Energy Survey
Household Questionnaire
Medium Version
Version 50
English

HOUSEHOLD IDENTIFICATION			
1.	Region	CODE: |__|__|	NAME:
2.	County	CODE: |__|__|	NAME:
3.	District	CODE: |__|__|	NAME:
4.	EA	CODE: |__|__|	NAME:
5.	Locality	***Record response code***	**CODE:** Urban……1 Rural……..2 Peri-urban……..3
6.	Household ID		
7.	Name of Household Head		
8.	Language of interview	Options to be edited	
9.	Respondent's Phone Num.		
10.	GPS Coordinates of the Dwelling	a. Latitude (S) |__|__|°|__|__| . |__|__|__| ' S	b. Longitude (E) |__|__|°|__|__| . |__|__|__| ' E
INTERVIEW DETAILS			
11.	Enumerator	ID: |__|__|	NAME:
12.	Enumerator	Foot length	cm
13.	Enumerator	Height	cm
14.	Supervisor	ID: |__|__|	NAME:
15.	Date of Interview DD/MM/YY	|__|__| / |__|__| / |__|__| D D M M Y Y	
16.	Start Time	|__|__| : |__|__| ***Use 24 hour clock***	
17.	End Time	|__|__| : |__|__| ***Use 24 hour clock***	
18.	Date of Second Interview DD/MM/YY	|__|__| / |__|__| / |__|__|	
19.	Second Interview Start Time	|__|__| : |__|__| ***Use 24 hour clock***	
20.	Second Interview End Time	|__|__| : |__|__| ***Use 24 hour clock***	
21.	Date of Third Interview DD/MM/YY	|__|__| / |__|__| / |__|__| D D M M Y Y	
22.	Third Interview Start Time	|__|__| : |__|__| ***Use 24 hour clock***	
23.	Third Interview End Time	|__|__| : |__|__| ***Use 24 hour clock***	

IN ORDER TO MAKE A COMPREHENSIVE LIST OF INDIVIDUALS CONNECTED TO THE HOUSEHOLD, USE THE FOLLOWING PROBE QUESTIONS:
First, give me the names of all the members of your immediate family who normally live and eat their meals together here **for the last 6 months**.
WRITE DOWN NAMES, SEX, AND RELATIONSHIP TO HH HEAD (Q2 – Q4). LIST HOUSEHOLD HEAD ON LINE 1.
Then, give me the names of any other persons related to you or other household members who normally live and eat their meals together here.
FILL IN Q2 – Q4.
Are there any other persons not here now who normally live and eat their meals here? For example, household members studying elsewhere or traveling.
FILL IN Q2 – Q4.
Then, give me the names of any other persons not related to you or other household members, but who normally live and eat their meals together here, such as servants, lodgers, or other who are not relatives.
FILL IN Q2 – Q4.
DO NOT LIST HOUSEHELPS WHO HAVE A HOUSEHOLD ELSEWHERE, AND GUESTS WHO ARE VISITING TEMPORARILY AND HAVE A HOUSEHOLD ELSEWHERE.
IF MORE THAN 20 INDIVIDUALS, USE SECOND QUESTIONNAIRE.

Comments:

A. HOUSEHOLD ROSTER

A.1	A.2	A.3	A.4	A.5	A.6	A.7	A.8	A.9	**A.9B**	A.10	A.11	A.12
Individual ID	Name ***First then Last Name*** ***Make a complete list of all individuals who normally live and eat their meals together in this household, starting with the head of household.***	Is [NAME] male or female? Male…..1 Female..2	What is the relationship of [NAME] to household head? Head……..…1 Wife/Spouse……..2 Child/adopted child……...3 Grandchild……..……..…4 Niece/Nephew….....5 Father/Mother……..…..6 Sister/Brother……..…..7 Son/Daughter-in-law.....8 Brother/Sister-in-law……..9 Father/Mother-in-law…….10 Grandfather/mother……11 Other relative……12 Servant/servant's relative...13 Other non-relative…….....14	How old is [NAME]? ***Record "0" if infant below 1 year old.*** YEARS	***CAPI:*** Is [NAME] 5 years old or older? Yes….1 No…..2→NEXT PERSON	Has [NAME] ever attended school? Yes……1 No…….2→A.10	Is [NAME] currently attending school? Yes……1 No…….2	What is the <u>highest educational level</u> reached or currently pursuing (if currently in school) by [NAME]? None……..1 Primary……..2 Secondary School..3 Vocational/ Technical School – after secondary school……4 Vocational/ Technical School – after primary school…..5 University…….6 Post-Grad……..7	How many years of [A.9] has [NAME] completed?	***CAPI:*** Is [NAME] 12 years or older? Yes..1 No....2→NEXT PERSON	What is [NAME]'s marital status? Married, Monogamous…1 Married, Polygamous…..2 Cohabitating, Single Partner...3 Cohabitating, Multiple Partners……....4 Never Married…...5 Divorced……....6 Separated……...7 Widowed……...8	How frequently does [NAME] cook food for the household? Everyday……1 A few times in a week…...2 Once a week…...3 A few times in a month……4 Once a month….5 Never……..6 **→NEXT PERSON**
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

Comments:

	A.13	A.14	A.15	A.16	A.17	A.18	A.19	A.20
Individual ID	***CAPI***: Is [NAME] 15 years or older? Yes...1 No....2→NEXT PERSON	What was [NAME]'s main occupation for the last 12 months? Wage Employee, Non-Farm……1 Wage Employee, Farm…….....2 Self-Employed Non-Farm-Business enterprise.....3 Self-Employed Non-Farm-Independent contractor, technician, professional, etc. ……..4 Self-Employed Agriculture/Livestock ……...5 Assistance in family enterprise…….....6→**A.16** Casual/Day Laborer…….……7→**A.16** Intern/free labor/voluntary work…….…8→**A.16** Student…….....9→ NEXT PERSON Retired/pensioner……10→ NEXT PERSON Too old to work……11→ NEXT PERSON Disabled……12→ NEXT PERSON Job Seeker……13→ NEXT PERSON Unemployed……14→ NEXT PERSON Other (specify)……555	***Enumerator:*** Please record the category of trade or business in which [NAME]'s main occupation best fits from the list of industries. INDUSTRY CODE A - Agriculture, forestry and fishing B - Mining and quarrying C - Manufacturing D - Electricity, gas, steam and air conditioning supply E - Water supply; sewerage, waste management and remediation activities F - Construction G - Wholesale and retail trade; repair of motor vehicles and motorcycles H - Transportation and storage I - Accommodation and food service activities J - Information and communication K - Financial and insurance activities L - Real estate activities M - Professional, scientific and technical activities N - Administrative and support service activities O - Public administration and defence; compulsory social security P - Education Q - Human health and social work activities R - Arts, entertainment and recreation S - Other service activities T - Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use U - Activities of extraterritorial organizations and bodies	Out of the last 12 months, how many months were you engaged in this activity? ***Max 12*** MONTHS	How many days per month does [NAME] work in this activity? DAYS	Please indicate the monthly income for this activity Local currency	Does [NAME] operate any non-agricultural business/ enterprise within this household or compound? ***(Non-subsistence/ commercial, money-making enterprise)*** Yes...1 No....2→NEXT PERSON	How many employees does [NAME's] business have? Number of employees **including Full and Part-time**
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

Comments:

[CONTINUATION OF A] HOUSEHOLD BUSINESS/ENTERPRISE

A.21	**Enumerator**: Is [business owner] present?		Yes……..1 No……2→ **NEXT LARGEST BUSINESS'S OWNER/DECISION MAKER**
A.22	***Enumerator:*** Ask the related household enterprise questions to the present business owner		Individual ID from Household Roster
A.23	In the last 12 months, in which months did this enterprise operate? ***Multiple responses possible***	a. |__|__| b. |__|__| c. |__|__| d. |__|__| e. |__|__| f. |__|__| g. |__|__| h. |__|__| i. |__|__| j. |__|__| k. |__|__|	January……1 February……..2 March……...3 April……4 May……..5 June……..6 July……...7 August……..8 September……9 October……10 November……11 December……...12 All year……111
A.24	What was the total revenue of this business or activity in the last month that it was operating?		Local Currency
A.25	Could you please estimate total revenue for this business or activity in a **regular month**, that is, a month that is neither the busiest nor the slowest of the year?		Regular month's total sales
A.26	In a regular month, how many hours does your enterprise operate **each day and night (max 24 hours)**?		Number of Hours
A.27	In a typical month, how many hours does your enterprise operate each night **(max 12 hours)**?		Number of hours
A.28	Are your working hours limited by the supply of energy in your enterprise?		Yes……1 No……..2
A.29	What are all the different sources of energy that you use in your enterprise?	a. |__|__| b. |__|__| c. |__|__| d. |__|__| e. |__|__|	National Grid connection……1 Local Mini Grid……...2 Generator (connecting one or more households/businesses)……...3 Solar Home System……4 Solar Lantern/Lighting System……..5 Rechargeable Battery……..6 Dry cell batteries……7 Pico-Hydro……8 Liquid Fuel (kerosene, diesel, gasoline)……9 Coal……10 Biomass……..11 Manual……12 Other, specify……555
A.30	***Interviewer/CAPI check:*** Is the enterprise connected to the national grid or the local mini grid (response 1 or 2 from A.29)?		Yes……..1 No……2→**A.46**
A.31	Does the enterprise have a separate electricity bill from household use?		Yes……..1 No……2 → **A.37**
A.32	How are you billed for electricity?		Per kWh based on the meter reading……...1 Fixed monthly fee……..……2 Pay based on lights and appliances used……....3 Utility estimates consumption……4 Other, specify……555 No bill for electricity……111
A.33	How do you make your electricity bill payment?		Cash……1 Vouchers from local store……2 Credits using mobile money……3 Pay at the utility office……4 Pay at the bank/post office……..5 Other, specify……555
A.34	***Enumerator: If the respondent pays the energy company or has a record of the electricity payment, ask to see the electricity bill/invoice and use it for A.35 and A.36 .***	☐	Respondent has energy bill and shows it……...1 Respondent has energy bill but refuses to show it or could not locate it……..2 Respondent does not have an energy bill……3
A.35	In the last month, how much did you spend on the electric bill?	☐	Local Currency Don't Know……888

Comments:

A.36	In the last month how much electricity did your enterprise use?	|__|__|__| kWh	Quantity in Kilowatt Hour (kWh) Don't Know……888
A.37	Out of the [A.26 HOURS] you operate, how many hours of electricity are available each day from the grid?		Hours of supply Don't Know……888
A.38	Out of [A.27 HOURS] nighttime hours your business is usually open during the night, how many hours of electricity are available from the grid?		Hours of supply Don't know……888
A.39	In a typical month, how many outages/blackouts does the enterprise experience each month?		Number of outages
A.40	In a typical day, what was the **total duration** of all the outages/blackouts?		Minutes
A.41	During the last electricity power outage, what were the three main ways your business was affected?	a. |__|__| b. |__|__| c. |__|__|	Had to turn customers away……1 Had to send workers home for the day without pay……2 Had to send workers home for the day with pay…….3 Used alternate energy sources to keep business going for example to keep perishables cold..4 Wasted perishable products/discarded damaged goods...5 Machines/appliances were damaged in the process….6 Meetings/transactions were delayed……7 Other, specify……..555 Not affected by last outage……111
A.42	During the last electricity power outage, approximately how much revenue do you think you could have earned if there had been no outage?		Local currency Don't know……888
A.43	During the last electricity power outage, approximately how much additional charge did you incur for the enterprise (e.g. wasted products, paid workers, running a back-up generator etc.)		Local currency Don't know……..888
A.44	How much do outages from the grid impact your enterprise income (either in cash or in-kind)? ***Read aloud options***		Little or none……1 Moderately……2 Severely……3
A.45	What are the back-up sources for electricity for the enterprise? (multiple responses possible)		Generator……..…..1 Battery and Storage Devices (e.g.: car battery)…….....2 Solar Home System……3 Solar Lantern/Lighting system…..……..…4 Kerosene lamp……..…..5 Candle……...6 Torch/flashlight……7 No backup sources……8 Other, specify……..….555 Same as the household (including no back-up)……111
A.46	***Interviewer/CAPI check:*** Is a solar device used in the enterprise as the main source of electricity (response 4 or 5 from A.29 is **main source**)?		Yes…….1 No……...2→**B**

	Devices enterprise uses	**Number**	**Cumulative Size (Wp) if known**
A.47	How many Solar lanterns does your enterprise use? What is their cumulative size?	Indicate '0' if enterprise uses none 0→**A.48**	If unknown indicate '888'
A.48	How many Solar lighting systems does your enterprise use? What is their cumulative size?	Indicate '0' if enterprise uses none 0→**A.49**	If unknown indicate '888'
A.49	How many Solar home systems does your enterprise use? What is their cumulative size?	Indicate '0' if enterprise uses none	If unknown indicate '888'

A.50	What are the solar devices used for? ***Multiple responses possible***		**Code** Lighting……1 Cell phone charging – for the enterprise……2 Cell phone charging – as a charging station……...3 Operating laptop/computer/tablet……...4 Operate photocopy machine/scanner……..5 Providing entertainment (e.g. playing movies)……...6 Refrigeration……7 Powering other appliances – please list specifically (e.g. solar pump, milling machine, electric hair dryer, sewing machine etc.)..8 Other……555

Comments:

A.51	How long has your business been using solar energy (in months)	**Enumerator: If answer in years convert to months. If unknown input 888**

Q options	Enumerator: Select the demographic applicable to the household. Starting with women (age 15 yrs and older), girls (age 5yrs to 14yrs), men (age 15 yrs and older), boys (age 5yrs to 14yrs) and young children (below 5yrs).	Women (women 15 yrs and above)…….a Girls (girls between 5yrs and 14yrs)…….b Men (men 15yrs and above)……..c Boys (boys between 5yrs and 14yrs)……d Young children (children below 5yrs)……...e

B. HOUSEHOLD CHARACTERISTICS

Interviewer Instructions: The Respondent should be the head of household.

#	Question	Response	Response Code
B.1	***Enumerator:*** Record Respondent ID for this section		Individual ID from Household Roster
B.2	Does your household live in this dwelling for the entire year?		Yes……1→**B.4** No…….....2
B.3	Is this your main dwelling? ***The dwelling that you live in for most of the year.***		Yes……1 No……2
B.4	How many years have you been living in this community? ***Record 1 if less than 1.***		Number of years
B.5	What is the type of dwelling?		A single house occupied by one household dwelling……1→**B.7** A house occupied by multiple households……2 Multi-storied building with one household.....3→**B.7** Multi-storied building with more households.....4 Group of enclosed dwellings: multiple households….5 Group of enclosed dwellings occupied by a single household……6 →**B.7** Other, specify…….....555
B.6	How many households share your dwelling?		Number of households
B.7	Do you own this dwelling?		Yes……..…..1 → B.9 No……..….2
B.8	Do you use it for free or rent it?		Free……..……....1 Rented……....2
B.9	How many rooms (excluding the kitchen, toilet, and bathroom) does the household occupy?		Record number of rooms
B.10	The walls of the dwelling are mainly made of what material? ***Check with observation***		Wood and mud.....1 Wood and thatch.....2 Wood only.....3 Stone only.....4 Stone and mud.....5 Stone and cement.....6 Blocks, plastered with cement.....7 Blocks, unplastered….....8 Bricks…….....9 Mud bricks (traditional)…….....10 Steel…….....11 Cargo container…….....12 Parquet or polished wood…….....13 Chip wood…….....14 Corrugated iron sheet.....15 Asbestos.....16 Reed/bamboo.....17 Other, specify…… 555
B.11	The roof of the dwelling is mainly made of what material? ***Check with observation***		Corrugated iron sheet…….....1 Concrete/Cement…….....2 Thatch…….....3 Wood and mud…….....4 Bamboo/Reed.....5 Plastic canvas…….....6 Asbestos…….....7 Bricks…….....8 Other, specify…….....555
B.12	The floor of the dwelling is mainly made of what material? ***Check with observation***		Mud/Dung…….....1 Bamboo/Reed…….....2 Wood planks…….....3 Parquet or polished wood…….....4

Comments:

			Cement screed.....5 Plastic tiles…….....6 Cement tiles…….....7 Brick tiles…….....8 Ceramic/Marble tiles…….....9 Other, specify…….....555
B.13	What type of toilet facility does your household use? ***Multiple responses possible***		None (open field)……1 Flush to sewage……..2 Flush to septic tank…….....3 Pail/Bucket……..4 Covered pit latrine……5 Uncovered pit latrine……6 Community latrine……..7 Other, specify……...555
B.14	What is your household's main source of drinking water?		Piped water……1 Bore hole/ well……2 River/spring……..3 Lake/reservoir……..4 Rain water…….....5 Tanker/truck/vendor……6 Bottle water……7 Other, specify……555
B.15	Is your drinking water treated (chemical treatment)?		Yes……...…..1 No……..…2 Do not Know……..3
B.16	Does anyone in the household have a bank account at a formal institution?		Yes……1 No……..2→**B.18**
B.17	At which institution is this account or savings?		Commercial bank……1 Cooperative credit union (SACCO)……2 Microfinance institution……..3 Other, specify……..555
B.18	Does anyone in the household have an account at an informal institution?		Yes……1 No……..2→**B.20**
B.19	At which informal institution is this account? ***Multiple responses possible***		ROSCA/group savings (rotational)……1 Group savings (one-time disbursement)……2 Other, specify……555
B.20	If you can get a loan/credit, what are the sources of credit/loans? ***Multiple responses possible***		Cannot get a loan……..1 Public/Government Bank……..2 Commercial Bank……..3 Microfinance Institution……4 SACCO……..5 Informal entity e.g. table banks……6 Employer……7 Other, specify……555
B.21	Do you have a mobile money account?		Yes……1 No……..2 → **C**
B.22	Do you use mobile money to make payments over the mobile phone? (For example M-Pesa)		Yes……1 No……..2
B.23	Have you used the account in the past 90 days?		Yes……1 No……..2
B.24	How do you use mobile money services? (mark all that apply)		Transfer credit to family/relatives……..1 Receive money from family/relatives/others……..2 Pay for Electricity……....3 Pay for Water……4 Mobile phone top-up/credit……..5 Internet top-up/credit……6 Commercial purchases……7 Insurance……...8 Loan processing payments……9 Savings……..10 Other, specify……555

C. SUPPLY OF ELECTRICITY

Instructions: This module should be completed by the most knowledgeable member on household electricity. Concerted answers should be allowed.

C.1	***Enumerator:*** Record Respondent ID for this section	☐	Individual ID from Household Roster
Electricity from National Grid			
C.2	Is the household connected to the national grid?		Yes……..……...1 → **C.7** No……..2
C.3	How far is your house from the nearest national grid line?		Km [ ] Do not know… 888

Comments:

C.4	What is the MAIN reason that your household is not connected to the grid? ***Record the MAIN reason.***		Grid is too far/not available……...1 High cost of connection…..…….2 High cost of electricity……3 Satisfied with current energy solution……4 Renting, Landlord decision……5 Service Unreliable……..6 Administrative procedure is too complicated……..…7 Submitted application and waiting for connection..…8 Company refused to connect the household……9 Other, specify……555
C.5	Do you expect to get grid connection?		Yes……1→ **C.6** Don't expect to get grid connection……999 → **C.38** Don't know……888→ **C.38**
C.6	What month and year do you expect to get grid connection?	a. MM |__|__| b. YYYY |__|__|__|__|	Month and Year ***ALL RESPONSES*→ C.38**
C.7	How many years have you had this grid connection? ***Record in years, if less than 1 year record 1***		Number of Years
C.8	How much did your household pay for the grid connection fee? ***Refer to connection fee ONLY.***		Local currency Don't know……888 Household was already connected……..111→ **C.12**
C.9	How much did your household pay for the internal wiring? ***Do not include the connection fee from C.8 here***		Local currency Don't know……888
C.10	How many weeks after you applied for the grid connection did your household get connected? (insert 0 if immediate)		Number of weeks
C.11	How many weeks after you were connected were you able to use electricity in your home? (insert 0 if immediate)		Number of weeks
C.12	Who receives the payment for your electricity service?		Energy company……..…1 Pre-paid meter card seller……...2 Community/village/municipality……..…3 Relative……...4 Neighbor……5 Landlord……6 No one……7→**C.21** Other, specify……..555
C.13	Does your household have an electric meter?		Yes……1 No……2→**C.17**
C.14	Is this a pre-paid meter?		Yes……1 No……2
C.15	Does your household share the electric meter?		Yes……1 No……2→**C.18**
C.16	How many households are sharing the meter?		Number of Households ***ALL*→C.18**
C.17	How are you billed for electricity?		Fixed monthly fee……..……1 Pay based on lights and appliances used……....2 Utility estimates consumption……..……3 Other, specify……555 No bill for electricity……111
C.18	What is the most common way you make your electricity bill payment?		Cash……1 Vouchers/token/pre-paid card from local store……..2 Credits using mobile money……3 Pay at the utility office……4 Pay at the bank/post office……..5 Other, specify……555
C.19	***Enumerator: If the respondent pays the energy company or has a record of the electricity payment, ask to see the electricity bill/invoice and use it for C.20 and C.21.***	☐	Respondent has energy bill and shows it……...1 Respondent has energy bill but refuses to show it or could not locate it……..2 Respondent does not have an energy bill……3
C.20	In the last month, how much did you spend on the electric bill?	☐	Local Currency Don't Know……888
C.21	**Enumerator:** In the last month how much electricity did the household consume? (Hint: KES 20/kWh)	|__|__|__| kWh	Quantity in Kilowatt Hour (kWh) Don't Know……888

Comments:

C.22	Is the quality of electricity service the same all year?		Yes……1→**C.24** No……2
C.23	What are the worst months for service from the grid? ***Multiple responses are possible.*** ***Record all months when household has the lowest number of hours of electricity supply.***	a. |__|__| b. |__|__| c. |__|__| d. |__|__| e. |__|__| f. |__|__| g. |__|__| h. |__|__| i. |__|__| j. |__|__| k. |__|__|	January……1 February……2 March……3 April……4 May……5 June……6 July……7 August……8 September……9 October……10 November……11 December……12

Ask respondent first about the worst months and then about a typical month for C.24-C.29 ***If no seasonal changes, ask only about a typical month. Ask questions by ROW.***		**A. WORST MONTHS**	**B. TYPICAL MONTH**	
C.24	Do you receive information about outages or "load-shedding" schedule (set hours of electricity available from the grid)?			All the time……1 Most of the time……2 Some of the time……3 No……4
C.25	How many hours of electricity are available **each day and night** from the grid? (max 24 hours)	☐ Hours	☐ hours	Hours of supply Don't know……888
C.26	How many hours of electricity are available **each evening, from 6:00 pm to 10:00 pm from** the grid**?** (max 4 hours)	☐ Hours	☐ hours	Hours of supply Don't know……888
C.27	How many hours of electricity do you **use** each day and night from the grid? ***Cannot exceed number of available hours in C.25***	☐ Hours	☐ hours	Hours of supply Don't know……888
C.28	How **many** outages/blackouts occur in a week?	☐	☐	Number of interruptions Don't know……888
C.29	What is the **total duration** of all the outages/blackouts in a week?	a. Hours |__|__|__| b. Minutes |__|__|__|	a. Hours |__|__|__| b. Minutes |__|__|__|	Don't know……888

C.30	What is your main back-up source of lighting during outages/blackouts of the grid?		Generator……1 Battery and Storage Devices (e.g.: car battery)……2 Solar Home System……3 Solar Lantern/Lighting system……4 Kerosene lamp……5 Candle……6 Torch/flashlight……7 Other, specify……555 No back-up source……111
C.31	What is your main back-up source of electricity for appliances (including mobile phone charging) during outages/blackouts of the grid?		Generator……1 Battery and Storage Devices (e.g.: car battery)……2 Solar Home System……3 Solar Lantern/Lighting system……4 Other, specify……555 No back-up source……111
C.32	How do you request for repairs in electricity service or file a complaint?		Call/SMS utility company……1 Social media……2 Send a letter/email……3 Talk to community representative……4 No system to request repairs/file complaint……5 Call a Local technician……6 Other, specify……555

Comments:

C.33	When there is a blackout in your community, who do you usually approach for assistance?		The power company……1 Someone not from power company……2 No-one: we wait until power returns……..3→**C.35**
C.34	The last time you asked for assistance, how many hours after you contacted [C.33 response] did they come to fix the problem? ***Enumerator: Response can be given in days and multiplied by 24***		Number of hours
C.35	In the last 12 months, did any of your appliances get damaged because the voltage was going up and down from the grid?	☐	Yes……1 No……..2 Don't know……888
C.36	What are the most serious problems you experience with your grid electricity? ***Record up to 2 responses.***	a. First |__|__|__| b. Second |__|__|__|	……..7 Unpredictable interruptions/outages……..1 Supply shortages……2 Voltage fluctuations……3 High cost of electricity……..4 Maintenance/customer care response……59 Other, specify……555 No problems……111
C.37	In the last 12 months, did any household members die or have permanent limb (bodily injury) damage because of the grid electricity?		Yes……..1 No……2
Electricity from Mini Grid			
C.38	Is the household connected to a mini-grid?		Yes……1 No……..2→**C.75**
C.39	Is there a limit for the load and/or appliances you are allowed to power from this mini-grid?		Yes……..1 No……2 Don't Know……888
C.40	What is the name of the local mini-grid company?		Name of company
C.41	How many years have you had this mini-grid connection? ***Record in years, if less than 1 year record 1***		Number of Years
C.42	How much did your household pay for the mini-grid connection fee? ***Refer to connection cost ONLY.***		Local currency Don't know……..888 Household was already connected……..111→**C.46**
C.43	How much did your household pay for the internal wiring? ***Do not include the connection fee from C.42 here***		Local currency Don't know……888
C.44	How many weeks after you applied for the mini-grid connection did your household get connected? (insert 0 if immediate)		Number of weeks
C.45	How many weeks after you were connected were you able to use electricity in your home? (insert 0 if immediate)		Number of weeks
C.46	Have you applied for an upgrade of service since you connected to the mini-grid?		Yes……..1 No……2
C.47	Who receives the payment for your electricity service?		Energy company……..1 Pre-paid meter card seller……..2 Community/village/municipality……..3 Relative……..4 Neighbor……5 Landlord……6 No one……7→**C.58** Other, specify……..555
C.48	Does your household have an electric meter?		Yes……1 No……2→**C.52**
C.49	Is this a pre-paid meter?		Yes……1 No……2
C.50	Does your household share the electric meter?		Yes……1 No……2→**C.53**
C.51	How many households are sharing the meter?		Number of Households ***ALL***→**C.53**
C.52	How are you billed for electricity?		Fixed monthly fee……..……1 Pay based on lights and appliances used.……...2 Utility estimates consumption……..……3 Other, specify……555 No bill for electricity……111

Comments:

C.53	What is the most common way you make your electricity bill payment?		Cash……1 Vouchers from local store……2 Credits using mobile money……3 Other, specify……555
C.54	Were you involved in setting the tariff for the mini-grid?		Yes……1 No……2→**C.56**
C.55	How were you involved in the tariff setting?		Community meeting……..1 Contacted by mini-grid company…..2 Member of electricity committee…..3 Member of cooperative…….4 Other, specify……555
C.56	***Enumerator: If the respondent pays the energy company or has a record of the electricity payment, ask to see the electricity bill/invoice and use it for C.57 and C.58.***	☐	Respondent has energy bill and shows it……....1 Respondent has energy bill but refuses to show it or could not locate it……2 Respondent does not have an energy bill……3
C.57	In the last month, how much did you spend on the electric bill?	☐	Local Currency Don't Know……888
C.58	In the last month how much electricity did your household consume?	|__|__|__| kWh	Quantity in Kilowatt Hour (kWh) Don't Know……888
C.59	Is the quality of electricity service the same all year?		Yes……1→**C.61** No……2
C.60	What are the worst months for service from the mini-grid? ***Multiple responses are possible.*** ***Record all months when household has the lowest number of hours of electricity supply.***	a. |__|__| b. |__|__| c. |__|__| d. |__|__| e. |__|__| f. |__|__| g. |__|__| h. |__|__| i. |__|__| j. |__|__| k. |__|__|	January……1 February……2 March……3 April……4 May……5 June……6 July……7 August……8 September……9 October……10 November……11 December……12

Ask respondent first about the worst months and then about a typical month for C.61- C.66 ***If no seasonal changes, ask only about a typical month. Ask questions by ROW.***		**A. WORST MONTHS**	**B. TYPICAL MONTH**	
C.61	Do you receive information about a "load-shedding" schedule (announces hours of electricity available from the mini-grid)?			Yes……..1 No……2
C.62	How many hours of electricity are available **each day and night** from the mini-grid? (max 24 hours)	☐ hours	☐ hours	Hours of supply Don't know……888
C.63	How many hours of electricity are available **each evening, from 6:00 pm to 10:00 pm from** the mini-grid**?** (max 4 hours)	☐ hours	☐ hours	Hours of supply Don't know……888
C.64	How many hours of electricity do you **use** each day from the mini-grid? ***Cannot exceed number of available hours in C.62***	☐ hours	☐ hours	Hours of supply Don't know……888
C.65	How **many** outages/blackouts occur in a week?	☐	☐	Number of interruptions Don't know……888
C.66	What is the **total duration** of all the outages/blackouts in a week?	c. Hours |__|__|__| d. Minutes |__|__|__|	c. Hours |__|__|__| d. Minutes |__|__|__|	Don't know……..888

C.67	What is your main back-up source of lighting during outages/blackouts of the grid?		Generator……..…..1 Battery and Storage Devices (e.g.: car battery)…….....2 Solar Home System……3 Solar Lantern/Lighting system……..…4

Comments:

			Kerosene lamp……5 Candle……6 Torch/flashlight……7 Other, specify……555 No back-up source……111
C.68	What is your main back-up source of electricity for appliances during outages/blackouts of the mini-grid?		Generator……1 Battery and Storage Devices (e.g.: car battery)……2 Solar Home System……3 Solar Lantern/Lighting system……4 Other, specify……555 No back-up source……111
C.69	How do you request for repairs in electricity service or file a complaint?		Call/SMS mini-grid operator……1 Call a local technician……2 Social media……3 Send a letter/email……4 Talk to community representative……5 No system to request repairs/file complaint……6 Other, specify……555
C.70	When there is a blackout in your community, who do you usually approach for assistance?		The power company……1 Someone not from power company……2 No-one: we wait until power returns……3→**C.72**
C.71	The last time you asked for assistance, how many days after you contacted [C.70 response] did they come to fix the problem?		Number of hours
C.72	In the last 12 months, did any of your appliances get damaged because the voltage was going up and down from the grid?	☐	Yes……1 No……2 Don't know……888
C.73	What are the most serious problems you experience with your grid electricity? ***Record up to 2 responses.***	c. First |__|__|__| d. Second |__|__|__|	Supply shortage/not enough hours of electricity……1 Low/high voltage problems or voltage fluctuations……2 Unpredictable interruptions……3 Unexpectedly high bills……4 Too expensive……5 Do not trust the supplier……6 Cannot power large appliances……7 Maintenance/service problems……8 Unpredictable bills……9 Other, specify……555 No problems……111
C.74	In the last 12 months, did any household members die or have permanent limb (bodily injury) damage because of the grid electricity?		Yes……1 No……2

Electric Generator set			
C.75	In the last 12 months, did the household use a generator to supply electricity?		Yes……1 No……2→**C.104**
C.76	How many generators does your household use to supply electricity? ***If multiple generators, ask following questions about main generator.***		Number of generators
C.77	Do you share this generator with other households?		Yes……1 No……2→**C.79**
C.78	How many households are sharing electricity from this generator?		Number of households Don't know……888
C.79	***Enumerator Observation:*** What is the capacity of the generator? ***Read name plate of the generator.***		kVA Don't know……888
C.80	In the last 12 months, in which months did you use this generator or did you use it all year? ***Multiple responses possible***	a. |__|__|__| b. |__|__|__| c. |__|__|__| d. |__|__|__| e. |__|__|__| f. |__|__|__| g. |__|__|__| h. |__|__|__| i. |__|__|__|	January……1 February……2 March……3 April……4 May……5 June……6 July……7 August……8 September……9 October……10 November……11 December……12

Comments:

		j. |__|__|__| k. |__|__|__|	Used all year……...111
C.81	How many days per month did you typically use this generator?		Number of days
C.82	In the last 12 months, what did your household use this generator for? ***Multiple responses possible***	a. |__|__|__| b. |__|__|__| c. |__|__|__| d. |__|__|__|	Lighting……..1 Appliances…….2 Home-based income activity…….3 Other, specify…….555
C.83	How many years have you used this generator? ***Record in years, if less than 1 year record 1***		Number of Years
C.84	Does your household own the generator?		Yes……1→**C.89** No…….2
C.85	Who owns the generator?		Other Household……...……..…..…...1 Community organization……2 Private person/entity ……...3 Other, specify……..555
C.86	Do you rent the generator or use it for free?		Rent……1 Use for free……..2→**C.91**
C.87	How do you pay for electricity services from the generator?		Fixed payment (per month or week)……1 Charge by number of lights/appliances……2 Charge per kWh……...3 Pay for fuel only……..4→**C.91** Other, specify……..555
C.88	In the months that you use it, how much did you pay to use the generator each month? ***Do not include any cost of fuel, only fee for using the GENERATOR.***		Local currency Don't know……888 →**C.91**
C.89	How much did you pay to purchase the generator?		Local currency Don't know……888
C.90	In the last 12 months, how much did you pay for repairs/parts/maintenance of the generator?		Local currency Don't know……888
C.91	What fuel is used to power the generator?		Diesel……1 Gasoline……2 Other, specify……555 Don't know……888
C.92	In the last 30 days, what was the total quantity of fuel used to power the generator?	a. Amount |__|__|	Litres Don't know……..888
C.93	Do you pay for the fuel used to power the generator?		Yes……..1 No……2→**C.96**
C.94	In the last 30 days, how much did your household spend on fuel for this generator?		Local currency Don't know……888

C.95	Is the generator the household's main source of electricity?		Yes……1 No……..2→ C.98
C.96	Are there certain months/seasons **every year** when less fuel is available to power the generator?		Yes……1 No……..2→**C.98**
C.97	What are the worst months of fuel availability for the generator? ***Multiple responses are possible.*** ***Record all months for the worst fuel availability.***	a. |__|__| b. |__|__| c. |__|__| d. |__|__| e. |__|__| f. |__|__| g. |__|__| h. |__|__| i. |__|__| j. |__|__| k. |__|__|	January……1 February……..2 March……..3 April……4 May……..5 June……..6 July……..7 August……..8 September……9 October……10 November……11 December……...12
Ask respondent first about the worst months and then about a typical month for C.98-C.100	**A. WORST MONTHS**	**B. TYPICAL MONTH**	

Comments:

If no seasonal changes (C.96), or not the main source of electricity (C.95) ask only about a typical month. Ask questions by ROW.				
C.98	How many hours could you use this generator **each day and night** if you wanted to? (max 24 hours)	☐ hours	☐ hours	Hours of supply Don't know……888
C.99	How many hours could you use this generator **each evening, from 6:00 pm to 10:00 pm** if you wanted to**?** (max 4 hours)	☐ hours	☐ hours	Hours of supply Don't know……888
C.100	How many hours do you actually use this generator **each day**? (max 24 hours)	☐ hours	☐ hours	Hours of supply Don't know……888
C.101	In the last 12 months, did any of your appliances get damaged because the voltage was going up and down from the generator?			Yes……1 No……2 Don't know……888
C.102	What are the most serious problems you experience with the generator? ***Record up to 2 responses.***	a. First |__|__|__| b. Second |__|__|__|		Limited power supply……1 Cannot power larger appliances…..2 Too expensive to use (including high cost of fuel/rent) ……3 Availability of the fuel……4 Hard to maintain/service……5 Loud/Noisy……6 Unpredictable interruptions……7 Other, specify……555 No problems……111
C.103	In the last 12 months, did any household members die or have permanent limb (bodily injury) damage because of the generator?			Yes……1 No……2

Externally Recharged Battery (Car Battery) – skip if this is for backup solutions			
C.104	In the last 12 months, did the household use any rechargeable batteries, such as car batteries, for electricity?		Yes……1 No……2→ **C.122**
C.105	In the last 12 months, in which months did you use rechargeable batteries or did you use it all year? ***Multiple responses possible***	a. |__|__|__| b. |__|__|__| c. |__|__|__| d. |__|__|__| e. |__|__|__| f. |__|__|__| g. |__|__|__| h. |__|__|__| i. |__|__|__| j. |__|__|__| k. |__|__|__|	January……1 February……2 March……3 April……4 May……5 June……6 July……7 August……8 September……9 October……10 November……11 December……12 Used all year……111
C.106	In the last 12 months, what did your household use rechargeable batteries for? ***Multiple responses possible***	a. |__|__|__| b. |__|__|__| c. |__|__|__| d. |__|__|__|	Lighting……1 Appliances……2 Home-based income activity……3 Other, specify……555
C.107	Does your household have an inverter that allows you to use AC appliances?		Yes……1 No……2→**C.109**
C.108	What is the capacity of the inverter?		W
C.109	How many rechargeable batteries total are you using in a typical month?		Number of Batteries
C.110	What is the capacity of the rechargeable batteries? ***If multiple batteries, record capacity for each.***	Capacity a. |__|__|__| b. |__|__|__| c. |__|__|__| d. |__|__|__|	Ampere-hour
C.111	What is the voltage of the rechargeable batteries?	Voltage a. |__|__|__|	Volts

Comments:

	If multiple batteries, record voltage for each.	b. |__|__|__| c. |__|__|__| d. |__|__|__|	
C.112	How much did you pay for the rechargeable battery(ies)? ***If multiple batteries, record costs for each***	a. |__|__|__| b. |__|__|__| c. |__|__|__| d. |__|__|__|	Local currency Don't Know……888
C.113	How many recharges for all batteries does your household have in a typical month? ***If multiple batteries, record each batteries number of recharges in a typical month***	a. |__|__|__| b. |__|__|__| c. |__|__|__| d. |__|__|__|	Number of Recharges
C.114	Do you pay to recharge the battery?		Yes……1 No……2→**C.116**
C.115	How much does your household spend in a typical month to recharge the batteries (in total)?		Local currency Don't Know……888
C.116	What is the electricity source used to recharge the battery?		National grid……..1 Local mini-grid……..2 Electric generator……..3 Solar……4 Other, specify……..555
C.117	Is battery recharging limited by availability of electricity from [SOURCE FROM C.116]?		Yes……1 No……2
C.118	How many hours can you use the highest capacity rechargeable battery **each day when fully charged** if you wanted to? (max 24 hours)		Hours Don't Know……888
C.119	How many hours do you actually use the highest capacity rechargeable battery for electricity supply **each day**? ***Cannot exceed number of hours in C.118***		Hours Don't Know……888
C.120	What are the most serious problems you experience with the rechargeable batteries? ***Record up to 2 responses.***	a. First |__|__|__| b. Second |__|__|__|	Supply shortage/not enough hours of electricity…..1 Too expensive.....2 Cannot power large appliances……...3 Recharging is not convenient……...4 Maintenance & repair is difficult……..5 Cannot recharge battery to full capacity……..6 Other, specify……555 No problems……111
C.121	In the last 12 months, did any household members die or have permanent limb (bodily injury) damage because of the rechargeable batteries?		Yes……1 No……..2

Comments:

SOLAR BASED DEVICES

Ask about all devices in order of importance (Example: Main Solar System is Device 1)

C.122	***Interviewer/CAPI check:*** In the last 12 months, did the household use any of the following solar based devices? (multiple responses possible)		Solar lanterns…….1 Solar lighting system……2 Solar home system……3 None……...2→ Error! Reference source not found.
C.123	How many solar home systems (SHS) do you have?		Number of solar home systems
C.124	How many solar lighting systems do you have?		Number of solar lighting system
C.125	How many solar lanterns do you have?		Number of solar lanterns

C.126	C.127	C.128	C.129	C.130	C.131	C.132	C.133	C.134	C.135	C.136	C.137	C.138	C.139	C.140	C.141	C.142
SOLAR DEVICE	Please show me the [DEVICE] ***Use photo aid and record the code for the photo that best matches the solar device***	What is the manufacturer and model of the [DEVICE]?	**CAPI**: What is the type of Solar device?	How many light bulbs are there (that can be separated from each other)?	What is the power rating of the solar panel? ***If unknown, enter "888"*** ***Read the name plate of the solar panel***	What is the estimated size of the solar panel?	What is the capacity of the battery?	Do you have an inverter? ***(Only for Solar Home System)***	How many years have you had this [DEVICE]? ***Record in years, if less than 1, record 1***	Who decided to purchase / acquire this device?	Did you buy this [DEVICE] paying upfront or under installment, do you rent it/pay a fee to use it, or did you receive it for free?	Who gave you this [DEVICE]?	How much did you pay for this device upfront?	What payment system do you use?	What is the monthly payment for this device (installment / fee to rent/use)?	Did/do you borrow money to make your payment for [DEVICE]?
	PHOTO CODE Solar Lantern..... 1 Solar lighting systems…2 Solar Home System….3		Solar Lantern..... 1→**C.135** Solar lighting systems……2 Solar Home System	NUMBER OF LIGHT BULBS	QUANT. in Watt-Peak (Wp) → ***C.133***	SIZE CODE 20 cm x 20 cm or smaller...1 40 cm x 40 cm….2 50 cm x 100 cm….3 75 x 150 or larger….4 Other, specify (in width x length)……. 555	Amp-hours (Ah)	Yes...1 No…2	NUMBER OF YEARS	MEMBER ID	Bought, fully paid….1→**C.139** Bought, under installment.....2→**C.139** Rent/pay fee to use…...3→**C.140** Received for free….4	Local private organizations (NGO)……1 Private Commercial Seller…….2 Local government …3 Relative/Friend…4 Other, specify….555 ***ALL →C.143***	LOCAL CURRENCY Bought, fully paid……. 1→**C.143** Bought, under installment..... 2→**C.140**	Mobile Pay-as-you-go…….1 Other Pay-as-you go (scratch card, etc.)……2 Fixed fee……..3	LOCAL CURRENCY	Yes….1 No…..2
1																
2																
3																
4																

Comments:

5																

SOLAR DEVICE	C.143 Did you receive information and training on this device? Yes…1 No….2	C.144 What is the most serious problem you experience with [DEVICE]? Duration of service too short……..……..1 Too expensive.....2 Cannot power large appliances…….....3 Breaks too often…..4 Maintenance and availability of spare parts……..5 Quality of light…..6 Battery problems…7 Other, specify…….555 No problems……..111
1		
2		
3		
4		
5		

Comments:

MAIN SOLAR-BASED DEVICE

Record information for the MAIN solar-based device, the device listed as "1" in the previous table.

C.145	Are there certain months/seasons **every year** when the service is worse from [DEVICE]?		Yes……1 No……..2
C.146	What are the worst months for service from the main solar device? ***Multiple responses possible***	a. |__|__|__| b. |__|__|__| c. |__|__|__| d. |__|__|__| e. |__|__|__| f. |__|__|__| g. |__|__|__| h. |__|__|__| i. |__|__|__| j. |__|__|__| k. |__|__|__|	January……1 February……..2 March……..3 April……..4 May……..5 June……..6 July……..7 August……..8 September……9 October……10 November……11 December……...12 Availability and quality of service the same throughout the year ……111

Ask respondent first about the worst months and then about a typical month for C.147-C.149 If no seasonal changes, ask only about a typical month. Ask questions by ROW.		**A. WORST MONTHS (ASKED IF C.142 FOR MAIN DEVICE IS NOT OPTION '111')**	**B. TYPICAL MONTH**	
C.147	How many hours could you use this device **each day and night** if you wanted to? (max 24 hours)	☐ hours	☐ hours	Hours of supply Don't know……888
C.148	How many hours could you use this device **each evening, from 6:00 pm to 10:00 pm** if you wanted to**?** (max 4 hours)	☐ hours	☐ hours	Hours of supply Don't know……888
C.149	How many hours do you actually use this device **each day**? (max 24 hours)	☐ hours	☐ hours	Hours of supply Don't know……888
C.150	In the last 12 months, did any household members die or have permanent limb (bodily injury) damage because of the [DEVICE]?		Yes……..1 No……..2	
C.151	Is there any device you do not have that you would like to have?		Yes……..1 No……..2 → **C.153**	
C.152	What devices would you most like to have? ***Multiple response (Up to three devices)***		Television……..1 Fan……..2 Refrigerator……3 Radio……..4 Tablet/Laptop/Computer……..5 Mobile phone charger……..6 Other, specify……..555 Don't know/refuse to answer……888	
C.153	Overall, how satisfied are you with the service provided by the main solar device?		Very satisfied……..1 Somewhat satisfied……2 Neutral……3 Unsatisfied……..4 Very unsatisfied……5	
C.154	In what year did you get your first solar device?		Year	
C.155	Has solar been your main source of lighting/electricity since [YEAR in C.154]?		Yes……..1→**C.157** No……2	
C.156	What was your main source of lighting/electricity before getting the solar device?		National grid connection……..1 Local mini grid……2 Generator……...3 Rechargeable battery……4 Dry-cell battery……5 Kerosene, candles or other fuel-based lighting…..6 Non-rechargeable lanterns……7	

Comments:

			Other, specify…….555
C.157	Compared to the first time you used solar lighting, do you currently… ***Read aloud options***		Use more solar lighting……1 Use about the same solar lighting……2 Use less solar lighting……..3
C.158	What appliances do you use today that you did not use with your first solar lighting device?		Mobile phone charger……..1 Radio……2 TV……3 Fan……4 Refrigerator……..5 No change……6 Other, specify……555

Main Source of Electricity			
C.159	Of all the sources that you mentioned above, which is the source that you use most of the time in your household? ***This will be the MAIN electricity source that is referred to later.***		National Grid Connection…….……..1 Local Mini Grid…….…….....2 Generator (Connecting one or more households)…..…….....3 Solar Home System……4 Solar Lantern/Lighting System..……..5 Rechargeable Battery……..6 Pico-Hydro……..7 No electricity……...8→**D.1** Other, specify……..555
CHARGING MOBILE PHONE			
C.160	How many mobile phones do the household members own combined?		If none input '0'→**D.1**
C.161	Are members of your household able to charge a mobile phone inside your dwelling?		Yes……..1 No……..2→Error! Reference source not found.
C.162	Are members of your household able to charge all their mobile phones as often as they need inside your dwelling?		Yes……1 →**D.1** No…….2
C.163	Can you charge at least one mobile phone to full charge everyday inside your dwelling?		Yes……1→Error! Reference source not found. No……..2
C.164	Can you charge at least one mobile phone to full charge in 3 days inside your dwelling?		Yes……1 No……..2
C.165	How many mobile phones do members of your household have to charge outside your dwelling?		Number of mobile phones ***If 0***→**D.1**
C.166	Do members of your household have to go more than 500 meters (walk more than 5 minutes) to charge your mobile phones outside your dwelling?	☐	Yes……..1 No……..…2
C.167	How much does your household spend each month (in total) on mobile phone charging outside your dwelling?		Local currency

Comments:

D. WILLINGNESS TO PAY FOR A GRID CONNECTION

Respondent should be most knowledgeable member on household electricity.
For each household, CAPI will randomly assign one of the 3 following amounts in the placeholder ${CF}: 33%, 67%, or 100% of the connection fee in local currency.

D.1	***Interviewer/CAPI check:*** Is the household connected to the national grid?		Yes……1→**F** No……2
D.2	***Enumerator:*** Record Respondent ID for this section	☐	Individual ID from Household Roster
As you know, electricity requires several types of payments: Think about there being three parts to the cost of electricity: connection, wiring, and monthly use. In other words, to use electricity you need to have a wire from a meter in your house to the pole first. That is the connection. You also need to have wires to connect appliances within your house to the meter. This is the wiring. Finally, to keep using electricity you must pay for what is used and measured by the meter, or it will be turned off, this is the cost of monthly use. To begin with, please think of only the first cost of connecting – getting a wire from the electricity poles to a meter on your house.			
I would now like you to think about a situation that is not real. Imagine that you could pay a "lump sum" price for an electricity connection. In other words, you are offered a price and a period of time to decide whether to take this price. If you decide to take the price, you have to pay all at once, after which you are immediately connected. As you answer the next few questions, assume that all other wiring fees and monthly service fees for using electricity, once you have the connection, remain the same as they are now.			
D.3	Would you be willing to pay ${CF} for an electricity connection?		Yes……1→**D.12** No……2
D.4	Imagine that you were offered an electricity connection at this price today, and you were given 3 months to complete the payment. Would you accept the offer?		Yes……1→ **D.12** No……2 Don't Know……888
D.5	Why would you not accept the offer?		Cannot afford the payment……1 Do not need electricity……..2 Electricity service is unreliable….3 Monthly fee is too expensive……4 Other, specify……555
D.6	Instead of 3 months, imagine you were offered an electricity connection at this price today, and you were given 6 months to complete the payment. Would you accept the offer?		Yes……1→**D.12** No……2 Don't Know……888
D.7	Why would you not accept the offer?		Cannot afford the payment……1 Do not need electricity……..2 Electricity service is unreliable….3 Monthly fee is too expensive……4 Other, specify……555
D.8	Instead of 6 months, imagine you were offered an electricity connection at this price today, and you were given 12 months to complete the payment. Would you accept the offer?		Yes……1→**D.12** No……2 Don't Know……888
D.9	Why would you not accept the offer?		Cannot afford the payment……1 Do not need electricity……..2 Electricity service is unreliable….3 Monthly fee is too expensive……4 Other, specify……555
D.10	If the connection fee were waived, would you get a grid connection?		Yes……1→**D.12** No……2 Don't Know……888
D.11	Why would you not accept the offer?		Cannot afford the payment……1 Do not need electricity……..2 Electricity service is unreliable….3 Monthly fee is too expensive……4 Other, specify……555
D.12	Now I would like you to tell me how much you think it would cost to hire an electrician to do all the internal electrical wiring in your house?		Local currency Don't Know……888
D.13	Now I would like you to think about the amount you would need to spend each month for electricity, not the connection fee. How much do you think you would need to spend each month for electricity?		Local currency Don't Know……888

Comments:

ID: |___|___|___|___|___|___|___|___|

E. WILLINGNESS TO PAY FOR SOLAR DEVICE

Respondent should be most knowledgeable member on household electricity.
For each household, CAPI will 1) randomly assign either a Tier 1 or Tier 2 solar lighting system, and 2) randomly assign one of the 3 following price points the placeholder ${CF}. These will be set at 33%, 67%, or 100% of the solar device cost in local currency. The lighting systems are:

Tier 1 – Dlite's D.20, which retails for 9,500 KSh ***Tier 2 - Bboxx which retails for 74,340 KSh***

E.1	***Enumerator:*** Record Respondent ID for this section		Individual ID from Household Roster
Now please think about another situation that is not real. Imagine that you could pay a "lump sum" price for a solar lighting system. You are offered a price and, if you decide to buy the system, you have to pay all at once. ***Enumerator: show picture and describe what system can/can't do.***			
E.2	Would you be willing to pay ${CF} for this solar device?		Yes……1→**F** No……2
E.3	Imagine that you were offered this solar device at this price today, and you were given 6 months to complete the payment. Would you accept the offer?		Yes……1→**F** No……2 Don't Know……888
E.4	Why would you not accept the offer?		Cannot afford the payment……1 Do not need electricity……..2 Electricity service is unreliable….3 Monthly fee is too expensive……4 Other, specify……555
E.5	Instead of 6 months, imagine you were offered this solar device at this price today, and you were given 12 months to complete the payment. Would you accept the offer?		Yes……1→**F** No……2 Don't Know……888
E.6	Why would you not accept the offer?		Cannot afford the payment……1 Do not need electricity……..2 Electricity service is unreliable….3 Monthly fee is too expensive……4 Other, specify……555
E.7	Instead of 12 months, imagine you were offered this solar device at this price today, and you were given 24 months to complete the payment. Would you accept the offer?		Yes……1→**F** No……2 Don't Know……888
E.8	Why would you not accept the offer?		Cannot afford the payment……1 Do not need electricity……..2 Electricity service is unreliable….3 Monthly fee is too expensive……4 Other, specify……555

Comments:

F. KEROSENE/FUEL-BASED /CANDLE LIGHTING

The respondent should be most knowledgeable household member on household use of kerosene and candles.

F.1	***Enumerator:*** Record Respondent ID for this section		Individual ID from Household Roster

F.2	F.3	F.4	F.5	F.6	F.7	F.8	F.9	F.10	F.11	F.12	F.13
FUEL LAMP/ CANDLE/ TASK LIGHT	In the last 12 months, did you use [NAME FROM THE LIST] ***Use photo aid to identify lamp type*** Candle……1→ **F7** Open wick lamp……2 Hurricane lamp with glass cover…..3 Pressurized mantle lamp……4 None……5→G Other, specify…555 ***Use a separate row for each TYPE of lamp/candle***	What is the main fuel source for [LAMP]? Kerosene/ paraffin…....1 Diesel……..2 Gasoline…...3 Biogas……..4 Other, specify.....555	How many of these lamps does your household have? NUMBER OF LAMPS	How much did you pay for each [LAMP] on average? ***If paying in installment, enter total value of payments*** LOCAL CURRENCY ***If more than 1 device, input the average***	In the last 12 months, how many months did you use [LAMP/ CANDLE]?	In the last month, how many days did you use [LAMP/CANDLE]?	How many hours do you use [LAMP/ CANDLE] each day? HOURS Candle…1 Open wick lamp…2→**F.11** Hurricane lamp with glass cover….3→**F.11** Pressurized mantle lamp….4→**F.11** Other, specify...555→**F.11**	What is the total quantity of [CANDLE] you use in a typical week? LITERS/NUMBER OF CANDLES	How much do you spend on [CANDLE] in a typical week? LOCAL CURRENCY	What don't you like most about using the [LAMP/ CANDLE]? ***Record up to 2 responses*** Lantern too expensive…….1 Fuel too expensive.....2 Fuel not available……3 Accidents can happen.....4 Bad for health……..5 Time spent to collect fuel…6 Other, specify……555 No problems……111	In the last 12 months, what type of harm/injury did any household members have from [LAMP/ CANDLE]? ***Multiple responses possible*** Death or permanent limb damage……..1 Burns/fire……..2 Poisoning……3 Eye problems……..4 Respiratory problem……..5 Other major injury……6 Minor injury……..7 Fire with no injury……8 None……111
1										a. |__|__|__| b. |__|__|__|	
2										a. |__|__|__| b. |__|__|__|	
3										a. |__|__|__| b. |__|__|__|	
4										a. |__|__|__| b. |__|__|__|	
5										a. |__|__|__| b. |__|__|__|	

F.14	What is the main source of lighting the children who are currently enrolled in school usually use for studying/doing homework?" ***Single response***		Electric lighting/lamp……1 Solar powered light source……2 Battery-operated light source……3 Street lighting……4 Kerosene lamp……5	Candles……...6 Biogas lamps……...7 Other, specify……555 Studying and homework only during daylight hours……111

Comments:

G. DRY-CELL BATTERIES

G.1	***Enumerator:*** Record Respondent ID for this section		Individual ID from Household Roster

G.2	G.3	G.4	G.5	G.6	G.7	G.8
DRY CELL DEVICES	In the last 12 months, did you use dry cell batteries to power [NAME FROM THE LIST] ***Use photo aid to identify devices type*** Lanterns……1 Flashlights....2 Task lights....3 Radio……4 None…….111→ **H** Other, specify…555 ***Use a separate row for each TYPE of lighting***	How many of [ITEM] does your household power with dry cell batteries? NUMBER OF EACH DEVICE	How much did you pay for each [ITEM] on average? ***If paying in installment, enter total value of payments*** LOCAL CURRENCY ***If more than 1 device, input the average***	In the last 12 months, how many months did you use [ITEM]? NUMBER OF MONTHS	How many hours do you use [ITEM] each day on a typical day? HOURS	Do you use [ITEM] as a regular source of lighting or only as a back-up source when the main source is not available? Regular source of lighting….1 Back-up source of lighting…2
1						
2						
3						
4						
5						

G.9	How many of dry cell batteries do you purchase each month for all devices?		Number per month
G.10	How much do you spend each month on the dry cell batteries for all devices?		Local Currency

Comments:

H. HOUSEHOLD FUEL CONSUMPTION

Respondent should be household member who most frequently cooks food for the household.
First ask H.3 for all fuel types and then record the information in the following questions only for the fuel that is used.

H.1	***Enumerator:*** Record Respondent ID for this section									Individual ID from Household Roster		
H.2	H.3	H.4	H.5	H.6	H.7	H.8	H.9	H.10	H.11	H.12	H.13	H.14
Fuel Type ***Read Aloud***	In the last 12 months, did your household use this energy? **CODE:** Yes...1 No...2→ **NEXT ROW**	In the last 12 months, what did your household use [FUEL] for? ***READ ALOUD the options below and Mark "X" for each item the household uses it for.*** **LIGHTING**	**COOKING**	**HEATING**	**BOILING WATER**	**HOME-BASED INCOME ACTIVITY**	**OTHER, SPECIFY**	In the last 12 months, in which months did you use this fuel? ***Multiple responses possible*** ***See Month Codes*** Used all year……111	In the last 12 months, in which months was this fuel **scarce** or significantly more **expensive**? ***Multiple responses possible*** ***See Month Codes*** Available all year……111	In the last 7 days, how much of [fuel type] did your household use? **QUANTITY** 0→**NEXT ROW**	In the last 30 days, how much of this [fuel type] did you purchase? **QUANTITY** 0→ **NEXT ROW**	In the last 30 days, how much did you pay for the amount of [fuel type] that you purchased? **COST (LOCAL CURRENCY)**
a. LPG	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__|	|__|__|__| kg	|__|__|__| kg	|__|__|__|
b. Wood purchased	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__|	|__|__|__| kg	|__|__|__| kg	|__|__|__|
c. Wood collected	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__|	|__|__|__| kg		
d. Charcoal	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__|	|__|__|__| kg	|__|__|__| kg	|__|__|__|
e. Kerosene	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__|	|__|__|__| litres	|__|__|__| litres	|__|__|__|
f. Piped Natural Gas	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__|	|__|__|__| litres	|__|__|__| litres	|__|__|__|
g. Coal/ Lignite	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__|	|__|__|__| kg	|__|__|__| kg	|__|__|__|
h. Animal waste/ Dung	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__|	|__|__|__| kg		
i. Crop Residue/ Plant Biomass/ Sawdust	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__|	|__|__|__| kg	|__|__|__| kg	|__|__|__|
j. Briquette/ Pellet	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__|	|__|__|__| kg	|__|__|__| kg	|__|__|__|
k. Biogas	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__|	|__|__|__| kg		
l. Ethanol	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__|	|__|__|__| litres	|__|__|__| litres	|__|__|__|

Comments:

m. Electricity	|__|	|__|	|__|	|__|	|__|	|__|						
n. Other, specify	|__|	|__|	|__|	|__|	|__|	|__|		|__||__||__||__|	|__||__||__||__|	|__|	|__|	|__|__|__|

Comments:

I. USE OF COOKING SOLUTIONS

Instructions: The respondent should be the household member who most frequently cooks food for the household, as identified in A.22

I.1	***Enumerator:*** Record Respondent ID for this section		Individual ID from Household Roster

I.2	I.3	I.4	I.5	I.6	I.7	I.8	I.9	I.10	I.11	I.12	I.13	I.14	I.15	I.16	I.17
Cookstove ID	In the last 12 months, which cookstove did your household use for preparing meals? ***List up to 5*** **CODE:** Open fire/3-stone fire...1→**I.12** Other Self-Built Stove..2→**I.10** Manufactured stove……3 Other, Specify..555	How did you obtain this cookstove? **CODE:** Purchased …1 Receive for free….2 → **I.6**	How much did you pay for the stove? ALL→ **I.7**	Who gave it to you? **CODE:** Local private organizations (NGO)…...1 Chief of village……2 Local govt……...3 Friend/ relative….4 Other, specify..555	Did you receive training or information on this cook-stove? **CODE:** Yes……1 No…….2	What is the manufacturer and model of this cook-stove? ***See codes in codebook***	Is this a metal stove? **CODE:** Yes…1 No….2	How many working burners does this stove have? Number of Burners	If you want to sell this cookstove in your community today, how much would you receive? Don't know…888 Amount in Local Currency	How long have you been using this stove for? Years	In the last 12 months, during which of the following months did you use this cookstove? ***Multiple response*** **CODE:** January……1 February…..2 March……..3 April……4 May…….5 June…….6 July…….7 August…….8 September…9 October……10 November…11 December….12 Used all year**.....**111	Is the stove fixed in one place or moveable? **CODE:** Fixed…….1 Moveable..2	In the last 12 months, where did you normally cook with the cookstove? **CODE:** In dwelling, **NOT** in sleeping area……1 In dwelling, in a sleeping area……..2 In a separate dwelling……..3 In a veranda (roofed platform with at least two open sides)…4 → **I.18** Outdoors..5 → **I.18** Other, specify…….555	Do you use a chimney, hood or other exhaust system while using this stove? **CODE:** Yes….1 No…..2 → **I.18**	Do you regularly clean a chimney, hood or other exhaust system? **CODE:** Yes…..1 No…..2
1															
2															
3															
4															
5															

Comments:

	I.18		I.19		I.20	I.21	I.22	I.23	I.24	I.25	I.26
Cookstove ID	In the last 12 months, what are the fuels you used on this cookstove? **CODE:** Kerosene……1 Coal/lignite……2 Charcoal……..3 Wood……..4 Solar……5 Animal Waste/Dung……6 Crop Residue/Plant Biomass…..7 Saw Dust……8 Coal Briquette……9 Biomass Briquette……..10 Processed biomass (pellets)/ woodchips……..11 Ethanol……..12 Biogas……13 LPG/cooking gas……...14 Piped Natural Gas…..……15 Electricity……..16 Garbage/plastic……..17 Not applicable……18 Other, specify……..555		In the last 12 months, how often was the [FUEL TYPE] available? ***Read aloud options*** **CODE:** Always available……1 Mostly available…….2 Sometimes available…….3 Rarely available…...4		How much time do household members spend **preparing the cookstove and fuel for each meal** on average [including setting up the fuel and turning on the stove but not including gathering fuel or cooking time]? ***If less than 1 minute, put 1 minute***	In the last 7 days, how many days did you use this cookstove?	In the last 7 days, on average, how many times did you light this cookstove **per day?**	In the last 7 days, on average, how much time did your household use this cookstove **per day** to cook or reheat meals (do not include boiling water) in the…			In the last 7 days, on average, how much time did your household use this cookstove **per day** to boil water (for cooking, washing, and drinking)?
								MORNING	**AFTERNOON**	**EVENING**	
	A. Most Used ***Single response***	**B. Second Most Used** ***Single response***	**A. Most Used**	**B. Second Most Used**	**MINUTES**	**DAYS**	**NUMBER OF TIMES**	**MINUTES**	**MINUTES**	**MINUTES**	**MINUTES**
1											
2											
3											
4											
5											

Comments:

	I.27	I.28	I.29	I.30	I.31	I.32	I.33
Cookstove ID	Do you also use this stove for space heating? **CODE:** Yes…….1 No……..2→**I.33**	In the last 12 months, during which of the following months did you use this cookstove for **heating**? ***Multiple response*** **CODE:** January……1 February…..2 March……..3 April……4 May…….5 June…….6 July…….7 August…….8 September…9 October……10 November…11 December….12 Used all year.....111	In a typical month, how many hours do you use this cookstove for heating **each day**? **NUMBER OF HOURS**	In the last 12 months, what type of harm/injury did your household face from this cookstove? ***Multiple responses possible.*** **CODE:** Death or permanent damage…..……1 Burns/fire/poisoning……..2 Severe cough/respiratory problem..3 Other major injury……..4 Minor injury……...5 Fire with no injury……6 Itchy/watery eyes……..7 Light cough……...8 None……..……...9	Who decided to build/purchase this cookstove? **MEMBER ID**	***Interviewer/CAPI check:*** Does this household have more than one of this type of cookstove? **CODE:** Yes……1 No……..2→**I.37**	Why do you not use this cookstove all the time? ***List up to 2 reasons*** **CODE:** Electricity/fuel for this stove unavailable……..1 Electricity/fuel for this stove too expensive……..2 Certain type of cooking is not possible with this stove…….3 Cookstove does not have enough burners…….4 Cookstove flame is too weak…….5 Stove takes a long time to cook food……..……...6 Electricity/fuel takes a long time to prepare……..7 Stove is difficult/inconvenient to use……8 I prefer another energy source but the electricity/fuel is too expensive or often not available……9 Certain type of meals taste better with another stove……10 Other, specify……..555
1							a. |__|__|__| b. |__|__|__|
2							a. |__|__|__| b. |__|__|__|
3							a. |__|__|__| b. |__|__|__|
4							a. |__|__|__| b. |__|__|__|
5							a. |__|__|__| b. |__|__|__|

Comments:

KITCHEN CONDITIONS AND MAIN COOKSTOVE

Enumerator: for households using any solid fuel, estimate the size of the cooking space by filling the following fields			
I.34	***Enumerator: based on responses to I.15 and I.18 does the HH use any solid fuels indoors?***		Yes……1 No……2 → **I. 41** Don't Know……888 → **I. 41**
I.35	Record the rough shape of the cooking space		Roughly square……1 Roughly rectangular……2 Roughly Circular……3 Open space or outside……4 → I.39 None of the above……5 → I.39
I.36	Record the dimensions of the cooking space in heel-to-toe paces. Square, record one side Rectangle, record both sides Circle, record diameter		|____| paces x |____| paces
I.37	Record the type of roof covering the cooking space		Flat……1 Roughly Conical……2 Gable (triangular cross-section)……3 None of the above……4 → I.39
I.38	Estimate the height of the highest point of the ceiling relative to your own height		Smaller than me……1 My height……2 1.5 x my height……3 2 x my height……4 More than 2 x my height……5
I.39	How many doors and windows (opening to the outside) does the cooking space have? Number of Openings		
I.40	Can you show me the cookstove you spend the most time cooking on? ***This is the MAIN cookstove, take a picture of the stove and ask the following questions about only this cookstove.***		Record Cookstove ID from previous table

	Ask each question for the most used and second most used fuel for this cookstove as identified in I.18 If no second fuel, only ask about the most used fuel.	**a.Most used**	**b. Second most used**	
I.41	How much do you spend on the [FUEL TYPE] for this stove in the last month/in a typical month when you use the stove?` ***Enter the actual amount spent, not the market value of the fuel.***			Amount in Local Currency

J. SPACE AND WATER HEATING

J.1	Do you heat water for washing? (Including doing laundry, washing dishes and showering)		Yes……1 No……2→**J.4**
J.2	What is the main stove/heater you use to heat water? ***Select one***		Electric heater/Boiler……1→J.4 Electric kettle/coil……2→**J.4** Electric stove……3→**J.4** Gas heater……4→**J.4** Gas stove……5→**J.4** District heating……6→**J.4** Solar thermal system……7→**J.4** Same solid fuel stove used for cooking…..8→**J.4** Separate solid fuel stove……9 Other, specify……555
J.3	What is the MAIN fuel you use in this stove?		Coal/lignite……1 Charcoal……2 Wood……3 Animal Waste/Dung……4 Crop Residue/Plant Biomass……5 Saw Dust……6 Coal Briquette……7 Biomass Briquette……8 Processed biomass (pellets)/ woodchips…..9

Comments:

			Garbage/plastic……10 Other, specify……..555
J.4	Do you heat your house?		Yes……1 No……2→**K**
J.5	What is the main stove/heater you use to heat your house?		Electric heater……..1→**K** Gas heater……2→**K** District heating……3→**K** Solar thermal system……...4→**K** Same solid fuel stove used for cooking…..5→**K** Separate solid fuel stove……6 Other, specify……..555
J.6	What is the MAIN fuel you use in this stove?		Coal/lignite……1 Charcoal……..2 Wood…….....3 Animal Waste/Dung……4 Crop Residue/Plant Biomass…....5 Saw Dust……..6 Coal Briquette……...7 Biomass Briquette……...8 Processed biomass (pellets)/ woodchips…..9 Garbage/plastic……10 Other, specify……..555

Comments:

K. WILLINGNESS TO PAY FOR AN IMPROVED COOKSTOVE

The respondent should be the household member who most frequently cooks food for the household, as identified in A.12 OR the household member who decides to purchase the cookstove in I.32
For each household, determine whether the primary fuel is wood (or crop residues), charcoal, or neither (based on responses in Section H). Then randomly assign one of the four following Improved cookstoves:

Charcoal users: ***SCODE JikoStar (current retail price 950/1,050 KSh)***
Jikokoa (current retail price 3,990 KSh)
Wood users: ***SCODE Kuni Mbili or Upesi (current retail price 1,150/1,250 KSh)***
EnviroFit SuperSaver GL Wood (current retail price 4,120 KSh)

K.1	***Enumerator:*** *Recall responses to* ***Section H*** *(HOUSEHOLD FUEL CONSUMPTION) and record most frequently used fuel. If not sure, ask respondent.*		HH uses more fuelwood or crop residues than charcoal……1 HH uses more charcoal than fuelwood or crop residues……2 HH does not use any solid biomass (no charcoal, fuelwood or crop residues)……3→ **L**
K.2	***Enumerator:*** Record Respondent ID for this section		Individual ID from Household Roster
(Interview: Please, describe and explain the benefit of having ICS) I would now like you to think about a situation that is not real. Imagine that you could pay a "lump sum" price for this cookstove. This cookstove can reduce the smoke and fuel consumption significantly. Possibly, your cooking time per meal will be shortened since firepower of this cookstove is stronger than the traditional cookstove.			
K.3	Would you be willing to pay ${Cookstove price} for this cookstove?		Yes……1→**L** No……2
K.4	Imagine that you were offered this cookstove at this price today, and you were given 6 months to complete the payment. Would you accept the offer?		Yes……1→**L** No……2 Don't Know……888
K.5	Why would you not accept the offer?		Cannot afford the payment……1 Do not need the cookstove……2 The cookstove is unreliable……3 Fuel cost is too expensive……4 Other, specify……555
K.6	Instead of 6 months, imagine you were offered this solar device at this price today, and you were given 12 months to complete the payment. Would you accept the offer?		Yes……1→**L** No……2 Don't Know……888
K.7	Why would you not accept the offer?		Cannot afford the payment……1 Do not need the cookstove……2 The cookstove is unreliable……3 Fuel cost is too expensive……4 Other, specify……555
K.8	Instead of 12 months, imagine you were offered this solar device at this price today, and you were given 24 months to complete the payment. Would you accept the offer?		Yes……1→**L** No……2 Don't Know……888
K.9	Why would you not accept the offer?		Cannot afford the payment……1 Do not need the cookstove……2 The cookstove is unreliable……3 Fuel cost is too expensive……4 Other, specify……555

Comments:

ID: |___|___|___|___|___|___|___|___|

L. CONSUMPTION / EXPENDITURE

Interviewer Instructions: The Respondent should be the head of household.

Item #	Item	Value of Consumption (local currency) during last 7 days -888=Don't know
CONSUMPTION		
L.1	Cereals,cereal products (e.g.: rice, maize, wheat, flour, millet) and starchy staples (e.g.: cassava, plantain, yam, cocoyam)	|___|___|___|___|___|___|___|
L.2	Pulses & nuts (e.g.: beans, groundnuts, palm nuts, soy beans)	|___|___|___|___|___|___|___|
L.3	Milk & milk products (e.g.: powder, tinned, fresh, cowbell)	|___|___|___|___|___|___|___|
L.4	Edible oil (e.g.: palm oil, groundnut oil, coconut oil)	|___|___|___|___|___|___|___|
L.5	Vegetables (e.g.: kontomire, okra, tomato, onion, carrot, cabbage, garden egg) and fruits (e.g.: bananas, coconut, pineapple, mango, orange, pawpaw)	|___|___|___|___|___|___|___|
L.6	Egg, fish (smoked/fresh), meat, & poultry	|___|___|___|___|___|___|___|
L.7	Sugar	|___|___|___|___|___|___|___|
L.8	Other food items (pepper, salt, spices, butter, jam, bread, groundnut paste, **processed foods**, etc.) ***Include all processed foods not prepared by household using raw ingredients***	|___|___|___|___|___|___|___|
L.9	Meals/food bought outside home ***Include any meals purchased from outside that are not prepared by the household***	|___|___|___|___|___|___|___|
L.10	Beverages (e.g.: malt drinks, minerals, coffee/Lipton/Milo)	|___|___|___|___|___|___|___|
L.11	Alcohol, tobacco and cigarettes	|___|___|___|___|___|___|___|

Comments:

Goods and Services Monthly Expenditure		
Item #	**Item**	**Value of Expenditure (local currency) during <u>last 30 days</u> -888=Don't know**
EXPENDITURE		
L.12	Medical/pharmacy expenses (e.g.: tablets/syrups, insecticide, condoms, pharmacy/chemist, traditional/herbal medicine)	|___|___|___|___|___|___|___|
L.13	Soaps, disinfectants and cleaning supplies; cosmetics and toiletries	|___|___|___|___|___|___|___|
L.14	Water supply for drinking and other uses (tanker services, pipe-borne, metered, bore-hole, well, purchased water)	|___|___|___|___|___|___|___|
L.15	Mobile phone top-up	|___|___|___|___|___|___|___|
L.16	Internet, land phone, dish, cable, and other household communication	|___|___|___|___|___|___|___|
L.17	House Rent	|___|___|___|___|___|___|___|
L.18	Transportation costs (fuel for own vehicles, cost of public transportation, buses, matatus, taxis, boda-bodas, etc)	|___|___|___|___|___|___|___|
L.19	Other recurring monthly expenditure (wage of domestic workers, entertainment, etc.)	|___|___|___|___|___|___|___|

Goods and Services Expenditure in Last 12 Months		
Item #	**Item**	**Value of Expenditure (local currency) during <u>the last 12 months</u>** -888=Don't know
L.20	School fees and other educational expenses ***Include uniform, PTA dues, books, tutor, school supplies, transport, food, etc.***	|___|___|___|___|___|___|___|
L.21	Clothing, shoes, and accessories	|___|___|___|___|___|___|___|
L.22	Celebrations (funerals and expenses, weddings, festivals, naming ceremony, engagement) ***Only include costs to host celebration or to give donations/gifts for attending celebrations.***	|___|___|___|___|___|___|___|
L.23	Gifts and donations (e.g.: donation to church made by the household, tithes) ***Only include gifts and donations not already included in L.22***	|___|___|___|___|___|___|___|
L.24	Hospital/Doctor visits and Diagnostic tests (e.g.: consultations at private hospital, public hospital, traditional healer) ***Do not include costs paid for by insurance***	|___|___|___|___|___|___|___|
L.25	Furniture (e.g.: mattresses, room furniture, furnishing items, floor mats, carpets)	|___|___|___|___|___|___|___|
L.26	Repair, maintenance, and building (e.g.: cement, roofing, paint, carpentry, labor for repairs, sewerage removal)	|___|___|___|___|___|___|___|
L.27	Utensils & kitchen equipment (e.g.: cups, plates, cutlery, cooking pots, buckets)	|___|___|___|___|___|___|___|
L.28	Appliances & tools (e.g.: electric iron, electric fans, refrigerators, lanterns) and Electronics:TV, radio-cassette player, VCR/DVD, Cassettes, CDs, records, satellite TV, MP3 player, video game player, pen drives, other digital accessories, Computer or laptop purchase	|___|___|___|___|___|___|___|
L.29	Vehicles & motorcycle & bicycle (purchase or repair of own car/motocycle/ car battery)	|___|___|___|___|___|___|___|
L.30	Remittance sent to family members and relatives (other than school fees and educational expenses)	|___|___|___|___|___|___|___|
L.31	Losses due to theft, robbery, accidents, natural disasters, etc.	|___|___|___|___|___|___|___|
L.32	Other major expenses not yet covered (specify)	|___|___|___|___|___|___|___|

Comments:

ID: |___|___|___|___|___|___|___|___|

M. HOUSEHOLD ASSETS: TRANSPORTATION AND AGRICULTURAL EQUIPMENT OWNERSHIP AND TOTAL

Interviewer Instructions: The Respondent should be the head of household.

Item Number	Item	a. How many [ITEM] in (working condition) does your household own? *Write 0 if none* *0→NEXT ROW*	b. What is the source of electricity/ energy used to power [ITEM]? **Code:** National grid…….....1 Local mini-grid…….....2 Generator……3 Solar…….....4 Rechargeable battery…..5 Dry cell battery……..6 Diesel……..7 LPG……8 Kerosene……9 Diesel……10 Gasoline…….....11 Biogas……12 Manual…….....13 Other, specify…….555
M.1	Vehicle (Car, pickup truck, etc)		
M.2	Motorcycle		
M.3	Bicycle		
M.4	Motor boat		
M.5	Other Boat		
M.6	Tractor		
M.7	Domestic water pump		
M.8	Cow/bull/calves		
M.9	Water buffalo		
M.10	Horse/donkey		
M.11	Sheep		
M.12	Goat		
M.13	Pig		
M.14	Camel		

Comments:

Item Number	Item	a. How many [ITEM] in working condition does your household own? *Write 0 if none 0→NEXT ROW*	b. How many hours does your household use [ITEM] in a typical day? (Only for fan, radio and TV) **Number of hours**
M.15	Incandescent Light Bulb		
M.16	Fluorescent Tube		
M.17	Compact Fluorescent Light (CFL) Bulb		
M.18	LED Light Bulb		
M.19	Rechargeable torch/flashlight/ lantern		
M.20	Radio/CD Players/sound system		
M.21	VCD/DVD		
M.22	Fan		
M.23	Refrigerator		
M.24	Microwave oven		
M.25	Electric Iron		
M.26	Washing machine		
M.27	Electric sewing machine		
M.28	Air cooler (External Unit/Central Air)		
M.29	Space Heater		
M.30	Electric water heater		
M.31	Solar based water heater		
M.32	Computer		
M.33	Electric hot water pot/kettle		
M.34	Smartphone (internet phone) charger		
M.35	Regular mobile phone charger		
M.36	Black & White TV		
M.37	Regular Color TV		
M.38	Flat color TV		
M.39	Electric water pump		
M.40	Other, specify		

N. HOUSEHOLD LAND OWNERSHIP AND OTHER ASSETS

Instruction: Enter the total values of following assets owned by the household. If some assets are owned by members, report aggregate values for all members. The Respondent should be the head of household.

	Type of land and other assets	a. Do you own [LAND TYPE]? Yes……1 No…….2→**O**	b. What is the total size of the land?		c. If you were to sell, what is the total value?
			UNIT	**SIZE**	***Local currency***
N.1	Do you have agricultural and pastoral land (including cultivated land, resting land, preparation land and others like land for animal food)?		Acre…1 Sq meter…2 Other…3		

Comments:

O. HOUSEHOLD ECONOMIC SHOCKS

Only record information for events that negatively affected the economic situation of the household.

Shocks	O.1 In the **last 12 months**, have you been affected by (…)? **CODE:** 1= Yes 2= No→**next shock**	O.2 Who was affected by the event? **CODE:** 1= Just this household 2= Family members outside HH 3= Several HHs in this village 4= Most or all HHs in this village 5= Several villages in this area
a. Failure/loss of business including agricultural failures (crop disease, livestock death, etc)	|___|	|___|
b. Loss of employment due to imprisonment, illness/injury, or death of economically active household member.	|___|	|___|

Comments:

P. STREET LIGHTING

The respondent should be the most knowledgeable household member on household electricity, as identified in C.1

P.1	Respondent ID		Record ID from the Household Roster
P.2	Does your neighborhood have any form of street lighting? ***"Neighborhood" means 0.5 KM from Household***		Yes……1 No……..2→**P.5**
P.3	How satisfied are you by the brightness of the street lighting service in your neighborhood?		Very unsatisfied……..1 Somewhat unsatisfied…….2 Somewhat satisfied……3 Very satisfied……..4
P.4	What do you think are the risks/problems with street lighting in your neighborhood? ***Multiple responses possible***	a. |__|__|__| b. |__|__|__| c. |__|__|__| |__|__|__|	Electrocution……..1 Poor installation…….2 Poor maintenance……..3 Outages/blackouts of street lighting……..4 Does not stay on all night……..5 No risks/problems…….111
P.5	*Do you have a light that you could turn on at night to provide light outside your home?* ***(security light belonging to your household)***		Yes…….1 No…….2→**Q**
P.6	How many hours do you turn it on each night after it becomes dark?		Number of hours

Q. TIME USE

#	Question	PEOPLE			
		a. Women (Age 15 yrs and older)	**b. Girls (Under age 15 yrs)**	**c. Men (Age 15 yrs and older**	**d. Boys (Under age 15 yrs)**
In a typical day, how many total minutes did [PEOPLE] spend…					
Q.1	Gathering, collecting or purchasing fuels including travel time	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes
Q.2	Preparing fuel/energy source (chopping, making pellets)	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes
Q.3	Cooking (food, tea, boiling water)	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes
Q.4	Other time spent in cooking area(s)	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes
Q.5	Using space heaters (including time starting heater and spending time near it for warmth)	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes
Q.6	Using stove or space heaters for other purposes (ex: brewing beer, preparing fodder for animals)	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes
Q.7	***For income generation:*** Gathering, collecting, purchasing fuels (including charcoal)	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes
Q.8	Caring, attending, or playing with/for younger children	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes
Q.9	Studying or helping with school work	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes
Q.10	Working for pay outside of the house (employed and self-employed)	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes
Q.11	Income generating activities inside the house	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes
Q.12	Time spent on entertainment and socializing	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes	|__|__|__| minutes

R. HEALTH IMPACTS

#	Question	PEOPLE				
		a. Women (Age 15 yrs and older)	**b. Girls (Age 5 yrs to 14 yrs)**	**c. Men (Age 15 yrs and older**	**d. Boys (Age 5 yrs to 14 yrs)**	**e. Young children (Under 5 yrs)**
R.1	Number of [PEOPLE] with an illness with a cough at any time in the last 14 days?	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people

Comments:

R.2	Of [PEOPLE] who had an illness with a cough, how many went to see a doctor/clinic?	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people
R.3	Of the [PEOPLE] who had an illness with a cough, how many breathed faster than usual with short, rapid breaths or had difficulty breathing?	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people
R.4	How many of those [PEOPLE] with rapid breaths or difficult breathing experienced either a problem in the chest or a blocked or runny nose?	|__|__| Chest only |__|__| Nose |__|__| Both |__|__| Other |__|__| Don't know	|__|__| Chest only |__|__| Nose |__|__| Both |__|__| Other |__|__| Don't know	|__|__| Chest only |__|__| Nose |__|__| Both |__|__| Other |__|__| Don't know	|__|__| Chest only |__|__| Nose |__|__| Both |__|__| Other |__|__| Don't know	|__|__| Chest only |__|__| Nose |__|__| Both |__|__| Other |__|__| Don't know
R.5	Number of [PEOPLE] with eye irritation or eye problems in the last 14 days?	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people

#	Question	PEOPLE				
		a. Women (Age 15 yrs. and older)	**b. Girls (Age 5 yrs. to 14 yrs.)**	**c. Men (Age 15 yrs. and older**	**d. Boys (Age 5 yrs. to 14 yrs.)**	**e. Young children (Under 5 yrs.)**
In the last 12 months, how many [PEOPLE] have experienced…						
R.6	Poisoning from liquid fuel	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people
R.7	Burns related to cooking or heating or fuel	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people
R.8	Of the burns related to fuel-- Burns that required a visit to the clinic/hospital	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people
R.9	Back or neck problems from carrying fuel for cooking/heating	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people
R.10	Electrical injuries (e.g. shocks) that prevent attendance in school/work	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people
R.11	Other minor electrical injuries	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people	|__|__|__| people

S. ATTITUDES

S.1	***Interviewer/CAPI check:*** Does the household have a connection to the national grid?		Yes……1 No……..2→ **S.6**
S.2	How has the price of electricity changed over time?		It has gotten much higher……..1 Stayed about the same……..2 It has gotten cheaper……..3 Don't Know……888
S.3	How has the frequency of black out or brown out changed over time?		It has gotten worse……1 Stayed the same……2 Better……3
S.4	How has the duration of electricity supply at night changed over time?		It has gotten worse……1 Stayed the same……2 Better……3
S.5	How has the duration of electricity supply during the day changed over time?		It has gotten worse……1 Stayed the same……2 Better……3
S.6	How satisfied are you with the service from [MAIN SOURCE OF ELECTRICITY **Error! Reference source not found.**]? ***Read aloud these options.***		Very satisfied……..1 Somewhat satisfied……2 Neutral……3 Unsatisfied……..4 Very unsatisfied……..5

Comments:

#	**Statement** **Read the following statement and ask respondent whether he or she agrees (yes) , disagrees (no) or has no opinion.**	**Response** **CODE:** Yes……1 No……2 No Opinion……3
Electricity		
S.7	With electrical light the children can study more at night.	
S.8	Our household is happy with the lighting system that we have in our home.	
S.9	To use kerosene or diesel for lamp lighting is harmful for the health.	
S.10	A car battery is a good source of electricity.	
S.11	A solar based system is a good source of electricity.	
S.12	Electricity helps with domestic tasks and care of the children.	
S.13	Today, the quality of life of my household is better than it was 5 years ago.	
S.14	The monthly electric bill is or would be a financial burden for my family.	
S.15	The electricity makes it easy to have information and the news.	
S.16	Watching TV provides my household with great entertainment.	
S.17	News and information from radio and television provide good information relevant for conducting business and agricultural activities	
S.18	News and information from radio and television provide good knowledge on family health issues.	
S.19	Electric access makes indoor smoke-and pollution-free.	
S.20	Electricity can benefit communities through economic and enterprise development.	
Cooking		
S.21	Smoke from stove is good at chasing insects away.	
S.22	Smoke from cooking fuels is a big health problem in my family.	
S.23	Cooking with firewood is not very convenient.	
S.24	Firewood is expensive for cooking.	
S.25	Modern or wealthy families use LPG/cooking gas to cook.	
S.26	Charcoal is convenient to use for cooking.	
S.27	Cooking with charcoal is harmful to a person's health.	
S.28	Cooking with firewood is harmful to a person's health.	
S.29	Electricity is expensive for cooking.	
S.30	Firewood is hard to obtain	
S.31	LPG is expensive for cooking household meals.	
S.32	Certain food tastes better when cooked with biomass compared to gas or electricity.	
S.33	Charcoal is hard to obtain in the market.	
S.34	I prefer to use "Three/five Stone" as the firewood stove at home.	
S.35	Collecting and preparing firewood is a burden for my family.	
Street Lighting		
S.36	Street lighting makes it safer for women and girls to be outside at night.	
S.37	Street lighting makes it safer for children to be outside at night.	
S.38	Street lighting leads to fewer crimes.	
S.39	Street lighting lets more people move around at night.	
S.40	Street lighting allows for more community activities to occur at night.	
S.41	Street lighting lets night markets and other businesses stay open.	
Payment/Finance		
S.42	I prefer to pay with mobile money than with vouchers/token/pre-paid card.	
S.43	I would rather pay a very small amount to rent a solar system than pay full amount to own it.	
S.44	I would borrow money to purchase an improved cookstove.	
S.45	I would borrow money to purchase solar lanterns/lighting system.	

Comments:

S.46	I would borrow money to purchase a TV.	
S.47	In regards to having a solar home system, what would you rather?	(i) pay installments to own solar home systems…..1 (ii) pay less in monthly installments to rent the system (and never own it) ……..2 (iii) Not applicable, do not want to have a solar system….3
Decision Making		
S.48	Men and women use energy and its devices differently	
S.49	Men usually make decisions on the distribution of family budget	
S.50	Men usually make decisions on purchasing of energy and energy-consuming devices	

T. WOMEN'S EMPOWERMENT

Respondents should be a female headed household or female spouse of the household head/member in the household.

MOBILITY		
	Enumerator: Is there a female respondent that you can interview for this section?	**Code:** Yes……..1 No……2→**END**
	STATEMENT Can you do the following activities alone or do you have to go with your husband? Mark who decides about each of the activities below.	**RESPONSE CODE:** Can do herself ……...1 Can do with husband ……2 Can do with others ……...3 Other Specify ……4
T.1	Visiting parents/relatives/friends within or outside the village/community	
T.2	Going to markets/banks/commercial centers/places of work.	
T.3	Going outside the village/community	
ACCESS TO INFORMATION, ORGANIZATION MEMBERSHIP, VILLAGE ELECTRIFICATION COMMITTEE, CAPACITY BUILDING AND ACCESS TO FINANCE		
T.4	If you are a member of a women's group, which type of group are you a member of/do you belong to?	**Code:** Not a member……...1 Religious related activities……...2 Health care related activities……3 Income generating activities……4 Political association…….5 Other specify…….555
T.5	What do you think are the main constraints women face in participating in organizations or activities in the area?	**Code:** Limited time…….1 Lack of support from family…2 Limited confidence….3 Limited education….4 Other specify…….5
T.6	Are you a member of the village electrification committee,	**Code:** Yes……..1 No……2→**T.8**
T.7	How many times do you meet in a month?	[# of times]
T.8	Do you own a bank account? (multiple options)	No account…1 Own account…2 Joint account (with spouse)…3 Joint account (with group)…4

Comments: