



WFP & ILF-UGANDA PRESENT

SAFE ACCESS TO FUEL & ENERGY

Building community resilience to climate shocks
through efficient energy markets

OCTOBER 2018 - JULY 2019



A partnership between the United Nations World Food Programme (WFP) and International Lifeline Fund (ILF) with support from Uganda's Office of the Prime Minister and the German government

OBJECTIVE:

SUPPORT LIVELIHOODS BY PRESERVING THE ENVIRONMENT

As a result of renewed fighting, food scarcity, and economic deprivation throughout South Sudan and the Democratic Republic of the Congo, over 1.3 million refugees have fled to Uganda since July 2016. With woodfuel as the main energy source for household and institutional cooking, this massive population influx has resulted in devastating environmental consequences. Despite this rising fuel scarcity and rapid deforestation, as long as there remains demand for biomass fuels, local livelihoods will depend on the harvesting and sale of woodfuel.



To mitigate this environmental degradation and realign economic incentives towards more sustainable energy practices, the partners launched the Safe Access to Fuel & Energy (SAFE) pilot project to:

1. improve livelihoods throughout the target communities by both reducing fuel costs and creating opportunities for local employment;
2. develop community assets that can be leveraged for long-term economic growth;
3. reduce biomass dependency to mitigate deforestation and conserve CO₂ emissions;
4. nurture markets for affordable energy-efficient household stove technologies in Karamoja, West Nile, and South West regions of Uganda; and,
5. utilize stove training sessions as opportunities to provide refugee women with psychosocial support.

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SAFE BY THE NUMBERS

PILOT SCOPE

5 target communities:

- Lobule settlement, Koboko District
- Kyangwali settlement, Kikube District
- Nakivale settlement, Isingiro District
- Napak District, Karamoja region
- Nakapiripirit/Nabilatuk Districts, Karamoja region

2,000 households using ILF's EcoSmart Wood Stoves (1,081 refugee, 419 host community, and 500 rural community)

23 efficient institutional stoves and 12 improved kitchen structures built in 3 refugee reception centers and 20 schools to support refugee and school feeding programs

3 Energy Kiosks established in Lobule, Kyangwali, and Nakivale to support the sale of efficient energy technologies

2 community kilns constructed at technical training institutes in Moroto and Nakapiripirit to enable the local production of efficient energy products

26 local government officials from 5 districts trained in the comprehensive EcoSmart program model blending environment, livelihood & resilience, gender, and local capacity building

72 refugees and community members engaged as SAFE Community Trainers to conduct stove user trainings, provide after-program support, and serve as local project ambassadors



IMPACT

97% of households are using the EcoSmart Wood Stove 3-5 months after its introduction. Overall, households report **spending less time cooking and collecting fuel**, traveling shorter distances to collect fuel, and **spending less money** on fuel resources, on average.

97.7% of households rated their experiences with cooking and collecting fuel as "**better**" or "**significantly better**" since using the EcoSmart Wood Stove.



ILF observed **noteworthy participation of men** in cooking demonstrations during user trainings, which is a positive indicator of the pilot's chances for lasting success, as **the investment of all household members - not only women and girls - in efficient energy use is critical for normalizing behavior change towards green energy growth.**



18.7%

increase in the average number of meals prepared per household per day throughout the SAFE pilot

- It is very possible that the fuel savings accrued from the use of the EcoSmart wood stove have enabled these households to cook more meals and consume more nutrition, as they now have sufficient fuel resources to do so and are not forced to barter away food rations as often.

*Note: All quantitative data for this project was self-reported in surveys. As such, the reliability of the data is limited by the respondent's memory.

INSTITUTIONAL IMPACT

12,011 students across 20 schools nourished by WFP's School Feeding Program utilizing ILF's efficient institutional stoves in Karamoja

2,619 recent refugee arrivals consuming meals prepared on ILF's efficient institutional stoves in Lobule, Kyangwali, and Nakivale settlements

158 cooks, administrators, and school parents trained on how to operate the stoves to maximize their benefits



COMMUNITY VOICES

MR. MOSES CHELANGAT FOOD FOCAL PERSON NAMALU MIXED PRIMARY SCHOOL, NAKAPIRIPIRIT

Mr. Moses Chelangat, the Food Focal Person at Namalu Mixed Primary School, is impressed with the fuel and cost savings of the ILF efficient institutional stove constructed during this pilot. He says the school used to consume 8 to 12 bundles of firewood per day with each bundle costing between UGX 2,500 to 3,000. Since the construction of the new stove, the school now uses between 3.5 to 4 bundles a day. These **50-60% fuel and financial savings** are now directed towards other essential costs, such as paying cooks and gatekeepers.

According to Mr. Chelangat, cooks used to spend several hours cooking lunch due to the inefficiency of the three-stone fire, causing lunch to be served at 2:00PM when pupils and teachers were supposed to be in class. This interruption of afternoon classes negatively impacted student's coursework. Now, says Chelangat, **about 2 hours (approx. 50%) of cooking time are saved each day.** "If meal preparations begin at 8:00 AM," he says, "they end at 10:00 AM." The pupils no longer complain that their food is delayed, and it tastes delicious.



This investment in efficient energy at Namalu Mixed Primary School is reaching far beyond the immediate school community, as workshops and trainings for other schools in the District are hosted here. As such, the Parent-Teacher Association and School Management Committee express great thanks for their involvement in the SAFE pilot.

A CLOSER LOOK

29.9% fuel savings

Households reported using between 0.5 – 5 bundles of firewood per day, with an average of 5.93 bundles consumed per household per week.

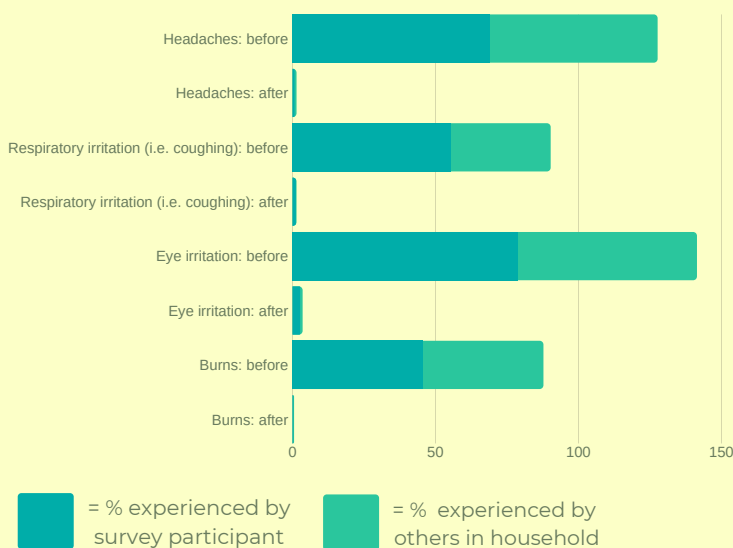
Following the introduction of the EcoSmart wood stove, this amount decreased to an average of 4.16 bundles per household per week,

13.4% cost savings

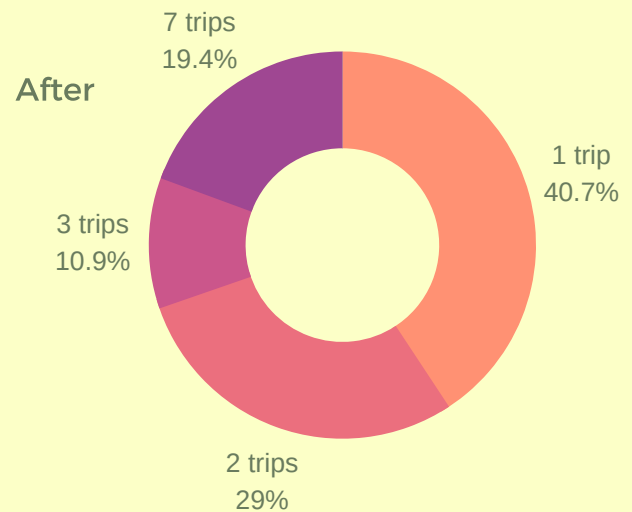
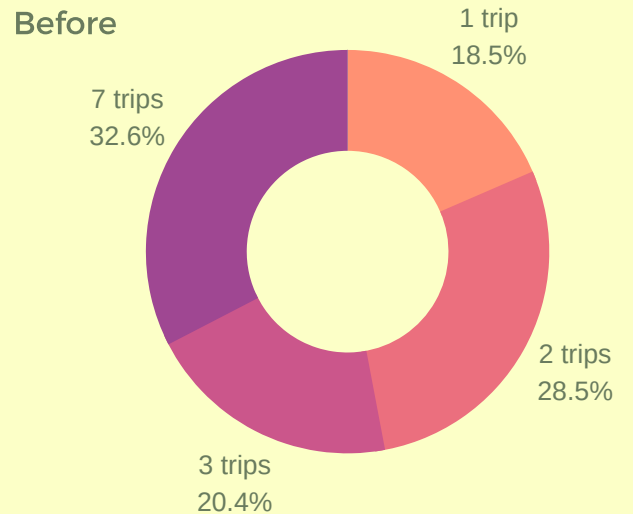
Survey participants reported spending an average of UGX 21,051 on fuel per week prior to the project. Since the conclusion of the project, households report spending an average of UGX 18,222 per week

Reductions in negative health effects on household cooks

Reported incidence of burns reduced 45.4%; headaches reduced 68.4%; respiratory irritation reduced 54.2%; and eye irritation reduced 76.3%



EcoSmart households report fewer weekly fuel collection trips



31% time savings per fuel collection trip

At the time of ILF's initial assessment, survey participants reported spending an average of 4.28 hours per fuel collection trip. Since the introduction of the EcoSmart wood stove, ILF's final assessment revealed an average of 2.97 hours reported per fuel collection trip

A GENDERED LENS

BIOMASS DEPENDENCY RISKS & MITIGATION APPROACHES

As a critical household resource, access to fuel and energy is interwoven with local power dynamics and social strata, including gender, age, and physical ability. During ILF's preliminary stakeholder meetings in each project location, women reported often experiencing beatings and greater risks of sexual assault in the process of traveling long distances to collect firewood. Many women also reported skipping meals or bartering food rations when they could not acquire sufficient fuel resources.

The EcoSmart model is designed to support the protection of vulnerable populations by **reducing their reliance on biomass** and **generating economic opportunities** for growth and long term resilience. These economic opportunities **support households' financial independence** so they are **better positioned to afford more efficient fuels and technologies** instead of spending large amounts of time, money, or other assets like food to acquire fuel. The model thereby supports families in **growing more resilient** to the effects of fuel scarcity and climate shocks.

IMPROVING RESOURCE SECURITY

Households report saving 13.4% on fuel costs, spending 31% less time per fuel collection trip, and spending 26% less time cooking meals with the EcoSmart wood stove.

REDUCING EXPOSURE TO RISKS

Prior to the SAFE project, the most common distance reported to collect fuel was 5-10 km roundtrip (37.8%), and is now most often 1-5 km roundtrip (51.2%).

Frequency of fuel collection trips has likewise reduced from the most common response of 7x per week (31.2%) before the project to 1x per week (39.9%) after the project.

PSYCHOSOCIAL SUPPORT

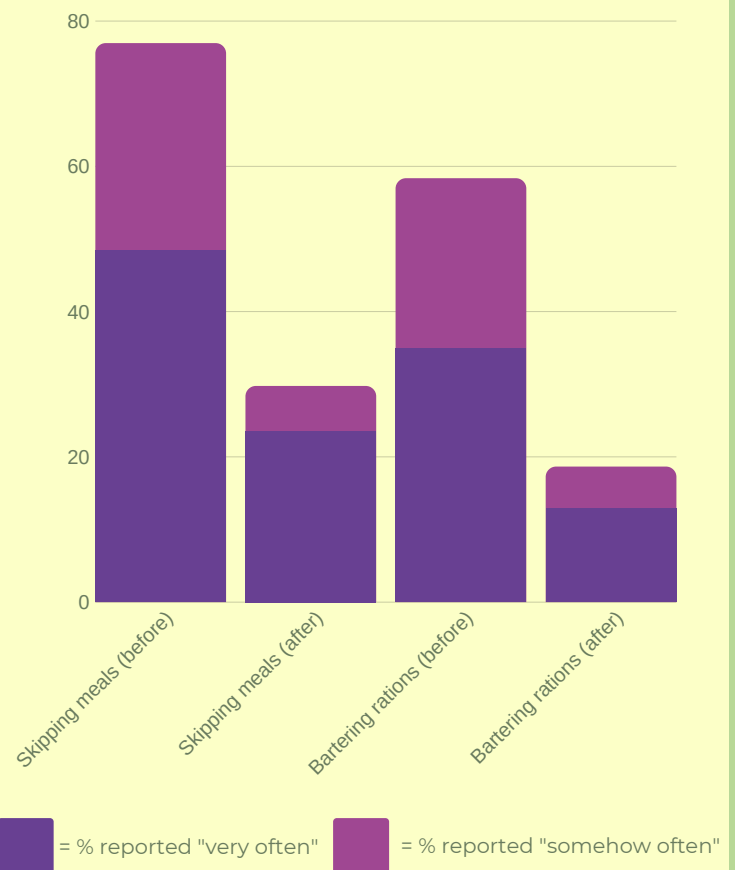
The project saw an improvement in perceived safety levels when acquiring household fuel, with the most common responses being "very unsafe" before the project (34.4%) and "somehow safe" after the project (32.2%).

Since they began using the EcoSmart wood stove, participants rated their experiences cooking and collecting fuel as significantly better (89.6%) and somehow better (8.1%).

Project participants trained as Energy Kiosk staff, such as Georgette in Nakivale, note positive changes in their self confidence and mental health as a result of their employment opportunities.

EcoSmart households report lessened effects of fuel scarcity

1. Reduced frequency of skipping meals
2. Reduced frequency of bartering food rations for fuel





RESILIENT LIVELIHOODS & MARKETS

SPARKING DEMAND, ENHANCING SUPPLY

9 out of 10 project households note that their use of the EcoSmart wood stove has attracted the interest of relatives and neighbors.

To build on this demand and boost efficient cookstove sales, ILF hosted consumer awareness campaigns through radio advertisements, community events, and cooking demonstrations.

Under the EcoSmart model, the fuel and cost savings that households accrue through the use of efficient energy technologies enable them to **increase their purchasing power** to afford more efficient technologies and other goods, **improving the livelihood of local households** and the overall strength of the **Ugandan market**.

By using **local materials and labor and scaling production**, products can be kept at **healthy market prices** to generate profit for future growth, without the need for market distorting subsidies to make the stoves affordable to the targeted consumers.

EXPANDING MARKET POTENTIAL

5

NEW LOCAL VENDORS ENGAGED TO SELL ECOSMART WOOD AND CHARCOAL STOVES

330

ORDERS PLACED AT KIOSKS FOR EFFICIENT COOKSTOVES

2nd

KIOSK LOCATION OPENED INDEPENDENTLY BY THE NAKIVALE SALES TEAM

Next steps to scale

1. Expand last mile distribution with mobile sales teams
2. Increase marketing and awareness
3. Diversify products to meet clean energy needs

ENGAGED & ENERGIZED

GOVERNMENT AND COMMUNITY STAKEHOLDERS

Local government officials from each of the project sites were highly participatory in the EcoSmart classroom training sessions, as well as field practicum visits, where they officiated the formal handover of community assets and institutional stoves. This engagement helped to **promote a transition to national ownership** of the SAFE pilot project and its resulting assets.

ILF's community centered methodology **prioritizes building trust and strong working relationships** with participants to maximize the benefits and longevity of project impacts. Community outreach -- through stakeholder meetings, song, dance, and games, and consultations with local leaders and community groups -- **builds ILF's credibility as a trusted community partner**, rather than simply a temporary aid provider.

The impact of this close community approach is not always captured in standard M&E assessments, but it goes a long way towards ensuring the quality of the activities and impacts among project participants.



26 LOCAL OFFICIALS TRAINED

The District local government of Koboko awarded a certificate of achievement to ILF in recognition of the district's gratitude for the SAFE pilot project, and extended special thanks to WFP for their valuable partnership.

Government stakeholders called for more training activities around fostering green energy markets in future project phases.

NEXT STEPS



BUILDING ON THE SAFE FOUNDATION

In review of the pilot phase of the SAFE project in Uganda, the following proofs of concept were achieved:



Refugee communities and rural Ugandan populations, alike, have **widely adopted** ILF's efficient **EcoSmart wood stove**, with 97% using the stove on a daily basis 3-5 months after introduction of the technology.



There is **widespread market demand and purchasing power** for energy efficient products that are **affordable and well-suited** to the cultural context, as noted by the success of the Energy Kiosks and recruitment of 5 new independent EcoSmart vendors.



Government stakeholders and community leaders are eager to **invest in local cookstove production centers** to create employment opportunities and increase the supply and access to fuel efficient household products.

The SAFE pilot is only the beginning of a green energy market and must be expanded upon to maximize environmental and livelihood benefits. To build on this foundation, ILF recommends the following a step-by-step system to stimulate and organically sustain both supply and demand:

1

Strengthen distribution channels to overcome last-mile distribution barriers and invest in growing consumer awareness.

2

Train local institutions to produce consistently high quality ceramic stove liners (semi-finished goods) to a captive market (e.g. a stove manufacturer).

3

Invest in tooling and training for metal fabrication, construction of small stove storage hubs, and eventually graduate to fully licensed production facility.

4

Incorporate a stove preventative maintenance and repair business to protect the local investment in institutional stoves and create more livelihood opportunities

These market nurturing steps will extend access to not only efficient household cookstoves, but also solar products and other clean energy technologies that evolve over time.



ACKNOWLEDGEMENTS

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Koboko District Government
Kikube District Government
Isingiro District Government
Napak District Government
Nakapiripirit & Nabilatuk District Governments
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Office of the Prime Minister
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Nakapiripirit Technical Training Institute
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