1 savingswhysusu2 savingswhysusu3 savingswhysusu4 savingswhysusu5 savingswhysusu6 savingswhysusu7 savingswhysusu8 savingswhysusu_ELM_1 savingswhysusu_ELM_2 savingswhysusu_ELM_3 savingswhysusu_ELM_4 savingswhysusu_ELM_5 savingswhysusu_ELM_6 savingswhysusu_ELM_7 savingswhysusu_ELM_95 savingswhysusuother wave 3:	question 61 in wave 2 and wave 1

	savingswhysusu savingswhysusu_1 savingswhysusu_2 savingswhysusu_3 savingswhysusu_4 savingswhysusu_5 savingswhysusu_6 savingswhysusu_7 savingswhysusu_666 savingswhysusu_777 savingswhysusu_888 savingswhysusu_999 savingswhysusuother	
Are there any more savings accounts held by household members?	wave 3and panel: xmore	
Does anyone in this household have a mobile money account or use the services of a mobile money agent? How many mobile money accounts/agents does this household have in total? _____	mobilemoney_account	
What is the name of the mobile provider (network) tied to the [#] account this household has?	mobilenetwork	
What is the name of the household member to whom the f[#] mobile money account belongs? [Names appear for selection]	mobilemoney_owner	
Q2. What is the main use of your mobile money account/agent of mobile money?	mobilemoney_use	

Do you use your account/agent to save or send contributions for savings anywhere? Treat as savings if money is left in account wallet for 30 days or more	savings	
For how many years have you been using a mobile money account/agent? If you have been using mobile money for less than a year, please enter zero and simply record your answer in months.	mobilemoney_year	
In addition to the number of years, for how many months have you been using a mobile money account/agent? If you have been using mobile money for less than a month, please enter zero and simply record your answer in weeks.	mobilemoney_months	
In addition to the number of months, for how many weeks have you been using a mobile money account/agent?	mobilemoney_weeks	
For how many years have you been saving or sending these contributions through your mobile money account/agent? If you have been saving/sending contributions for less than a year, please enter zero and	saving_years	

simply record your answer in months.		
In addition to the number of years, for how many months have you been saving or sending these contributions through your mobile money account/agent? If you have been saving/sending contributions for less than a month, please enter zero and simply record your answer in weeks.	savings_months	
In addition to the number of months, for how many weeks have you been saving or sending these contributions through your mobile money account/agent	savings_weeks	
How many contributions or deposits have you made in the last 30 days?	savings_pastmonth	
How regularly are your contributions or deposits made for savings purposes?	contributions_purpose	
What is the current balance (Including mobile money savings and amount sent out to save via mobile money)? Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, GHS 2.50 for 2 Ghana Cedis and 50 Pesewas.	current_balance	
Q9. How satisfied are you with the current charges on the transactions you make	satisfaction	

through the mobile money account/agent?		
How many transactions do you normally make on average in a month with your account/agent?	transactions_n	
Have you, another household member, or a relative/friend of the household ever been a victim of mobile money fraud/theft/robbery on this account?	victim_fraud	
What was the total amount involved in this fraud/theft/robbery incident? If both you and someone you know faced fraud/theft/robbery, please, use your experience. Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, GHS 2.50 for 2 Ghana Cedis and 50 Pesewas.	amount_fraud	
Was the amount ever retrieved?	amount_retrieved	
What efforts were made to retrieve the amount taken? Select all that apply.	efforts_retrieval	
Q3.Do you feel safe or protected in using mobile money?	safe_mobilemoney	
Have you ever quit, or considered closing this	safety_quit	

account or stopping the use of a mobile money account/ agent due to safety issues?		
Has the experience/perception/fear of fraud/theft/robbery made you reduce the amount held on your wallet at any point in time?	fraud_amount	
How much was the reduction? Enter your answer as an integer value. For example, enter 5 to indicate a 5% reduction.	amountreduced_fraud	
Q4. Are you willing to pay a premium as insurance for your mobile money deposits against fraud/theft/robbery?	insurance_fraud	
What is the highest amount (greater than zero) you are willing to pay? Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, GHS 2.50 for 2 Ghana Cedis and 50 Pesewas.	highestWTP	
At what interval do you want to make payment of the proposed insurance premium?	insurance_interval	
Q5. What transactions do you normally do with your mobile money account/agent? Select up to 3 choices.	transactions_mobilemoney	

How would you rank the strength of each of the following product/services/policies in affecting your continuous use of mobile money?	strengths_services	
Is there any service or product you wish the mobile money platform covered which it currently does not? 1.Yes 2.No>>Q29	request_newservices	
Please specify a service or product you wish the mobile money platform covered which it currently does not.		
Are you willing to pay a fee or charge for your ability to use such a service on the Mobile money platform? 1 Yes 2 No>>>Q29	pay_newservice	
How much are you willing to pay for a product or service on the mobile money platform? Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, GHS 2.50 for 2 Ghana Cedis and 50 Pesewas.	WTP_newservice	
Q29 - Does anyone in this household currently work or has anyone previously worked as a mobile money agent? _____ 1-Yes, currently 2-Yes, previously	mobilemoney_agent	

3-No >> Next section		
Please select the names of all the people in this household who currently work or have previously worked as a mobile money agent. [Names appear for selection]	agent_HH	
How many years has [Name] worked or been working as an agent? If [Name] worked as an agent for less than a year, please enter zero and simply record your answer in months.	years_agent	
In addition to the number of years, how many months has [Name]r worked or been working as an agent?	agent_months	
What is/was the gender of the owner of the business? 1. Male 5. Female	agent_gender	
In your best estimates, what is/was the total working capital for the mobile money business? Indicate amount as a decimal value (in Ghana cedis and pesewas). For example, GHS 2.50 for 2 Ghana Cedis and 50 Pesewas.	capital_business	
34. If [Name] is no longer working as an agent, was	reason_noagent	

security/safety a reason for stopping work? 1-Yes 5-No -777-Not applicable (still working)		

Non-Farm Household Enterprise

Note: In the table below, the abbreviations W1, W2, and W3 are used to refer to the relevant variables in the raw datasets from survey waves 1, 2, and 3, respectively.

Question / Variable	***Variable name***	***Notes***
Please select up to two people who are owners of enterprise. List of household members appears for selection. Name And code 50 for someone who is not a household member(ONLY IN WAVE 2)	panel, wave 2: enterpriseowners1 enterpriseowners2 enterpriseownernonmem wave 1: s5a_31ii s5a_32ii wave 2: enterpriseowners_ELM_1 enterpriseowners_ELM_2 enterpriseowners_ELM_3 enterpriseowners_ELM_4 enterpriseowners_ELM_5 enterpriseowners_ELM_6 enterpriseowners_ELM_7 enterpriseowners_ELM_8 enterpriseowners_ELM_9 enterpriseowners_ELM_10 enterpriseowners_ELM_11 enterpriseowners_ELM_12 enterpriseowners_ELM_13 enterpriseowners_ELM_14 enterpriseowners_ELM_15 enterpriseowners_ELM_16 enterpriseowners_ELM_17	

	enterpriseowners_ELM_18 enterpriseowners_ELM_19 enterpriseowners_ELM_20 enterpriseowners_ELM_21 enterpriseowners_ELM_22 enterpriseowners_ELM_23 enterpriseowners_ELM_24 enterpriseowners_ELM_25 enterpriseowners_ELM_50	
4. Who is responsible for [Enterprise Name]? 1. One of the owners is responsible 3. Another household member is responsible >>6 5. A non-household member is responsible	xresponsible(panel, wave 2) s5a_4ii(wave 1)	
4c. Which owner is responsible? (The possible owners appear for selection.	panel, wave 2: ownerresponsible hhmemresponsible	
5. Name and ID of household member interviewed	s5a_5ii(wave 1) interviewedid(wave 2)	Only in Wave 1
6. What is the main (principal) activity of [[Enterprise Name]?	mainactivity(panel, wave 2) s5a_6(wave 1)	
7.In which industry does it belong? (See codebook for ISIC code and write 4 digits)	mainindustry(panel, wave 2) mainindustrycode(panel, wave 2) s5a_7i(wave 1) s5a_7ii(wave 1) ISIC code of industry	
8. Does this enterprise have a secondary activity? 1. Yes 5. No	secondaryactivity(panel, wave 2) s5a_b(wave 1)	

9. In which industry does it belong? (See codebook for ISIC code and write 4 digits)	panel, wave 2: secondaryindustry secondaryindustrycode s5a_9i(wave 1) s5a_9ii(wave 1)	
10a. How many years, altogether, has [Enterprise Name] been in operation? Years	panel, wave 2, and wave 3: yearsinoperation s5a_10i(wave 1)	
10b. And how many months?	monthsinoperation(panel, wave 2, and wave 3) s5a_10ii(wave 1)	
11. Please circle the months that [Enterprise Name] operated in during the last 12 months:	panel: operatedlast_jan operatedlast_feb operatedlast_mar operatedlast_apr operatedlast_may operatedlast_jun operatedlast_jul operatedlast_aug operatedlast_sep operatedlast_oct operatedlast_nov operatedlast_dec wave 1: s5a_11 s5a_11i s5a_11ii s5a_11iii s5a_11iv s5a_11v s5a_11vi s5a_11vii s5a_11viii s5a_11ix s5a_11x s5a_11xi s5a_11xii wave 2(code 1 to code 12 for ELM variables):	

	operatedduringlast121 operatedduringlast122 operatedduringlast123 operatedduringlast124 operatedduringlast125 operatedduringlast126 operatedduringlast127 operatedduringlast128 operatedduringlast129 operatedduringlast1210 operatedduringlast1211 operatedduringlast12_ELM_13 operatedduringlast12_ELM_1 operatedduringlast12_ELM_2 operatedduringlast12_ELM_3 operatedduringlast12_ELM_4 operatedduringlast12_ELM_5 operatedduringlast12_ELM_6 operatedduringlast12_ELM_7 operatedduringlast12_ELM_8 operatedduringlast12_ELM_9 operatedduringlast12_ELM_10 operatedduringlast12_ELM_11 operatedduringlast12_ELM_12 wave 3: monthsoperated monthsoperated_1 monthsoperated_2 monthsoperated_3 monthsoperated_4 monthsoperated_5 monthsoperated_6 monthsoperated_7 monthsoperated_8 monthsoperated_9 monthsoperated_10 monthsoperated_11 monthsoperated_12	
(Select all that apply or "All") Code 13 All year (Operated every month)		
12. Does the income from [Enterprise Name] belong entirely to the household? 1. Yes >>15 5. No	incomealltohouse(panel, wave 2, and wave 3) s5a_12(wave 1)	

13. What percent of the income from [Enterprise Name] belongs to the household? Percent	percenttohousehold(panel, wave 2, and wave 3) s5a_13(wave 1)	
14. Please give the name and HH ID of your main partner outside the household. 1. Name 2. HH ID 3.Code NV if outside the EA	s5a_14ii(wave 1)	Only in wave 1
15. Is [Enterprise Name] registered with any government agency? 0. No 1. Registrar General's Department – RG 2. Department of Cooperatives – DC 3. District Assembly – DA -666. Other (Specify) - OT -888. Refuse to Answer - RA -999. Don't know - DK	panel and wave 3: registered registeredother s5a_15(wave 1) registered(wave 2)	
16. What was the most serious difficulty in [Enterprise Name? 1. No difficulty 2. Capital / credit 3. Technical knowhow 4. Government regulation -666. Other (please specify) -888. Refuse to Answer -999. Don't know	panel, wave 2, and wave 3: diffestablishing diffestablishingother s5a_16(wave 1)	
17. What was the main source of capital in setting up [Enterprise Name]? 1. Household savings – HS 2. Bank – BA 3. Remittances from abroad – RA	panel, wave 2, and wave 3: maincapitalsource maincapitalsourceother s5a_17(wave 1)	

4. Proceeds from family farms – FF 5. Proceeds from family non-farm enterprise – NF 6. Income from family property(ies) – IP 7. NGO support – NG 8. District assembly / town development support – DA 9. Religious assistance – RL 10. Money lenders – ML 11. Relatives/ friends – RF 12. Other partners – OP 13. No capital required – NC -666. Other (Specify) – OT(ONLY IN WAVE 3) -888. Refuse to Answer – RA(ONLY IN WAVE 3) -999. Don't know – DK(ONLY IN WAVE 3)		
18. What was the nature of this capital? 1. Loan – LO 2. Gift – GI 3. Self-financed – SF -777. Not applicable –NA	natureofcapital(panel, wave 2, and wave 3) s5a_18(wave 1)	
19. During the last 12 months has [Enterprise Name] tried to get credit from any source? 1. Yes, successfully 2. Yes, unsuccessfully 5. No>>23	last12triedcredit(panel, wave 2, and wave 3) s5a_19(wave 1)	
20. During the last 12 months where has [Enterprise Name] tried to get credit? (Circle all that apply) 1. Bank – BA 2. Other financial agencies – OA	panel: last12wherecredit last12wherecredit_bank last12wherecredit_finage last12wherecredit_coop last12wherecredit_ml last12wherecredit_relfriend	

3. Cooperative – CO 4. Money lender – ML 5. Relative/ friend – RF 6. Proceeds from other enterprise – OE 7. Government agency – GA 8. NGO – NG 9. Community epicenter – CE -666. Other (Specify) – OT(ONLY IN WAVE 3) -888. Refuse to Answer – RA(ONLY IN WAVE 3) -999. Don't know – DK(ONLY IN WAVE 3)	last12wherecredit_otherent last12wherecredit_gov last12wherecredit_ngo last12wherecredit_comm last12wherecredit_other last12wherecredit_nottry last12wherecredit_unsucc last12wherecreditother wave 1: s5a_20 s5a_20i s5a_20ii s5a_20iii s5a_20iv s5a_20v s5a_20vi s5a_20vii s5a_20viii s5a_20ix s5a_20x s5a_20xi s5a_20xii s5a_20ia s5a_20iia s5a_20iiia s5a_20iva s5a_20va s5a_20via s5a_20viia s5a_20viiia s5a_20ixa s5a_20xa wave 2: last12wherecredit1 last12wherecredit2 last12wherecredit3 last12wherecredit4 last12wherecredit5 last12wherecredit6 last12wherecredit7 last12wherecredit8 last12wherecredit9 last12wherecredit10 last12wherecredit_ELM_1 last12wherecredit_ELM_2 last12wherecredit_ELM_3 last12wherecredit_ELM_4 last12wherecredit_ELM_5 last12wherecredit_ELM_6 last12wherecredit_ELM_7 last12wherecredit_ELM_8 last12wherecredit_ELM_9 last12wherecredit_ELM_95 last12wherecreditother wave 3: last12wherecredit last12wherecredit_1 last12wherecredit_2 last12wherecredit_3 last12wherecredit_4	

	last12wherecredit_5 last12wherecredit_6 last12wherecredit_7 last12wherecredit_8 last12wherecredit_9 last12wherecredit_666 last12wherecredit_777 last12wherecredit_888 last12wherecredit_999 last12wherecreditother	
21. During the last 12 months, how much, in total has this enterprise borrowed? Ghana cedis (To be answered if Q19=1, YS)	last12totalcredit(panel, wave 2, and wave 3) wave 1: s5a_21i s5a_21ii	
22. How much of the total loans contracted / borrowed during the last 12months has this enterprise repaid? Ghana cedis (To be answered if Q19=1, YS)	last12creditrepaid(panel, wave 2, and wave 3) wave 1: s5a_22i s5a_22ii	
23. In the month of (…), are your sales (H) high/above average, (A) average, (L) low/ below average (N) none? In the month of January, are your sales high, average, low or none? 0. None 1. Low 3. Average 5. High In the month of February, are your sales high, average, low or none? 0. None 1. Low 3. Average 5. High	panel, wave 2: jansales febsales marsales aprsales maysales junsales julsales augsales sepsales octsales novsales descales wave 1: s5a_23 s5a_23i s5a_23ii s5a_23iii s5a_23iv s5a_23v s5a_23vi s5a_23vii	

In the month of March, are your sales high, average, low or none? 0. None 1. Low 3. Average 5. High In the month of April, are your sales high, average, low or none? 0. None 1. Low 3. Average 5. High In the month of May, are your sales high, average, low or none? 0. None 1. Low 3. Average 5. High In the month of June, are your sales high, average, low or none? 0. None 1. Low 3. Average 5. High In the month of July, are your sales high, average, low or none? 0. None 1. Low 3. Average 5. High In the month of August, are your sales high, average, low or none? 0. None 1. Low 3. Average 5. High In the month of September, are your sales high, average, low or none? 0. None 1. Low 3. Average 5. High	s5a_23viii s5a_23ix s5a_23x s5a_23xi s5a_23xii wave 3: monthsoperated_index_1 monthsoperated_name_1 monthsoperated_sales_1 monthsoperated_index_2 monthsoperated_name_2 monthsoperated_sales_2 monthsoperated_index_3 monthsoperated_name_3 monthsoperated_sales_3 monthsoperated_index_4 monthsoperated_name_4 monthsoperated_sales_4 monthsoperated_index_5 monthsoperated_name_5 monthsoperated_sales_5 monthsoperated_index_6 monthsoperated_name_6 monthsoperated_sales_6 monthsoperated_index_7 monthsoperated_name_7 monthsoperated_sales_7 monthsoperated_index_8 monthsoperated_name_8 monthsoperated_sales_8 monthsoperated_index_9 monthsoperated_name_9 monthsoperated_sales_9 monthsoperated_index_10 monthsoperated_name_10 monthsoperated_sales_10 monthsoperated_index_11 monthsoperated_name_11 monthsoperated_sales_11 monthsoperated_index_12 monthsoperated_name_12 monthsoperated_sales_12	

In the month of October, are your sales high, average, low or none? 0. None 1. Low 3. Average 5. High In the month of November, are your sales high, average, low or none? 0. None 1. Low 3. Average 5. High In the month of December, are your sales high, average, low or none? 0. None 1. Low 3. Average 5. High		
24. What is the average level of sales in a HIGH month for [Enterprise Name]? 1. GH cedis and pesewas	averagesaleshigh(panel, wave 2, and wave 3) wave 1: s5a_24i s5a_24ii	
25. What is the average level of sales in an AVERAGE month for [Enterprise Name]? 1. GH cedis and pesewas	averagesalesaverage(panel, wave 2, and wave 3) wave 1: s5a_25i s5a_25ii	
26. What is the average level of sales in a LOW month for [Enterprise Name]? 1.GH cedis and pesewas	averagesaleslow (panel, wave 2, and wave 3) wave 1: s5a_26i	
26a. What is the value of products and services consumed by the household from [Enterprise Name] during the last month? (GHS)	valueconsumed(panel, wave 2, and wave 3)	

26b. What is the value of products and services given out as gifts from [Enterprise Name] during the last month? (GHS)	valuegifted(panel, wave 2, and wave 3) s5a_26ii(wave 1)	
27. What is the average level of costs in a HIGH month for [Enterprise Name]? 1. GH cedis and pesewas	averagecostshigh(panel, wave 2, and wave 3) wave 1: s5a_27i(in cedis) s5a_27ii(in pesewas)	
28. What is the average level of costs in an AVERAGE month for [Enterprise Name]? 1. GH cedis and pesewas	averagecostsaverage(panel, wave 2, and wave 3) wave 1: s5a_28i(in cedis) s5a_28ii(in pessewas)	
29. What is the average level of costs in a LOW month for [Enterprise Name]? 1. GH cedis and pesewas	timeperiod (panel, wave 2, and wave 3) wave 1: s5a_29i(in cedis) s5a_29ii(in pesewas)	
29a. By what time period can you report your profit for [Enterprise Name]. 1....Day 2….Week 3……Two weeks 4……Month 5.Year -666. Other (Specify) -888. Refuse to Answer – RA -999. Don't know - DK	timeperiodother(panel, wave 2, and wave 3)	Not in wave 1
29b. What is the average level of profit in a (…) for [Enterprise Name]? (use time period in Q29a) 1. GH cedis and pesewas	profit(panel, wave 2, and wave 3)	Not in wave 1 **label for the variable profit in the same dataset is s05ai_29a-

		Profit where it should be s05a_29b- Profit
30. Does [Enterprise Name] own land and buildings? 1. Yes >>30a 5. No >>31	wave 1: (i in cedis and ii in pesewas) s5aii_30 s5aii_30ai s5aii_30aii s5aii_30bi s5aii_30bii s5aii_30ci s5aii_30cii s5aii_30di s5aii_30dii s5aii_30ei s5aii_30eii s5aii_30f	
31. Does [Enterprise Name] own transport equipment? 1. Yes >>31a 5. No >>32	wave 1: s5aii_31 s5aii_31ai s5aii_31aii s5aii_31bi s5aii_31bii s5aii_31ci s5aii_31cii s5aii_31di s5aii_31dii s5aii_31ei s5aii_31eii s5aii_31f	
32. Does [Enterprise Name] own machinery or other equipment? 1. Yes >>32a 2. No >>33	wave 1: s5aii_32 s5aii_32ai s5aii_32aii s5aii_32bi s5aii_32bii s5aii_32ci s5aii_32cii s5aii_32di	

	s5aii_32dii s5aii_32ei s5aii_32eii s5aii_32f	
33. Does [Enterprise Name] own any other assets? 1. Yes 2. No >>Next section How many are there?	wave 1(asset 1): s5aii_33 s5aii_331 s5aii_331ai s5aii_331aii s5aii_331bi s5aii_331bii s5aii_331ci s5aii_331cii s5aii_331di s5aii_331dii s5aii_331ei s5aii_331eii s5aii_331f wave 1(asset 2): s5aii_332 s5aii_332ai s5aii_332aii s5aii_332bi s5aii_332bii s5aii_332ci s5aii_332cii s5aii_332di s5aii_332dii s5aii_332ei s5aii_332eii s5aii_332f wave 1(asset 3): s5aii_333 s5aii_333ai s5aii_333aii s5aii_333bi s5aii_333bii s5aii_333ci s5aii_333cii	

	s5aii_333di s5aii_333dii s5aii_333ei s5aii_333eii s5aii_333f wave 2 and wave 3: moreassets	
1a. How many MEN are currently working at this enterprise? Include HH members, apprentices, hired labor, AND the person responsible for the enterprise.	wave 1: s5bi_1i(Male) currentworkers_m (panel, wave 2 and wave 3)	
1b. How many WOMEN are currently working at this enterprise? Include HH members, apprentices, hired labor, AND the person responsible for the enterprise.	wave 1: s5bi_1ii(Female) currentworkers_f (panel, wave 2 and wave 3)	
2a. How many of these MALE workers are paid?	wave 1: s5bi_2i(Male) paidworkers_m(panel, wave 2 and wave 3)	
2b. How many of these FEMALE workers are paid?	wave 1: s5bi_2ii(Female) paidworkers_f(panel, wave 2 and wave 3)	
3a. During the last 12 months, how many MEN have usually worked in this enterprise? Include HH members, apprentices, hired labor, AND the person responsible for the enterprise.	wave 1: s5bi_3i(Male) last12workers_m(panel, wave 2 and wave 3)	

3b. During the last 12 months, how many WOMEN have usually worked in this enterprise? Include HH members, apprentices, hired labor, AND the person responsible for the enterprise.	wave 1: s5bi_3ii(Female) last12workers_f(panel, wave 2 and wave 3)	
4. How many of those who "usually worked" are employed FULL TIME? 1.Full time male 2. Full time female	wave 1: s5bi_4i(Male) s5bi_4ii(Female) panel and wave 2: fulltimeworkers_m fulltimeworkers_f	
4a. How many of the men who "usually worked" are employed FULL TIME?	fulltimeworkers_m(wave 3)	Only in W3
4b. How many of the women who "usually worked" are employed FULL TIME?	fulltimeworkers_f(wave 3)	
5a. How many of the men who "usually worked" are CASUAL LABOR?	casuallabour_m(wave 3)	
5b. How many of the women who "usually worked" are CASUAL LABOR?	casuallabour_f(wave 3)	
5. How many of those who "usually worked" are CASUAL LABOR? 1. Casual labor male 2. Casual labor female	wave 1: s5bi_5i(Male) s5bi_5ii(Female) panel and wave 2: casuallabour_m casuallabour_f	

6. How many of those who "usually worked" are APPRENTICES? 1. Apprentices male 2. Apprentices female	wave 1: s5bi_6i(Male) s5bi_6ii(Female) panel and wave 2: apprentices_m apprentices_f	
6a. How many of the men who "usually worked" are APPRENTICES?	apprentices_m(wave 3)	Only in W3
6b. How many of the women who "usually worked" are APPRENTICES?	apprentices_f(wave 3)	
7. How many of those who "usually worked" SKILLED? 1. Skilled male 2. Skilled female	wave 1: s5bi_7i(Male) s5bi_7ii(Female) panel and wave 2: skilledworkers_m skilledworkers_f	
7a. How many of the men who "usually worked" are SKILLED?	skilledworkers_m(wave 3)	Only in W3
7b. How many of the women who "usually worked" are SKILLED?	skilledworkers_f(wave 3)	
8. How many of those who "usually worked" have formal wage contracts? 1. Formal wage male 2. Formal wage female	wave 1: s5bi_8i(Male) s5bi_8ii(Female) panel and wave 2: formalwagecontracts_m formalwagecontracts_f	
8a. How many of the men who "usually worked" have formal wage contracts?	formalwagecontracts_m(wave 3)	Only in W3

8b..How many of the women who “usually worked” have formal wage contracts?	formalwagecontracts_f(wave 3)	
9. How many of those who “usually worked” receive paid or sick leave? 1. Benefits male 2. Benefits female	wave 1: s5bi_9i(Male) s5bi_9ii(Female) panel and wave 2: paidsickleave_m paidsickleave_f	
9a. How many of the men who “usually worked” receive paid sick leave or another type of paid leave?	paidsickleave_m(wave 3)	Only in W3
9b. How many of the women who “usually worked” receive paid sick leave or another type of paid leave?	paidsickleave_f(wave 3)	
10. Report the name and HH ID of up to four people working the most time in this enterprise, including the person responsible for this enterprise 1. Name 2. HH ID	wave 1: s5bii_10aii s5bii_10bii s5bii_10cii s5bii_10dii	
11. What is this person’s relationship with the owner of the enterprise? 1. Self – SE 2. Spouse –SP 3. Child –CH 4. Grandchild –GC 5. Parent/parent-in-law –PI 6. Son/daughter-in-law –SD 7. Other relative –OR	wave 1: s5bii_11a s5bii_11b s5bii_11c s5bii_11d	

8.Adopted/ foster/stepchild – AC 9. Apprentice –AP 10. Non-relative –NR		
12. How many days did (…) work in this business in the past two weeks? 1. Days in two weeks	wave 1: s5bii_12a s5bii_12b s5bii_12c s5bii_12d wave 2 and wave 3: daysworkedlast2weeks	
13. Average number of hours that (…) worked during these days? 1. Hours per day	wave 1: s5bii_13a s5bii_13b s5bii_13c s5bii_13d wave 2 and wave 3: avghourslast2weeks	
14. In a typical month, how many days does (…) work on this business? 1. Days per month	wave 1: s5bii_14a s5bii_14b s5bii_14c s5bii_14d wave 2 and wave 3: daystypicalmonth	
15. Average number of hours that (…) worked per day in a typical month? 0. Hours per day	wave 1: s5bii_15a s5bii_15b s5bii_15c s5bii_15d wave 2 and wave 3: avghourstypicalday	

16. Was this enterprise operating during the last 1 month?	s15biii_16(wave 1) operatinglastmonth(panel, wave 2 and wave 3) paidtypicalmonth(wave 2 05bii_fourimportantquestions dataset) paidtypicalmonth(wave 3)	*this variable occurs in 2 datasets with different names in both the waves.
17. How much was paid to people in the following categories who worked over the last month? a) Working proprietors 1. Male: GH cedis and pesewas 2. Female:GHcedis and pesewas b) Household employees 1. Male: GH cedis and pesewas 2. Female: GHcedis and pesewas c) Full-time non-household employees 1. Male: GH cedis and pesewas 2. Female: GHcedis and pesewas d) Casual non-household employees 1. Male: GH cedis and pesewas 2. Female: GHcedis and pesewas 2. Female e) Apprentices	wave 1: s5biii_17a1i s5biii_17a1ii s5biii_17a2i s5biii_17a2ii s5biii_17b1i s5biii_17b1ii s5biii_17b2i s5biii_17b2ii s5biii_17c1i s5biii_17c1ii s5biii_17c2i s5biii_17c2ii s5biii_17d1i s5biii_17d1ii s5biii_17d2i s5biii_17d2ii s5biii_17e1i s5biii_17e1ii s5biii_17e2i s5biii_17e2ii	W1 variable

1. Male: GH cedis and pesewas 2. Female: GHcedis and pesewas		
17. Does (…) have a formal wage contract? 1. Yes 5. No	wave 2 and wave 3: formalcontract	W2 and W3 variable
18. How many person-days did each of the following types of workers work during the last month? a) Working proprietors 1. Male: days for the month 2. Female: days for the month b) Household employees 1. Male: days for the month 2. Female: days for the month c) Full-time non-household employees 1. Male: days for the month 2. Female: days for the month d) Casual non-household employees 1. Male: days for the month 2. Female: days for the month e) Apprentices 1. Male: days for the month 2. Female: days for the month	wave 1: s5biii_18ai s5biii_18aii s5biii_18bi s5biii_18bii s5biii_18ci s5biii_18cii s5biii_18di s5biii_18dii s5biii_18ei s5biii_18eii	W1 variable
18. Does (…) receive paid sick leave or another type of paid leave? 1. Yes 5. No	wave 2 and wave 3: sickleave	W2 & W3 variable

19. On average, how many hours per day did each of the following types of workers work during the last month? a) Working proprietors 1. Male: hours per day on average 2. Female: hours per day on average b) Household employees 1. Male: hours per day on average 2. Female: hours per day on average c) Full-time non-household employees 1. Male: hours per day on average 2. Female: hours per day on average d) Casual non-household employees 1. Male: hours per day on average 2. Female: hours per day on average e) Apprentices 1. Male: hours per day on average 2. Female: hours per day on average	wave 1: s5biii_19ai s5biii_19aii s5biii_19bi s5biii_19bii s5biii_19ci s5biii_19cii s5biii_19di s5biii_19dii s5biii_19ei s5biii_19eii	Only W1
20. Over the last month, has employment been higher, lower, or the same as in a typical month? 1. Higher 2. Lower 3. Same	s15biii_20 (wave 1) lastmonthsales (wave 2 and wave 3)	