

## Instrument 2, 3 & 4: Ocular inspection, KII & FGD

# SUSTAINABLE SOLAR MARKET PACKAGES (SSMP) PROJECT FULL SURVEY & PILOT

## Guide questions for the Key Informant Interviews, Focus Group Discussion and Household Interviews.

### **Note to the Facilitator:**

Before starting the interviews, please introduce the group, the SSMP project, especially its objectives, and the purpose of the KII and the FGD.

For **FULL** survey, use all instruments.

**Section 1** include guidance for the Ocular Inspection.

**Section 2-6** include formats for the KII as set out below. These key informants may be gathered together in one place, or interviewed on a one-on-one basis as most appropriate in the situation. There are six formats provided here:

- **Section 2:** Questions for Ward officials
- **Section 3:** Questions for Village officials
- **Section 4:** Questions for Health workers
- **Section 5:** Questions for School staff
- **Section 6:** Questions for a Business Owner

**Section 7** is the guideline for the FGD. Focus Group Discussion will include household representatives, women leaders, youth leaders and other interested individuals.

**Section 8** includes the format for the sample household's interviews, at least two (2) household in each of the three income groups, more if time is available.

**Data reporting:** All data should be entered into the Fieldwork Report format provided by ECON as well as in Excel. Questions marked with a \* should be entered into excel sheets, ie all data that is quantitative.

Ward: .....

Village: .....

## Ocular inspection

### Identification

Date:

Ward:

Village:

### Geographic features

Briefly describe the physical and geographic features of the land terrain –Is it flat or hilly? Is the land cultivated and how much?

Land terrain: Flat..... Hilly.....

Land cultivated. Yes..... No.....

Cultivated Area (Acres) .....

### Density of settlements

Describe the layout of houses – Are they clustered in one place? Strung out across a wide area?

*Tick the appropriate*

Clustered in one place.....

Strung out across a wide area.....

### Type of housing

What type of housing is present? What proportion are brick & cement? What proportion are light-weight wood dwellings? Mud houses? Roofing? Do the houses give an impression of affluence or poverty?

Proportion of brick & cement .....

Proportion of light-weight wood dwellings .....

Proportion of mud houses .....

Roofing type:

Proportion of houses with Iron sheets.....

Proportion of houses with roof tiles .....

Proportion of houses with grass .....

Impression of the houses:

(Poor) 1 2 3 (Affluent)

### Economic Activity

Active market/trading visible?:

What type of public transport is available? Cars, Mini-buses? What type of roads run through village?

Mini-buses..... Lorries..... Tractor..... Other (specify).....

Type of roads

Paved.....

Un paved..... Seasonal: Yes..... No.....

Ward: ..... Village: .....

Impression of the houses:  
(Poor) 1 2 3 (Affluent)

**Businesses**

Count the number of businesses/shops in the village. Note what their business is, e.g. small retail, fish processing/trading etc.

Type of businesses

1.....2.....3.....4.....

Are there any major employers? Description (incl. # employees):

**Public electricity supply \***

Is there public electricity supply available in the village? If so, what type? Is it a generator with mini-grid, or a battery charging station? Are there streetlights? No of costumers connected to the mini-grid?

No of generators? No of battery charging stations?

Public electricity: Yes..... No.....

Type of electricity:

Generator with mini-grid .....

Battery charging station .....

Streetlights Yes..... No.....

No of costumers connected to the mini-grid .....

No of generators .....

No of battery charging stations .....

**Water supply**

Is water collected by hand, or is there a pumping system? If so, is the pump powered by solar, generator or mini-grid electricity?

*(Check the Rukwa report provided by the MEM and add findings on site)*

Water supply: Yes..... No.....

Water pumping system: Yes..... No.....

If pumping system is present, how is it powered:

By solar .....

By generator..... Diesel Cons lt/mnth.....

By mini-grid electricity.....

By hand.....

**Fuels and prices \***

Visit one or several stores and record what fuels are available in the village and what the prices are:

Fuel	Available?	Price (price per unit)	Unit	If units are in Quota, test and record how many make up a liter
Kerosene				
Candles				

Ward: ..... Village: .....

Dry-cell batteries				
Car battery charging				
Diesel				
Petrol				
Other				

**Presence of solar systems \***

Are there solar systems present in the village, how many? Do public facilities have solar systems, which and how many? Did you notice any houses with solar systems, how many?

Solar systems present in the village: Yes..... No.....

No. of solar home systems in the village .....

No. of public facilities with solar systems:

School (No and type of school).....No of school with solar.....

Health facility (No and type of facility):

Community hall:

Other public facilities:

Other solar systems: No.....Yes....Number..... Describe.....

**KII: Ward officials**

Identification	
Date of interview:	
Ward:	
Names & positions of officials being interviewed:	
Attitudes to solar & priorities	
What do you see as the main infrastructure needs of the villages within the ward? Rank 1, 2, 3...	
Road	.....
Water	.....
Electricity	.....
Telephone	.....
Bridges	.....
Railway lines	.....

Ward: ..... Village: .....

<p>Would you consider solar energy systems are suitable for providing electricity to village facilities such as schools, clinics &amp; villages halls? If not, why not?</p> <p>Yes.....          No..... Why not.....</p>	
<p>If solar electricity was provided, prioritise its use in the following places (mark 1, 2, 3 etc according to priority, where 1 is the highest priority) *</p>	
	Households
	School
	Health Centre
	Village hall
	Street lighting
	Water pump (for potable water)
	Other (name it)
<b>Budgets</b>	
<p>Does the ward have budgets for maintenance of public facilities and how large are these budgets? *</p> <p>Yes.....No.....          Amount.....</p>	
<p>Are there fees collected for the use of clinics and schools and where does this money go to?</p> <p>Yes.....No.....          Usage of fees.....</p>	
<p>Does the ward have budgets for electrification and how large are these budgets? *</p> <p>Yes.....No.....          Amount.....</p>	
<p>Does the ward pay for any of the (non-staff) operating costs of the schools, clinics and village halls? How much? *</p> <p>Yes.....No.....          Amount.....</p>	
<p>If solar equipment was installed at schools, clinics and village halls, would the ward be willing to pay for maintenance of this equipment? How much would the ward be willing to pay? *</p> <p>Yes.....No.....          Amount.....</p>	

Ward: ..... Village: .....

Is there any Micro Finance institutions present in the ward? Which ones?  
 SACCOS..... SACA..... FINCA..... Pride..... Tunakopesha..... Kibati .....  
 Other (specify).....

**KII: Village officials,  
 e.g. village chiefs & councillors**

Identification	
Date of interview:	
Ward:	
Village(s):	
Names & positions of officials being interviewed:	
<b>Demographics (skip if good secondary data available, get secondary data from DED, RAS and/or RMO)</b>	
How many people are there in this village? *.....	
How many households are there? *.....	
What is the average household size? *.....	
Is the village growing, shrinking or is it stable? (Obtain population growth data from secondary source) * Growing..... Shrinking.....Stable.....	

Ward: .....

Village: .....

<b>Livelihoods in the village</b>			
What percentage of people in this village would you estimate are engaged in: *			
	<b>Activity</b>	<b>Proportion</b>	<b>Comment</b>
	Fishing		
	Formal employment		
	Transport		
	Firewood gathering		
	Charcoal making		
	Labour		
	Carpentry		
	Handicrafts		
	Farming		
	Small retail stores		
	Livestock		
	Other:		
	Other:		
How many people here have formal jobs (e.g. teachers etc)?* .....			
What portion of people receives remittances from family members working elsewhere? *			
.....			
What is the main products/outputs of the village?* .....			
.....			
Estimate the wealth distribution in the village, classification according to assets.*			
The respondent should state the distribution either in percentage or in absolute numbers. If in absolute numbers, the total must then be equal to the total number of household in the village. When filling out the reporting format, the percentage figure should be reported.			
Reg average monthly income – ask the respondent to estimate the average monthly income for each income group.			
	Poor	Less Poor	Affluent
Description	Mud floor and thatched roof	Either concrete floor OR iron roof	Both concrete floor AND iron roof (or better)
Distribution based on assets, %	%	%	%

Ward: .....

Village: .....

Distribution based on assets, No of HH			
Average monthly income	TSH	TSH	TSH
Is income evenly distributed across the seasons, or is there seasonality in incomes? Evenly distributed..... Seasonal .....			
How many new households were established in the last year?			
How many households added an iron roof in the last year?			
What are the opportunities in this village for development/income generation? (No need to go into detailed answers, a brief answer are satisfactory)			
What are the main constraints in this village for development/income generation? (No need to go into detailed answers, a brief answer are satisfactory)			
What micro-credit institutions are present or active in this village? SACCOS..... SACA..... FINCA..... Pride..... Tunakopesha..... Kibati ..... Other (specify).....			
<b>Infrastructure &amp; priorities</b>			
What motorized public transport is available? Buses/mini-buses.....Lorries.....Tractors.....Motorcycle..... Other (specify).....			
How does the village get access to potable water? Are there pumps, and if so, are they hand, solar or petrol/diesel pumps? Are the pumps working? Access to potable water through: Boreholes..... River..... Lake..... Pond..... Public tap water..... Hand pumps..... Working: Yes.....No..... Solar pumps..... Working: Yes.....No..... Petrol/diesel pumps..... Working: Yes.....No.....			

Ward: .....

Village: .....

Is there irrigation available in the village? If so, how many farmers benefit and is water pumped or gravity fed?

Irrigation available in the village Yes.....No.....

No farmers benefiting . . . . .

Source of irrigation:

Water pumped . . . . .

Gravity fed . . . . .

Ward: .....

Village: .....

Is there a public petrol/diesel generator? *		Yes..... No.....
	If so, how many households and public buildings does it supply?	No of households..... No of public buildings.....
	What is the price charged to users of this generator?	Price .....
	When does it operate?	Whole day ...Day time...Evening.... Average hours per day..... Average days per week.....
	If not daily, why not?	
	What does it cost to get connected, or is it not possible to extend to new households?	Possible to extend to new household: Yes..... No..... Cost to get connected .....

Is there a mini-grid in the village? \* Yes..... No.....

If so, how many households and public buildings does it supply?  
 No of households..... No of public buildings.....

What is the price charged to users of the mini-grid? .....

When does it operate: Whole day.....Day time.....Evening.....

Is it operated every day – Yes..... No.....

If not, why not? .....

What does it cost to get connected? .....

Are there solar systems installed in the village? \*

Place	Present?	Working ?	System size? (in Wp)	When installed?	By Who?
At the schools(s)					
At the health facility					
At the village hall					
Street lights					
Battery charging station					

Do households charge up car batteries, and if so where do they do this and how much does it cost? \*

Approximately, what % of households charge up car batteries?.....

Where do they charge.....

How much does it cost? \* .....How many times per month?

Ward: ..... Village: .....

Where is the closest grid electricity point and how far is this? * Closest grid electricity point ..... Distance in km.....	
Is there mobile coverage?	Yes.....No.....
Are there fixed phone lines?	Yes.....No.....
Is there TV reception?	Yes.....No.....
What schools are there in this village, state how many and type? * No of primary schools..... No of secondary schools: Day .....      Boarding schools..... No of colleges.....      Day.....      Boarding.....	
What health facilities are there in this village, state how many and type? * No of hospitals..... No of health centres..... No of dispensaries..... Other.....	
What other village facilities are there here (e.g. village hall, ball court, common agricultural facilities)? State number of each facility. * No of village hall..... No of ball court..... No of common agricultural facilities..... Other.....	
What is the village hall used for? Is it used in the evening for meetings?	
What do you see as the main infrastructure needs of this village? (mark 1, 2, 3 etc according to priority, where 1 is the highest priority)	
	Road ..... Railway lines ..... Water ..... Electricity ..... Telephone ..... Bridges .....
If solar electricity was available, prioritise its use in the following places (mark 1, 2, 3 etc according to priority, where 1 is the highest priority) *	
	Households
	School
	Health Centre

Ward: ..... Village: .....

	Village hall
	Street lighting
	Water pump (for potable water)
	Other (name it)

If you wanted to put some outside lights in the village, where would be the most important places to put these lights?  
 Market.....Bus stand..... Drinking place.....Village offices.....Health facility.....

Does the Village charge fees to residents for use of communal facilities (e.g. schools & clinics)? \*  
 Yes.....No.....

Does the Village collect money from residents for specific projects? If so, name some examples. \*  
 Yes.....No.....  
 Names of the project(s).....  
 .....

## KII: Health workers

<b>Identification</b>	
Date of interview:	
Ward:	
Village:	
Names & positions of health workers being interviewed:	
<b>Staffing</b>	
Are staff houses provided? if so, how many? And what type (single, duplex, triple) * Yes.....No..... Single staff houses..... Number..... Duplex staff houses..... Number..... Triple staff houses..... Number..... Other.....	
If there are staff houses, do they have electricity supplied already? If yes, list the type of electricity, solar PV, generator or mini-grid. * Electricity supplied to houses: Yes..... No..... Type of supply: Solar PV .....Generator.....Mini-grid.....	

Ward: .....

Village: .....

### Buildings

What is the name of your health facility and how is it classified (e.g. is it a health centre, clinic, hospital etc)\*

Name: .....

Type: Hospital..... Health centre..... Dispensary.....

How many rooms does the health buildings have? \*

Room	Approx size in sq mt	Main uses
Room 1		
Room 2		
Room 3		
Room 4		

Make a sketch floor plan of the health facility showing number of rooms & approx size

Ward: .....

Village: .....

<b>Health services</b>			
Are there evening activities at the health facility? Yes.....No.....			
Does the health facility handle emergencies at night? Yes.....No.....			
If you have to call for outside help, how do you contact assistance?			
If immunisation is done here, how are vaccines kept cold? If by vaccine refrigerator, how is this powered? Coolant Refrigerator..... how is this powered?			
How do you sterilise equipment?			
Would you offer evening services if light was available? Yes.....No.....			
<b>Equipment and energy use</b>			
What electrical equipment is there at the health facility? * .....			
.....			
What additional equipment would you prioritise at the facility? (not for cooking and heating) *			
		Equipment	Comment
	Priority 1		
	Priority 2		
	Priority 3		
	Priority 4		
	Priority 5		

Ward: ..... Village: .....

Do you have electricity at the health facility? If so, how is it provided? E.g. solar, generator, mini-grid etc \*

Electricity at the facility present? Yes..... No.....

Source of power: Solar power.....Generator.....Mini-grid.....

Is the electricity available all the time or only at certain times?

Whole day..... Day time ..... Evening.....

Days per wee .....

If generator is available, please state Operator and Maintenance cost:

Operational cost.....

Maintenance cost.....

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What energy sources do you use and how much does it cost? (Not for cooking and heating) \*

Energy/fuel	Use for	Quantity used per month	Cost per month

Who pays for the energy use at the health facility?

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Do you charge fees to patients and if so, what are the fees used for? Size of fee? \*

Charge fees to patients: Yes.....No.....

Fees used for.....

Size of the fee.....

## KII: School principal/teacher

Identification	
Date of interview:	
Ward:	
Village:	

Ward: .....

Village: .....

Names & positions of staff being interviewed:

**Staffing**

Are staff houses provided? If so, how many? And what type (single, duplex, triple) \*

Staff houses provided? Yes.....No.....

Single staff houses..... Number.....

Duplex staff houses..... Number.....

Triple staff houses..... Number.....

If there are staff houses, do they have electricity supplied already? If yes, list the type of electricity, solar PV, generator or grid. \*

Electricity supplied to houses: Yes.....No.....

Type of supply: Solar PV.....Generator.....Mini-Grid.....

**Buildings**

What is the name of your school and how is it classified (e.g. primary, secondary etc)

Name.....

Primary.....Secondary.....College.....

How many rooms does the school have?

	Room (Sets of rooms)	Approx size (square meter)	Main uses
	Room 1		
	Room 2		
	Room 3		
	Room 4		
	Room 5		
	Room 6		

Ward: .....

Village: .....

Make a sketch floor plan of the school showing number of rooms & approx size

**Educational services**

How many pupils are there at the schools? (boys/girls/total)

No of boys.....  
No of girls.....  
Total.....

Are there evening activities at the school?

Yes..... No.....

Are there adult education classes?

Yes..... No.....

Would you offer evening activities if light was available?

Yes..... No.....

Ward: .....

Village: .....

**Equipment and energy use**

What electrical equipment is there at the school?

What additional equipment would you prioritise at the school? (does not have to be electrical equipment, could be furniture and books)

		Equipment	Comment
	Priority 1		
	Priority 2		
	Priority 3		
	Priority 4		
	Priority 5		

Do you have electricity at the school? If so, how is it provided? E.g. solar, generator, mini-grid etc

Electricity at school present? Yes.....No.....

Source of power: Solar .....Generator....Mini-grid.....

Is the electricity available all the time or only at certain times?

Always.....Certain times.....

If generator is available, please state Operator and Maintenance cost:

Operating cost.....

Maintenance cost.....

What energy sources do you use and how much does it cost? (not for cooking and heating)

	Energy/fuel	Use for	Quantity used per month	Cost per month

Who pays for the energy use at the school?

Ward: ..... Village: .....

If you had electricity available, what would be the priorities for its use?			
	Application	Priority (1, 2, 3, etc or not a priority, where 1 is the highest priority)	Reason/comment
	Principal's office lights		
	Classroom lights		
	Outside lights		
	Radio/cassette player		
	TV/DVD		
	Computer		
	Fans		
	Water pump		
	Water boiling		
	Cooking		
	Other		

Do you charge fees or collect money from parents and if so, what are they used for? Size of fee?

Charge fees from parents: Yes..... No.....

Fees used for.....

Size of fee.....

## KII: Owners of small businesses

Identification	
Date of interview:	
Ward:	
Village:	

Ward: .....

Village: .....

Names of persons being interviewed:	
<b>Activities</b>	
What does the business do?	
How long has it been in existence?	
Is your business open in the evening? Yes.....No.....	
What is your average monthly income of the business?	
Are you a client of any microfinance institution? Which one, and what type of service do you use?  Client of microfinance institution: Yes.....No..... Name of the microfinance..... Type of service.....	
<b>Energy use</b>	
Do you have electricity supplied by a grid or mini-grid line?	Yes..... No.....
If so, is it available all the time or only occasionally?	All the time..... Occasionally.....
What do you use the electricity for?	
Do you have electricity supplied by your own generator?	Yes..... No.....
If so, how large is the generator?	KVA..... Horsepower.....
And how often do you operate it?	Whole day..... Day time..... Evening... Days per week.....

Ward: .....

Village: .....

	What do you use the electricity for?	
	Please estimate Operation and Maintenance costs:	Operational cost..... Maintenance cost.....
Do you have electricity supplied by a solar system?		Yes..... No.....
	How much did you pay for it?	Amount paid.....
	What do you use the solar system for?	

What other energy sources do you use and how much does it cost? (Not for cooking and heating)

Energy/Fuel	Used for	Quantity used per month	Cost per month

**Attitudes to solar (describe a Solar PV system, explain how it works and how it is maintained)**

Is it important for your business to have light? Inside or outside or both?

Important to have light:  
 Yes..... No.....  
 Inside.....  
 Outside.....  
 Both.....

Would you like to have TV/Video in your business?

Yes.....  
 No.....

Ward: .....

Village: .....

If solar systems were available at these prices, would you buy one? Which one?

		Yes/no
14 Wp	Cash price: Tsh 195 000	
	Credit price: Tsh 9 100	
40 Wp	Cash price: Tsh 470 000	
	Credit price: Tsh 21 700	
90 Wp	Cash price: Tsh 1 400 000	
	Credit price: Tsh 66 600	

If interest in any larger/smaller size, please note down here:

**EXPLANATION TO SOLAR PV PRICES:**

**CASH PRICE:** The price is current price in the region and consist of the Solar PV panel, batteries, inverter, charge controller and required wire, with \$2/Wp grant.

**CREDIT PRICE (monthly):** based on an down payment of 10% of the cash price, a 24% interest rate over 2 years with a grant of 2 USD/Wp.

If interested in solar, would you buy a system on cash or credit? If on credit, from whom do you borrow?

Buy on cash.....

Buy on credit.....

Source of credit.....

**Guideline for FGD**

Identification	
Date of FGD:	
Ward:	
Village(s):	
No. of participants:	

Ward: .....

Village: .....

Groups represented (e.g. officials or “maafisa”, businesses or “wafanyabiashara”, youth groups or “vijana”, residents or “wenyeji”, etc):

**Livelihoods in the village**

What percentage of people in this village would you estimate are engaged in: \*

	Activity	Proportion	Comment
	Fishing		
	Formal employment		
	Transport		
	Firewood gathering		
	Charcoal making		
	Labour		
	Carpentry		
	Handicrafts		
	Farming		
	Small retail stores		
	Livestock		
	Other:		
	Other:		

How many people here have formal jobs (e.g. teachers etc)? Specify type of job and distribution. \*

What portion of people receive remittances from family members working elsewhere? Please estimate an average size of the remittance per month and household.

Portion of people receiving remittances.....

Average size of the remittance per household .....

What is the main products/outputs of the village?

Ward: .....

Village: .....

Estimate the distribution of households in the village based on assets \*

If the FGD wants to state the distribution in %, fill in percentage figure in appropriate field.

If the FGD want to state the distribution in absolute numbers, fill out the numbers in appropriate field BUT this total must be equal to the total number of households in the village.

It the reporting format – insert the percentage figure.

Reg average monthly income –the FGD should then estimate the range of monthly cash income for each income group. This is very important since we will use this data to assess the data collected in the household interviews.

	Poor	Less Poor	Affluent
Description of grouping based on assets	Mud floor and thatched roof	Either concrete floor OR iron roof	BOTH concrete floor AND iron roof (or better)
Distribution, based on assets, %	%	%	%
Distribution, based on assets, No of HH (should be equal to the total No of HH in the village)			
Estimate range of monthly cash income	<	-	>

Is income evenly distributed across the seasons, or is there seasonality in incomes?

Evenly distributed.....

Seasonal.....

What micro-credit institutions are present or active in this village?

SACCOS..... SACA..... FINCA..... Pride..... Tunakopesha..... Kibati.....

Other (specify).....

How do people usually buy expensive items (e.g. furniture, boat): Do they save and buy cash, wait for an income windfall, or buy on credit? If on credit, who do they borrow from?

Save and buy on cash..... Income windfall..... Buy on credit.....

If on credit, source of credit.....

Ward: .....

Village: .....

☒ What businesses operate in this village and what do they do?

	Business type	Number	Main activity

**Energy consumption and expenditure (not cooking and heating)**

How many households have their own petrol/diesel generators? .....

How much do they spend on fuel per month? .....

What do they use the electricity for? .....

If generator is used, please estimate Operator and Maintenance cost:

Operator cost.....

Maintenance cost.....

How many businesses have their own petrol/diesel generators? .....

How much do they spend on fuel per month? .....

What do they use the electricity for? .....

If generator is available, please estimate Operator and Maintenance cost:

Operator cost.....

Maintenance cost.....

How many households are on a mini-grid system (if any)? .....

What does it cost to get connected to this minigrid? .....

What do they use the electricity for? .....

.....

How many households have solar home systems? .....

What size/s? .....

Who supplied the systems? .....

Are they working? (how many works/how does not work)

No of solar home systems that work.....

No of solar home systems that does not work.....

What are the maintenance arrangements? .....

.....

Ward: ..... Village: .....

How many households have car batteries that are charged up? .....

And where do they get these batteries charged.....

What do they use the car batteries for? .....

.....

What energy sources are used in a typical household and what are their prices? (not energy source for cooking and heating) (if possible: check quantity used per month per income group) \*

Energy sources	% of households using	Typical price per unit	Quantity used per month	Amount spent per month
Kerosene (for lighting)		Quota: Liter: *Visit store & test		
Candles				
Gasoline				
Diesel				
LPG (bottled gas)				
Car battery charging				
Dry cell batteries				
Charging of mobile phone				
Electricity (mini-grid)				

Ward: .....

Village: .....

In regards to use of wick lamp, candles and/or light bulbs, please provide the following information

	Hours of light/day	Quantity of fuel, candle or light bulbs (number and Watt) used/day
Wick lamp (using kerosene)		
Candle		
Light bulbs		

Ward: .....

Village: .....

How much does total monthly energy expenditure vary across the village? Only expenditures that could be replaced by Solar PV, ie not energy expenditures in cooking and heating. *				
		Poor	Less Poor	Affluent
	Those with electricity			
	Those without electricity			
For those people owning mobile phones:				
	How do people charge their mobile phones?			
	What does it typically cost to charge a mobile phone?			
	How often to people usually charged them per month?			
<b>Attitudes to solar &amp; willingness to pay *(Introduce SHS and demo kits here, how they work and how they need to be maintained)</b>				
Are people generally familiar with solar technology already?				
Yes.....				
No.....				
What proportion of people would like to own a solar system for their homes? *				
.....				
What do people see as the primary barriers to purchasing a solar panel? (mark 1,2,3... according to significance of barrier – 1 being most significant.				
Lack of knowledge of where to purchase:.....				
Lack of technical knowledge about installing and maintaining system:.....				
The benefits are not worth the price:.....				
Can't afford up-front payment:.....				
No access to credit:.....				
What do people see as the main benefits/problems of solar systems? (link to income generating activities)				
Benefits:				
.....				
.....				
Problems:				
.....				
.....				
.....				

Ward: .....

Village: .....

Given the prices below, what proportion (in %) of the households in the village would be willing to purchase the systems below?

System	Cash price:	Credit price (2 years)	Poor	Less Poor	Affluent
<b>14 Wp</b>	Tsh <b>195 000</b>	Tsh <b>9 100/month</b>			
<b>50 Wp</b>	Tsh <b>470 000</b>	Tsh <b>21 700/month</b>			
<b>90 Wp</b>	Tsh <b>1 400 000</b>	Tsh <b>66 600/month</b>			

**EXPLANATION TO SOLAR PV PRICES:**

**CASH PRICE:** The price is current price in the region and consist of the Solar PV panel, batteries, inverter, charge controller and required wire, with a \$2/Wp grant.

**CREDIT PRICE (Monthly payment):** based on an down payment of 10% of the cash price, a 24% interest rate over 2 years, with a subsidy of 2 USD/Wp

**MAINTENANCE ARRANGEMENTS:** Each household must pay for their own maintenance costs

What proportion of people would prefer to buy on cash basis and what proportion would prefer to buy on credit? If on credit, from whom do they borrow the money? \*

Buy on cash.....  
 Buy on credit.....  
 Source of credit.....

Are people willing to pay for maintenance and replacement of spare parts? If yes – how much/month? \*Willing to pay: Yes..... No .....

Payment per month (maintenance).....  
 Payment per month (spare parts).....

Ward: ..... Village: .....

Would people be willing to pay a company for regular visits and check up of the systems ? \*

Yes.....

No.....

## KII: Households

KIIs with households representing the low, medium, and high income groups will be done to determine the average income level. The community's assistance in determining these KII respondents will be sought. This will be done systematically to get as realistic and detailed figures as possible to derive average income. The income from various livelihood sources will be obtained considering seasonality of some income sources and to be adjusted on a monthly average.

Identification		
Date of interview:		
Ward:		
Village		
<i>To interviewer: note which income group the household belongs to</i>	Low income level..... Medium income level..... High income level.....	
Income		
List income sources; indicate if income is received on a daily/weekly/monthly/seasonality basis, if ever, and how much? This should later on be computed and adjusted to a monthly income level. *		
Source of Income/Livelihood	Annual income by source	Adjusted Average monthly
<u>Example:</u> maize farming	Tsh/year	Tsh/month

Ward: .....

Village: .....

What percentage of your income is set aside for paying loans/obligations? \*

**Energy consumption and expenditure (not cooking and heating)**

Ward: .....

Village: .....

In regards to use of wick lamp, candles and/or light bulbs, please provide the following information

	Watts	Hours of light/day (Lightbulb wattage)	Total Wh per day	Quantity of fuel, candle or light bulbs (number and Watt) used/day
Wick lamp (using kerosene)	N/A		N/A	
Candle	N/A		N/A	
Light bulbs	1			
	2			
	3			
	4			
	Total			

What energy sources do you use and what are their prices? Not energy for cooking and heating. \*

# If kerosene is purchased in village, use local price of quota and test how many quota make up liter – calculate per liter price. If purchased outside of village – use price given.	Energy Source	Place of purchase#	Typical price per unit#	Quantity used per month	Amount spent per month
	Kerosene (for lighting)				
	Paraffin				
	Candles				
	Gasoline				
	Diesel				
	LPG (bottled gas)				
	Car battery charging				
	Dry cell batteries				
	Charging of phone				
	Electricity (mini-grid)				
<b>TOTAL AVERAGE ENERGY EXPENDITURE/MONTH</b>					

**Attitudes to solar & willingness to pay \*(Introduce SHS and demo kits here)**

Ward: .....

Village: .....

Given the prices below, which system would you be willing to buy?

System	Cash price:	Credit price (2 years)	Poor	Less Poor	Affluent
<b>14 Wp</b>	<b>Tsh 195 000</b>	<b>Tsh 9 100/month</b>			
<b>50 Wp</b>	<b>Tsh 470 000</b>	<b>Tsh 21 700/month</b>			
<b>90 Wp</b>	<b>Tsh 1 400 000</b>	<b>Tsh 66 600/month</b>			

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