

Report

A Rapid Assessment of Energy Needs and Practices in Refugee Settlements in West Nile

Energising Development (EnDev) Uganda

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Ben Butele

Verena Mitschke

GIZ(EnDev) Uganda Country Project

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Executive summary

Displacement of people as a result of conflict is not a new situation, but this represents a new challenge because of effects of climate change and increased depletion of natural resources. There is gap between the needs of growing numbers of refugees and the available resources. Energy is one critical area which illustrates this gap, but also offers potential for practical durable solutions.

Energy services are essential for basic human protection and dignity, in the critical areas of development and humanitarian assistance. Energy services for cooking, lighting, heating, Economic activities forms the core of income activities in all the refugee settlements visited.

Thousands of refugees lack access to clean, safe and secure energy services, in part because funding for such services is inadequate. The lack of reliable data on energy use in humanitarian setting shows that it is a neglected area. But the evidence in the course of this assessment reveals a huge opportunity to provide better and sustainable energy services.

Through observations, open-source data, interviews and field surveys, this report offers an overview of the state of energy use among refugee and host community population in West Nile. It considers the mounting financial and human protection costs of their current methods of obtaining energy, and assesses the economic and environmental potential for a change of strategy. Energy use by displaced people is economically, environmentally and socially unsustainable. Children and women bear the greatest costs.

Findings indicate that up to 80% of the refugees in the settlements have absolutely minimal access to energy, with high dependence on traditional biomass for cooking and no access to electricity. Exploring new delivery models for energy provision for displaced people needs to move away from a model based on handouts and requires an overhaul of current practices.

Where possible, encouraging the use of local markets to sustain and cultivate energy solutions, such as Energy Kiosks would be a consider linkage opportunities to expand energy services to refugee and host community households. The designs of energy interventions must ensure that, needs and capabilities of refugees and host communities are integrated in the performance of energy interventions for sustainability.

The barriers to a sustainable, healthier, more cost-effective system are not technological but institutional and operational. For example, in all the partners working with the refugee projects, most technical staff, the survey team interacted with have environment and natural resource back ground but not have expertise in energy service delivery. Political sensitivities in districts in some cases also prevented rational approaches.

1.0 Introduction

This report presents findings and recommendations from a mini assessment on energy needs and market access conducted in Rhino camp and Emvepi Refugee settlements in Arua District, and brief snapshot of the energy situation in Bidi Bidi, Pagirinya and Barutuku settlements in Yumbe and Adjumani all in West Nile region.

1.1 Objectives of the Assessment

The aim of the assessment was to establish an overview of; 1) the status of knowledge on improved cook stoves, 2) energy efficient cooking practices, perception and adoption within households, 3) general incomes and income generating activities households are involved in, 4) household energy and fuel supply and use within the settlement, 5) the common benefits perceived by the households, 6) the energy for lighting and small scale economic activities and 7) the market access for energy services.

1.2 Background of GIZ (EnDev) Operation in Uganda

GIZ has been present in Uganda for the last three decades, where operations were launched to support energy and livelihoods programmes in the communities in West Nile region in Northern and Western Uganda.

GIZ EnDev is a partnership program that promotes sustainable access to modern energy services that meet the needs of the poor, providing lasting, affordable, and durable solutions to users. Its key roles have been in support to advocacy and awareness creation and innovation in the clean and efficient cooking sector. EnDev Uganda also works with private sector and with Ministry of Energy and Mineral Development (MEMD) on the “Good stove - Better cooking”-brand.

The main focus of EnDev intervention has been to improve sustainable use of energy at household level through the use of fuel efficient technologies for cooking and lighting. EnDev supported dissemination of energy saving stoves and practices by linking beneficiaries to skilled Energy Service providers and Trainers of Trainers (ESPs/ToTs) for technical support. Awareness creation on appropriate use and benefits of energy saving stoves was integrated into livelihood activities and community dialogues to increase adoption. The success of these has been a strong partnership with districts local authorities and working with the District Environment Office, local promoters, and other community structures to promote appropriate technologies in and around the rural communities.

1.3 The Refugee Situation in Uganda

In the last five years multiple armed conflicts forced millions of people to flee. According to UNHCR, more than 65 million people were displaced in 2015, of which around 21 million were refugees. About 86% of the refugees are hosted in developing countries. Uganda, as one of the top receivers currently hosts more than 1.1 million refugees, mainly from South Sudan. More than 80% of these refugees live in rural refugee settlements.

Even though refugees do not necessarily need to be a burden to the local economy, both, refugee and host communities in Uganda largely remain vulnerable due to poverty and weak basic service delivery, poor infrastructure and limited market opportunities. Especially the provision of basic energy services remains neglected. According to United Nations High Commissioner for Refugees (UNHCR), around 97% of the refugees in Uganda lack adequate access to safe, clean and sustainable energy.

The Ugandan refugee policy aims to tackle these issues by progressively promoting the integration and peaceful coexistence of refugee and host communities in form of the Settlement Transformation Agenda, which promotes self-reliance of refugees, integration and equal social development for the wider refugee hosting areas. The Refugee and Host Population Empowerment Strategy (ReHoPE) supports the implementation by bringing in donors, development actors and the private sector. Energy related service delivery in refugee settlements is addressed in the UNHCR Safe Access to Firewood and Alternative Energy (SAFE) Strategy for Uganda.

2.0 Methodology

2.1 Data Collection Methods

A combination of qualitative techniques such as focus group discussions, survey questionnaires, field visits and observations were used. Sampling units were the potential beneficiaries of the project and these were purposefully randomised from two zones out of the six refugee zones in Rhino camp settlements (Agulupi, Ocea, Siripi, Katiku, Simbili, Ariwa, ofua and Siripi). In Emvepi settlement, respondents were from two zones (zone 2 and Zone 6). In Market places within the settlements, key informants/traders were also interviewed.

In Bidi Bidi in Yumbe and Pagirinya and Barutuku in Adjumani district only beneficiaries of ILF stoves who got from other projects were interviewed.

2.2 Sampling Frame

The Respondents were sampled representatively based on beneficiary profiling statistics provided by OPM team from the old and new caseloads. The demographic characteristics of the respondents have been sampled proportionally to the demographics in the refugee population (above the age of 20 and head of household). The gender composition for the survey sample were as follows; Rhino camp 20 female; 10 male, Imvepi 15 female and 5 male, in Bidi bidi 15 female 5 male and Adjumani combined 16 female and 4 male.

3.0 Findings from the Settlements

A). Rhino Camp Settlement

3.1.1 General Demographics of Respondents in Rhino camp

The great majority 27 in 30 (90%) in Ocea and Ofua Zones in Rhino camp, were refugees of South Sudan Origin. For this category of respondents, 60% and 40% were old and new caseloads respectively within settlement. 3 in 30 (10%) of the proportion of respondent were nationals of host community.

3.1.2 Household Size and Characteristics

In the Rhino camp settlement, the household sizes ranges from 4-6, 7-9 and 10-15 with majority (70%) of the households lying in the 6-8 individuals per household. There are more elderly and young within each household compared to adult able persons. 24 in 30 (80%) of households are female headed.

3.2.1 Fuel Utilization; Types and Sources in Rhino camp

In the Rhino Camp settlement, 24 in 30 (80%) of respondents use firewood and crop residue in dry season, and charcoal in wet season, while 5 in 30 (15%) use firewood and charcoal concurrently throughout the year and 1 in 30 (5%) use exclusively crop residue for cooking.

Refugee Households reported using mainly firewood in dry season and some charcoal in wet season. Household sizes of 1-4 members reported using 2 bundles/headloads per week; 5-10 members use 3 bundles per week and 10+ member household's use up to 5 bundles and half bag of charcoal per week.

In the host communities of household size 8-10 persons, the average size was 2-3 bundles per week, but it was reported that some meals were prepared in the garden while working and this was not accounted for in the usage.

3.2.2 Time Spend on Fuel Collection

In Rhino camp, the time spent collecting firewood varied widely according to zone or village in the settlement. Households surveyed reported spending between average 3-4 hours per trip to collect a bundle/headload of firewood of about (25-30 kgs).

The collection of firewood was primarily role of adult women and girls, who usually complete these tasks in small groups of 2 to 3 people. Adolescent girls were reported responsible for cutting and piling and carrying the wood back is by both the adult females/mothers and teen girls. A weighed sample of standard headload of dry fire wood was at 32.5 kgs in Rhino Camp.

3.2.3 Cost of Fuel for Household Cooking in Rhino camp

Context information gathered from the local markets and community members showed a headload/bundle (Average 25-35kg) of fire wood costs UGX 2,500 and a bag of charcoal (average 45-50 Kg) costs UGX 20,000 within the settlement and UGX 15,000 when purchased from the distant forested areas.

All the Local host community households visited, reported they do they do not buy fire wood/charcoal for cooking, while 21 in 30 (70%) of refugees said they buy firewood and charcoal from host community and 9 in 30 (30%) collect their wood fuel from within or outside the settlement or use crop residue.

3.2.4 Stove Utilization and Other Cooking Devices

Frequently used stoves in Rhino camp settlement are the traditional three stoves, metal fabricated stoves and few fixed Lorena build in open spaces and most common cooking equipment are the open metal pans often without lids. This tends to extend duration it takes to prepare a standard meal leading energy and time losses during routine cooking.

18 in 30 (60%) of the households visited have never used energy efficient stoves, 7 in 30 (23%) of the household interviewed have used energy efficient stove for a period less than 1 a year and only 5 in 30 (17%) others had used energy efficient stove for a period more than 4 years prior to this assessment either back home or in the settlement.

From the above it can be concluded that majority (83%) of the households have either not used improved cook stoves or have used for mere less than a years. The majority therefore have little experience of the benefits, knowledge of usefulness improved cook stoves. This category will need a lot of sensitization awareness and demonstration attitude change.

3.2.5 Time Spend Cooking a Meal

The average time taken by the households to prepare a whole-meal (Dry Beans/Peas + pasting and Mingling Ugali) for a house size of 6-8 individuals is 5-6 hours on traditional three stone oven and 2-3 hours for those using improved cook stoves. However it was noted that a lot of time was lost cooking because majority of the households' do not cover the food while cooking and heat is lost. This was observed to be partly cultural habit and lack of awareness.

3.2.6 Cooking Habits

In Rhino camp, 27 in 30 (90%) had open kitchen or cooking spaces where traditional three stone stoves are laid in series and several items cooked at once different pans. This was the most prevalent habit observed, 3 in 30 (10 %) had constructed kitchens or build cook space on the verandas' of main houses. Several households who received improved cook stoves under different projects seem not to put them to use. Survey team show some ILF type and unbranded "clay and metal" type, stoves inside houses not used. Access and use of portable improved stoves is low. Of the 10 % above, only (2 in 30) 6.5% of the households visited were actually using them.

Food is often left on fire attended to by kids to push in the firewood as the mother is in the garden or doing other chores and this delays process of preparing a meal as well as wasteful use of food fuel.

3.3.1 Sources of Household Lighting

The people's primary source of lighting in the households in Rhino camp was solar lamps 15 in 30 HHs (50%), candles/kerosene lanterns and torches 10 in 30 HHs (33%) and gen- sets contributed for 5 in 30 (16%) mainly traders in the small centres, markets and (1%) use either wood or grass for lighting during bed time or when visiting latrines.

3.3.2 Sources and Types of Devices for Household lighting

In Rhino camp, of the households with solar lamps, 80% got them distributed by UNHCR and only 20% bought from local traders within the settlement. The products were mostly counter- fake (from Asian countries).

The unit cost of these counter fake solar lamps ranges UGX 35,000-40,000. In the trading centres, operators of small businesses used 1000 watts panels marked German cells make in Malaysia and gene-sets for china.

However the respondents reported poor duration of lighting of between 1-2 hours only per day. This appears to discourage users to buy replacements.

3.3.3 Economic activities using Electricity and Solar

The main sources of livelihoods activities most households engage in were; petty trade operations like saloon barber haircut shops, phone charging business, video and entertainment halls, and photocopying/printing business are all using such products. This contributed to only 15 % of the respondents

For the majority the most important source of income was sales of agricultural produce mainly among the old caseloads of 3+ years in the settlement and the national host community. Sale of relief items constitutes (5%) of households with considerable low disposable incomes among mainly new arrivals of less than one year within the refugee households.

3.3.4 Cost of Energy for Household Lighting

Households interviewed in Rhino camp indicated a unit cost of solar lamp at UGX 35,000- 40,000 and price of non-torch UGX 2.500 which lasts for 1-2 weeks and dry cell batteries for torches at

UGX 1,000 per pair and lasting for a week.. When the household aggregated will require between UGX 52,000 – 130,000 per annum for lighting.

3.4.0 Adoption and Perception of Users on ILF stoves

In Rhino camp, all households with ILF energy efficient stoves acquired through distribution from DRC and other from Implementing Partners.

On knowledge about benefits of ILF improved cook stoves, (80%) respondents were happy to recommend ILF and other improved cook stoves to their neighbours and 15% were not sure if they can recommend it.. However more refugees (70%) are happy to recommend ILF and improved cook stove compared to the Ugandan host communities (30%) who said they could recommend.

Among the reasons for those reluctant to recommend the ILF and other improved stoves were; Lack of knowledge/information on energy efficient stoves, cost associated with acquiring energy efficient stoves, purposed abundance of wood fuel and the notion that energy efficient stoves are easily damaged and are difficult to handle.

3.4.1 Types of Stoves Adopted and Cooking Area

The assessment noted in Rhino camp, cooking habits influenced the type of stoves to be used by the households. (90%) visited had open kitchen or cooking spaces where traditional three stone stoves are laid in series and several items cooked at once different pans. This was the most prevalent habit observed, 10 % had constructed Lorena in kitchens or build cook space on the verandas' of main houses. Several households who received improved cook stoves under different projects seem not to put them to use

3.4.2 ILF Stoves Design and Appropriateness

The respondents opinion on the design were that; ILF stove doesn't allow use of multiple saucepans simultaneously and not suitable for cooking with larger saucepans for large size households and that the fire extinguish quickly when still new.

Attitude of open air stoves cook faster than improved stoves also influenced perception of users and this requires more awareness programmes.

On appropriateness, Majority of respondents belief ILF can be used for multiple purpose as for mingling, cooking traditional pasted foods in a pots, economic in energy saving and less expensive compared to other portable ICS stoves.

The assessment found, the priority factors that hinder utilization of energy efficient stoves in refugee settlement, are particularly those of design, attitude and access. In Host communities it's mostly Economy, lack of knowledge, attitude and appropriateness.

In order for energy efficient stoves to gain wide acceptance and adoption, appropriateness of a cook stove to support preparation of a wide variety of food prepared within the households is an important factor that determines utilization of ICS stoves.

3.5.0 Energy Markets and Structures in Settlements

The Rhino camp survey visited two local markets/trading centres, of Ocea and ofua and one market at Odrobu in the host community areas. The local traders provide array of energy and solar devices most of which were counter-fake products displayed on stalls for sale. All the traders interviewed noted were got from Arua town and basically made from china due to relative cheapness.

The product ranges include; rechargeable lamps, solar lanterns, dry cell battery torches, and metallic fabricated cook stoves.

3.5.1 Energy Market Systems and Structures in Rhino camp

The survey found, no organized market chain system for energy products in Rhino camp settlement. The few traders dealing in assorted energy products (Panels, Batteries, Cooks stoves, lanterns and torches etc) were basically getting items from nearby towns (Arua, Koboko, Adjumani), and displaying the products in open market places exposed to hazards of sun, rain and dust.

3.5.2 Energy Business Environment in Rhino camp

There are no established private sector actors to explore new delivery models and channels for Energy provisions. Partly due to current handouts system for energy products procured under UNHCR support through implementing partners. This according to traders, discourage potential traders or middle men into the energy markets in the refugee settlements

There are also no local energy markets to sustain and cultivate energy solutions, such as Energy kiosks and investments between public-private sector actors have not thrived, largely because refugee business persons and or local traders have limited ventures into energy interventions such as phone charging, printing, photocopying and sale of lambs and torches. This is an area which needs capacity building to upscale and support in standardization.

3.5.3 The Seasonal Calendar of the Community in Rhino camp

In Rhino camp, the old caseload, Responses reported using more firewood in wet season than in dry season. In dry season, more crop residue like peas, sorghum and maize stalks are available and there is relative ease of access of alternative fuels from own farm yards.

Charcoal is used most frequent during wet season when access to firewood is difficult and price of charcoal is relatively lower at the same time the crop residues are not yet available.

The energy products such as improved cook stoves are often purchase or build during rainy period in the veranda or inside the house.

3.5.4 Challenges/Bottlenecks in Doing Business in Rhino camp

Lack of data on energy needs and services for refugees and host population presents difficulty in determining the kind of services and products to provide in the market segments.

Lack of stability of energy markets within the settlement limits options for doing business with the refugee populations in terms offering hire purchase or instalment payment services for goods and products

Limited purchasing power, based on the levels of disposable incomes of the refugees and host population also presents limitation to product range to be introduced to the market in the settlement.

B). Hold Survey in Imvepi Settlement

3.6.0 General Demographics of Respondents in Imvepi

In Imvepi settlement all the refugees interviewed, 20 in 20 (100%) were of South Sudan Origin and new arrivals between 2016/17 period. The majority 18 in 20 (90%) were female household heads.

3.6.1 Household size and characteristics

The household sizes were similar in range 6-9 individuals per household. There are more elderly and minors as compared to adult able persons.

3.6.2 Fuel Utilization; Types and Sources in Imvepi

In Imvepi, like, the case in the Rhino Camp settlement, firewood and crop residue are the predominant sources of fuel in dry season, and charcoal in wet season.

The average household sizes of 1-4 members reported use 2 bundles/headloads per week; 5-10 members use 3 bundles per week and 10+ member household's use up to 5 bundles and half bag of charcoal per week.

3.6.3 Cost of Fuel used for household Cooking in Imvepi

The cost of firewood and charcoal varied according to seasons; a headload/bundle (Average 25-35kg) of fire wood costs UGX 2,500 in dry season and UGX 5,000 in wet season while a bag of charcoal (average 45-50 Kg) costs UGX 20,000 within the settlement and UGX 15,000 in dry season and 30,000 during wet season with the settlement.

3.6.4 Stove Utilization; Cooking Equipment

The traditional three stoves, metal fabricated stoves and few fixed Lorena build in open spaces and were most common cooking ovens in Imvepi. In addition, open metal pans were often used without lids.

3.6.5 Cooking Time and Habits

The average time taken by the households to prepare a whole-meal (Dry Beans/Peas + pasting and Mingling Ugali) for a house size of 6-9 individuals range from4-6 hours on traditional three stone oven and 2-3 hours for those using improved cook stoves.

Open kitchen or cooking spaces were frequently used with traditional three stone stoves laid in series and several items cooked at once different pans. This habit provided several women to gather together conversing on social issues and less time spend on core household activities.

Food is often left on fire attended to by kids to push in the firewood as the mothers share experiences or do other chores like plucking vegetable leaves in groups.

3.6.6 Sources of Household Lighting

The people's primary source of lighting in the households in Imvepi is solar lamps, followed by, candles/kerosene lanterns and torches. A few cases of using wood or grass for lighting the way to latrines visits were reported.

3.6.7 Sources and types of Equipment for Household lighting

Most households visited, 15 in 20 had solar lamps distributed by UNHCR and only 5 in 20 bought from local traders within the settlement. The products were mostly counter- fake (from Asian countries). The cost of those solar lamps in settlement, range UGX 35,000-40,000.

3.6.8 Economic activities using Electricity and Solar

The main livelihoods activities within Imvepi were; petty trade (saloon barber haircut shops, phone charging business, video and entertainment halls), and photocopying/printing business.

However there were more households in agricultural activities and few produce business. Few cases of new caseloads were selling relief.

C). Stove Survey in Bi bidi Settlement.

3.7.0 Adoption and Perception of Users on ILF stoves

The ILF energy efficient stoves acquired through distribution from Uganda Red Cross Society and other implementing Partners.

The Households interviewed, majority knew the benefits of ILF improved cook stoves, and were happy to recommend improved cook stoves to their neighbours and a smaller number 3 in 20 were not sure if they can recommend it because of perceived high cost, purposed abundance of wood fuel and the perceived inappropriateness and difficulty to carry it.

3.7.1 Types of Stoves Adopted and Cooking Area

The cooking habits influenced the type of stoves used by the households. Open kitchen is still predominant and favours use of traditional three stone stoves.

3.7.2 ILF Stoves Design and Appropriateness

The households viewed the design of ILF stove as not appropriate for multiple saucepans and simultaneously cooking for large families using larger saucepans.

On appropriateness, ILF stoves was consider unsuitable for traditional meal preparations like for mingling or pasted foods.

Another factor that hindered adoption was access to acquiring. Other than Apart from the free distributions, there were no markets providing improved stoves for sale.

D). Stove Survey in Adjumani Baratuku/Pagirinya Settlements

3.8.0 General Demographics of Respondents in Baratuku/Pagirinya

In Baratuku and Pagirinya settlements in Adjumani were entirely from South Sudan of Madi and Luo Origin. In Baratuku, this were mostly old caseloads transfers from other settlements with Adjumani and had leaved there between 14 – 20 years while those in Pagirinya were mostly new arrivals of less than 3 years 2014-2017.

3.8.1 Household Size and Characteristics in Baratuku and Pagirinya

In this two settlements, the majority of household sizes ranges from 6-9 and a fewer were 10-15 individuals. The age range was well distributed between adults, young and elders with typical rural setting.

3.8.2 Fuel Utilization; Types and Sources in Adjumani

Common source of fuel is firewood and crop residue and less charcoal due to bi-laws set by district council that bars refugee households from using or trading in charcoal.

3.8.3 Cost of Fuel in Adjumani Settlements

A headload/bundle (Average 25-35kg) of fire wood costs UGX 3,500 – 5,000 throughout the year and a bag of charcoal (average 45-50 Kg) costs UGX 20,000- 30,000 outside the settlement.

3.8.4 Adoption and Perception of Users on ILF stoves

In Adjumani, 100% of the ILF energy efficient stoves acquired through distribution from district DLGs or from LWF implementing Partner.

The beneficiaries were willing to share knowledge and were happy to recommend ILF to other people who may not have used it. Among the challenges of adoption was inadequate information on benefits, cost associated perception on the weigh and handling difficulties.

3.8.5 Stoves Design and Appropriateness

The in-ability to use of multiple saucepans simultaneously and not being able to accommodate larger saucepans for large household sizes presented attitude change on adoption.

In-appropriateness, for preparation of traditional meals like mingling, pasting foods in pots, hindered utilization in addition to lack of knowledge and attitude.

4.0 General Findings, Conclusions and Recommendations

- From the surveys, significant proportion of beneficiaries' households appreciate energy conservation, and are willing to adopt energy efficient cooking methods and technologies, however, constrains of design, appropriateness and cost cut issues should be addressed and in cooperated during planning phase of the project.

- Awareness and training will enhance knowledge and improve perception, attitude and cultural paradigms, affection adoption levels of clean energy practices in the refugee and host communities. There is therefore need to continue raising awareness on the benefits of improved cook stoves, involve community leaders and enthusiastic stove users as early adopters to help promote the use and marketing of ICS by private traders.

- Use of firewood remains prevalent in both the settlements and host communities in West Nile. The access to wood fuel is free for host population and refugees pay when they from the hosts and free when the fetch within or from nearby natural areas of settlement. This is not sustainable, there is need to develop, train and strengthen energy committees, to promote SAFE strategy and to sensitize on fuel conservation and promotion of energy efficient cooking technologies.

- Lighting, in most households is by use non-rechargeable dry cell battery operated lamps/torches. This is not cost effective, and has serious implications on the wellbeing of refugees and that of children in schools during reading hours. Renewable energy sources such as solar lambs, panels could offer a better solution, in transforming the community. This can be achieved if attitude change and perception on the benefits of these devices is understood better. A key intervention would be to develop hire purchase schemes such PAYGO options and conduct awareness sensitization on the benefit of instalment payments or solar lamb rentals as a key approaches for sustainability.

- An energy service is an essential for basic human protection and dignity, and forms the core of Economic activity of income activities in the refugee settlements. To set up a reliable business requires reliable data for incubation of energy business. The actors in energy services delivery in refugee settlements should take lead to aggregate data on use, consumption and

production of energy and energy devices so as to provide better and more sustainable energy services.

- Current financing and methods of obtaining energy devices by refugees is economically, unsustainable. It puts a lot of burden on the UNHCR or other development partners financing such projects. Few refugees have access to modern forms of energy, yet there are no current initiatives to improve energy access. Majority of the refugees in the settlements have absolutely minimal access to energy, with high dependence on traditional biomass for cooking and no access to solar or electricity.

- Exploring new delivery models for Energy provision for refugees needs to move away from a handout based model to allow market based approaches to thrive. Where possible, to encourage the use of local markets to sustain and cultivate energy solutions, incubate novel ideas, such as Energy kiosks and attract investments from private sector actors.

5.0 Rapid Assessment Survey tools

5.1 Survey Questions for Households on Energy needs

1. **Background information**

Country of origin	*Duration in the settlement*	*House hold size*	*HH (Name/Gender)*

2. Energy Needs for cooking

	Energy required by a household, to prepare cook meals.	**HH Responses**
1	*What Types/Source of fuel is used by your household,* ***(Mention all fuel types used in your home)***	
2	*What are the types* *a) stove* *b) cooking equipment you have been using,* *c) cooking fuel you use*	
3	*Tell us about (**time spend cooking**)* *a) how do you prepare a typical meal* *b) and how long does it take you to make a meal* *c) How many meals do you usually prepare in a day* ***(open ended and allow for expression Cooking behaviors and practices),***	
4	*a) Where is the source of the fuel you use to prepare your meals (**Market, forests, handout from Agencies,*** *b) If market, how much do you pay for fuel to cook per day* *c) If collected from forest how much time do you always take to collect the fuel you need for a day* *d) Can you estimate (Bundle/ bags/ basket size of the fuel you collect per day)*	
4	*In your view how many HH **(out of every 10)** in your village/cluster are using this type of cooking equipment you have mentioned*	

3. Energy Needs for Lighting and Economic activities

	The households' electricity/solar and lighting needs	**HH Responses**

1	What are the sources of lighting in your HH?	
2	What other equipment in you HH require electricity or solar to operate	
3	Currently how are you managing to get this source of power	
4	Are there activities you do to earn income ***Yes/No (Please mention them)***	
5	How do you pay for your electricity/solar energy needs	
6	Consider your expenses, can you estimate your costs on energy as other house hold items compared to other	

5.2 Survey Questions for ICS Adoption and Perception of users.

A	General Questions				
1	What kind of stove do you usually use in your household?				
2	How many meals do you prepare per day?				
3	Where do you usually cook? (In-door, Outdoor, ventilated)				
4	For how many persons do you cook for, on a normal day?				
B	**Please assess stove on the following categories**	**Applies completely**	**Does rather apply**	**Does not rather apply**	**Does not apply at all**
5	I like the general appearance of the stove				
6	The tested stove is good to handle				
7	The tested stove seems to be stable and durable				
8	The tested stove fulfils my cooking needs				
9	By using the stove I save a significant amount of full				
10	By using the stove the air quality significantly improves				
11	I would recommend this stove to my friends and neighbors				
12	I experienced problems with the stove				
12b What kind of problems?					
13	Would you buy the tested stove if it was not given free? If yes to what price?				
14	What was the biggest benefit of the tested stove since you started using it?				
14	How would you like it to improve on the tested stove if possible?				

5.3 Survey Questions for Traders on existing market systems.

	The market structures within the settlement, (Traders and Business persons only)	**HH Responses**
1	What are the different market systems and chain structures in place for the energy equipment?	
2	What is your opinion on the business environment for energy equipment in the settlement?	
3	Describe for me the Seasonal calendar of the community on main events like cropping season, when fuel is scarce, market boom etc…,	
4	In your view what are the main challenges/bottlenecks faced in doing business in the settlement,	

5.4 Survey Questions for Focus Group Discussion

Demographics

- For how long have people been living this (part of the) settlement?
- Where do the people come from?
- What do people do now (if anything) to earn a living *(e.g. collect/produce and sell charcoal/firewood)* and how much money do they make?
- What did people do to earn a living before they were displaced?

Cooking Habits

- Where do people cook?
- What foods do people normally cook? How long does it take to cook them?
- How many meals per day do people cook? How many people do they cook for?
- How much time do they use for cooking per day? Do they do other activities while cooking?
- What and how did people cook before displacement?
- Would people consider cooking other types of food if they cooked faster?
- Would people consider cooking with their neighbors to save fuel? If so, why? If not, why not?
- What, in people's opinion, is the most important part of cooking? *(E.g. the social aspect, having a fire to gather around, the act of providing for the family etc.)*

Stove Utilization

- What do people currently use for cooking? *(E.g. 3-stone fire, improved stove, etc.)*

A. If 3-stone fire or other traditional method is used, proceed to fuel use.

B. If improved or mud stove:

- Did they make the stove themselves, was it given to them or did they work for it/purchase it?
- If they purchased the stove, how much did they pay and where did they purchase it?
- If it was given out to them, by whom and would they be willing to contribute to?
- If people made their stove, did they receive training on how to make and use it, from whom, how long was the training?
- After training and handover of the stove, was there a follow-up by the agency?
- Did people train anyone else?

Fuel Utilization

- What fuel do people currently use? What other purpose do the people use the firewood for?

A. If firewood:

- How do people get the firewood?
- If collected: who, how often, how long does the trip take, does the trip take longer than it used to, do they go in groups, where do they go and why do they go there?
- If purchased: where do they purchase, much does a bundle of firewood cost, how long does it last, where do they get the money from, why do people purchase and not collect,

did they used to collect it before and if so, what do they do with the extra time, (how) has the cost of firewood changed?

- If provided: who proved it, how often and how much, is it enough to cook for their family daily and cover the other needs, if not, how is it supplemented?

B. If charcoal, briquettes or other fuel:

- Where do people purchase the charcoal/briquettes?
- How much do people pay for one unit of charcoal/briquettes and how long does it last?
- Do people know whether the charcoal is produced within or outside the settlement?

Opinions on the Stove/Cooking Method

- Do people like the stove/cooking method? Why do they like it, or why not?

A. If improved/mud stove is used:

- What would people do if it broke?
- What do people consider to be the most important aspect of the stove? *(E.g. easy to use, durable, portable, uses less fuel, cooks food well, was given out for free, etc.)*
- Do people think they use less fuel with the stove?
- Now that they have the stove, do people collect/purchase fuel less often?
- What would people change about the stove and their cooking if they could?

B. If 3-stone fire or other traditional method is used:

- Are people aware of the benefits of improved cook stoves? If yes, which?

Electricity and Lighting

- What is the people's primary source of electricity/lighting?
- How much do they pay for electricity/lighting on average per week?
- What do they use the electricity/lighting for?
- How many hours per day do people use lighting?
- What other sources of electricity/lighting would people like to use?
- Would people be willing to contribute to electricity/lighting from other sources?
- What other sources of electricity/lighting would people like to use? *(E.g. solar lamps etc.)*
- Are people aware of solar products and their benefits? If yes, what are their benefits?