

ENERGY NEEDS IN A HUMANITARIAN SETTING: THE SOUTH SUDAN EXPERIENCE



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OUTLINE

1. Overview
2. Rationale
3. Methodology
4. Interventions
5. Results
6. Conclusions and recommendations

OVERVIEW TO BIOMASS ENERGY NEEDS IN SOUTH SUDAN

- Access to biomass energy is a concern, particularly where large concentrations of IDPs are settled.
- Firewood and charcoal were always in high demand for the purpose of cooking even before the crisis.
- Both IDPs and host populations require woodfuel to cook and all use inefficient stoves for cooking.
- Provision of food aid without addressing access to a secure and efficient source of energy for cooking pose a lot of health, protection environmental risks.
- Women and children are almost always the ones tasked with collecting firewood.
- Addressing wood-based energy and woodfuel consumption needs is therefore an integral part of dealing responsibly with a humanitarian crisis of such proportions

WHY ENERGY IN INTERVENTION?



Address the serious challenges linked with access to cooking fuel in the PoCs and IDP camp

In order to do understand the energy needs of IDPs, the multi-facted SAFE proach was used to understand issues on:



Protection, Gender, Environmental, Nutrition, Education and Livelihoods objectives were considered in the initial design of the intervention.

RATIONALE



To minimize the impact of sudden increased demographic pressure on the natural resource environment, FAO provided fuel efficient stoves to displaced populations to reduce the burden of collecting firewood and associated risks of exposure to gender-based violence

PROTECTION



Reported incidences of rape in Bentiu and Malakal while gathering firewood for cooking witnessed

ENVIRONMENT



Firewood and charcoal consumption for cooking and basic household needs, contributes to rapid deforestation and environmental degradation, which jeopardizes long-term food security

The depletion of firewood around IDP camps means that women and children go further away to collect firewood, increasing the risk of violence

HEALTH AND NUTRITION



The adoption of negative coping mechanisms to access cooking fuel undermines nutrition: spending a day's wage on firewood, selling off food rations, undercooking or skipping meals were common in all POCs

Indoor air pollution from burning traditional biomass is one of the top health risks noted in Melijo in particular.

LIVELIHOODS



Firewood collection and charcoal production and selling are risky and unsustainable livelihood options often conducted by women in most of the IDP camps and POCs.

Methodology

1. Baseline survey

Assessment to understand households fuel choices for effective delivery of improved stoves, and to ensure that supports reach targeted groups were conducted in all the targeted locations. Key areas assessed included;

- Economic activities of the affected communities and main sources of income. This allows for focused intervention and to identify potential sectors of strengthening food security.
- Individual households' fuel decisions. This provides knowledge of the most preferred methods for cooking.
- Role of pricing factors in choosing specific sources of fuel.

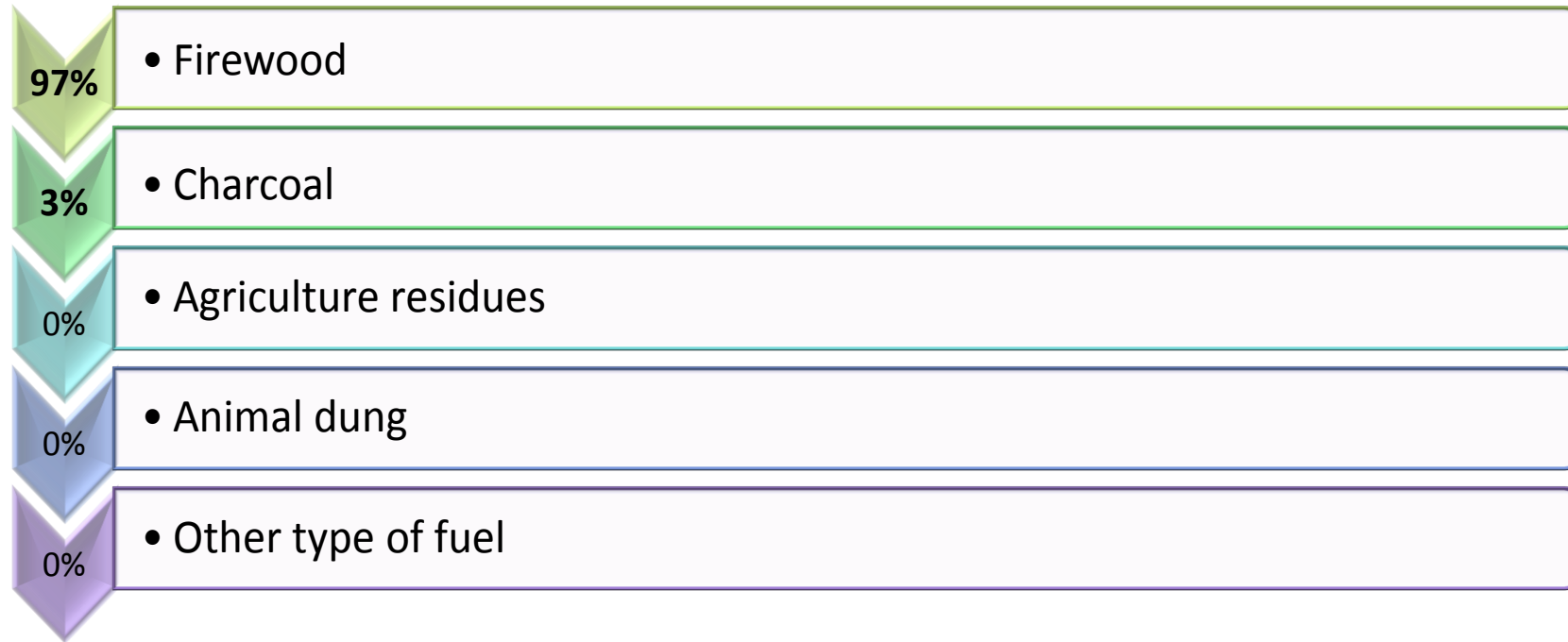
2. Post-distribution monitoring of FES distribution.

Done in order to obtain initial user feedback and data on the utilization of the FES from beneficiaries.

- To capture information on the types of fuels being used, cooking practices, protection issues, and positive and negative user experiences of the distributed FES.

BASELINE STUDY RESULT

1. Most households use firewood and charcoal for cooking and heating



2. TYPES OF BIOMASS ENERGY USED

CHARCOAL



FIREWOOD AT MELIJO CAMP



3. SOURCES OF FUELWOOD AND HOURS SPENT COLLECTING

SOURCES OF FUEL WOOD

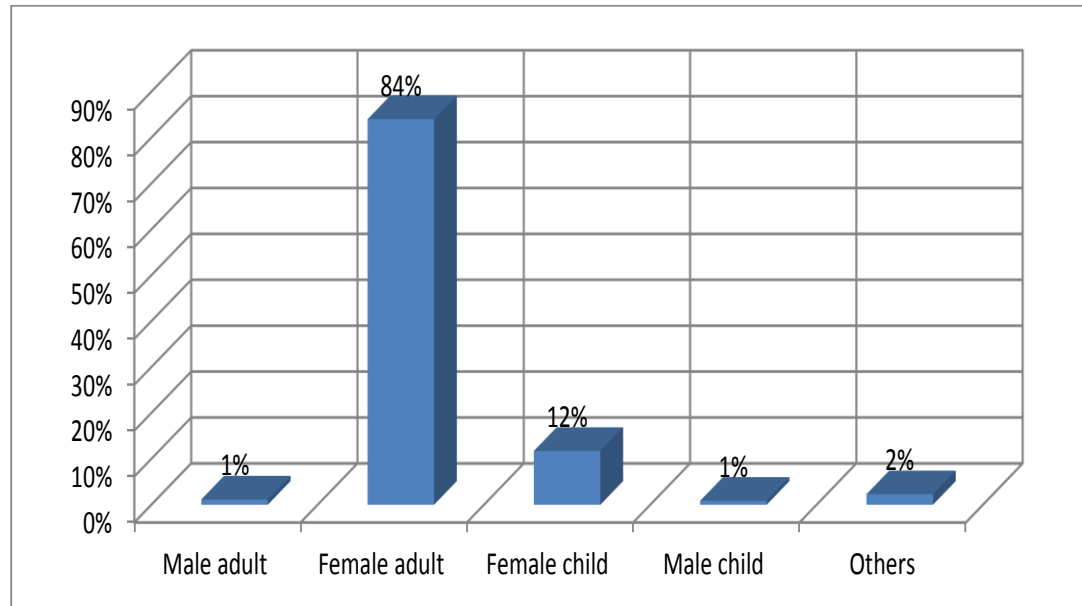
Source of Fuel	No of response	%
Forest	299	85%
Market	21	6%
NGO	30	9%
Total	350	100%

FUEL WOOD COLLECTION TRIPS PER WEEKS

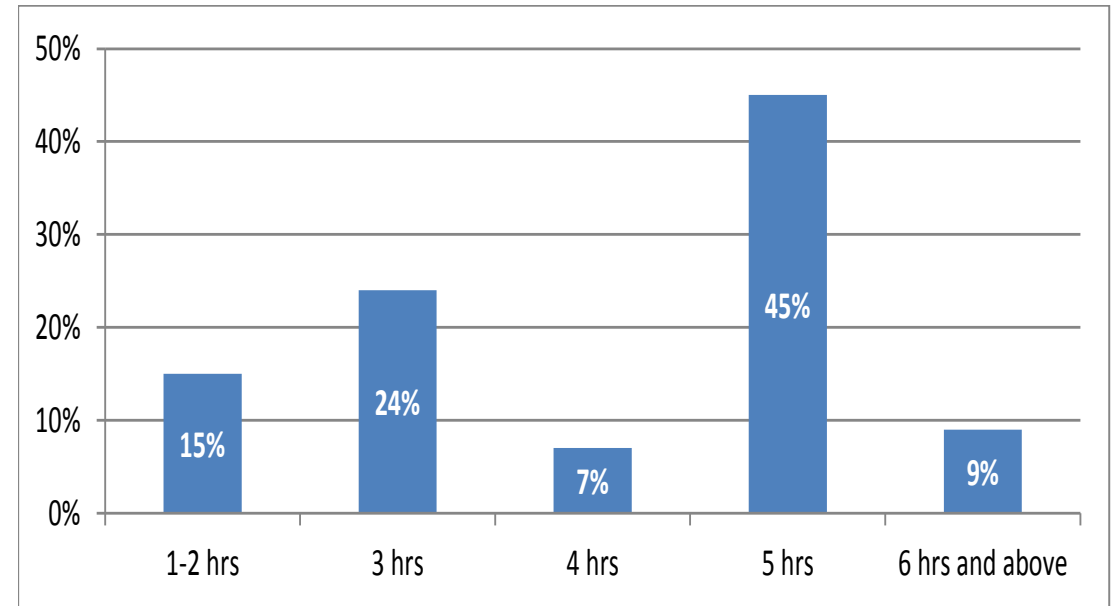


4. FIRE WOOD COLLECTION & TIME SPENT COLLECTING

Primary responsibility of collecting firewood



Average hours per collection trip taken

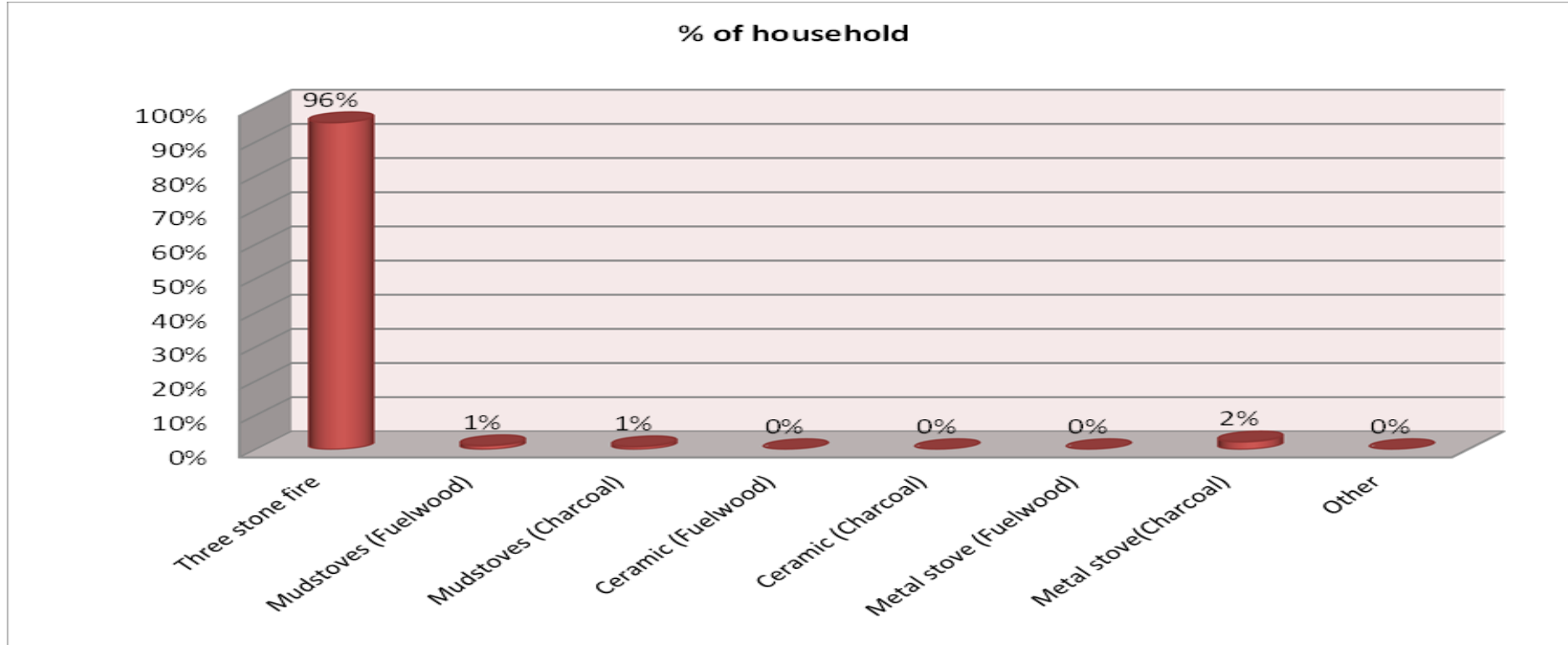


Graph-8: Responsibility of collecting firewood

5. AVERAGE DISTANCE IN KM TO THE COLLECTION SITE

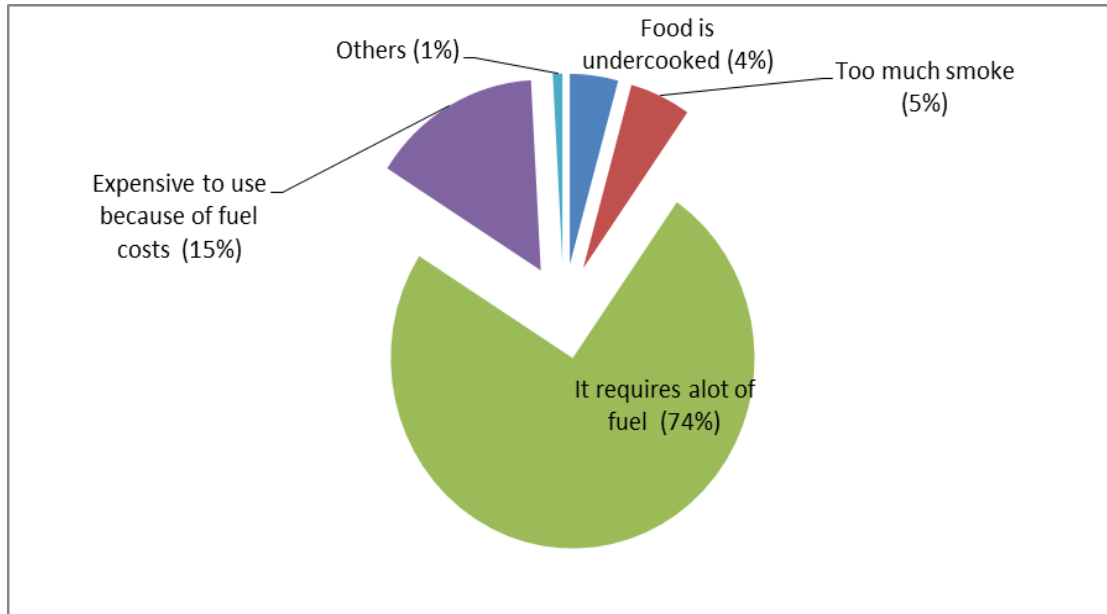
Reponses	# of response	%
1-2 KMs	17	11%
3 - 4 KMs	24	16%
5 - 6 KMs	81	54%
7 and above KMs	28	19%

6. COMMON COOKING TECHNOLOGIES



PROBLEMS ASSOCIATED WITH THE TRADITIONAL 3 STONES

Results from Melut- Upper Nile



Results from Nimule- EES

Problems	Frequency	Percent	Valid Percent
Food is undercooked	27	10%	10%
Too much smoke	233	84%	84%
It requires a lot of fuel	254	91%	91%
Expensive to use because of fuel costs	54	19%	19%
Others (health related risk-burning accident especially for children, irritating eyes, etc.)	177	63%	63%

TWO MAIN TYPES OF STOVES BEING USED BY IDPS



KEY FINDINGS FROM THE BASELINE SURVEY

- Over 96% HHs were using the traditional three stones
- 97% of HHs were dependent on use of firewood for cooking and heating.
- Firewood collection mainly done by women.
- Long distances covered-an of average 3km covered in search of firewood.



THE 3 STONE STOVE USE IN BENTIU

- Food is undercooked
- Too much smoke while cooking
- Lot of fuelwood required



NUMBER OF FES DISTRIBUTED

Location – MELUT	Male	Female	Total
Hai Soma	43	315	358
Dethoma 1	296	1818	2114
Dethoma 2	142	712	854
POC 1	78	60	138
POC 2	6	17	23
Wunthon	14	66	80
Bye Bye	2	78	80
Hai Kosk/Akok host community	38	49	87
Total	619 (17%)	3,115 (83%)	3,734

POC-Bentue	distributed firewood stoves	distributed charcoal stoves	distributed FES	% distributed firewood stoves	% distributed charcoal stoves
1	719	675	1394	52%	48%
2	478	671	1149	42%	58%
3	431	443	874	49%	51%
4	2463	1387	3850	64%	36%
5 & 6	765	807	1572	49%	51%
TOTAL	4,856	3,983	8,839		

INTERVENTION- FES- CHARCOAL AND FIREWOOD



THE ZAMA ZAMA FES

- Results from the tests and testimonies indicate significant reduction in terms of amount of fuelwood used when the households starting using the *Zamazama fuel-efficient firewood stove*.
- HHs testified that the stoves are efficient in terms in terms of time spent on cooking. They noted reduction in time required for preparing a meal using the 3 stones



RESULTS OF INTERVENTION

HHs using the FES

	Frequency	Percent
No	24	3.4%
Yes	676	96.6%
Total	700	100

Suitability of the FES

	Frequency	Percent
No	28	4%
Yes	672	96%
Total	700	100

SOURCE OF FUEL FOR COOKING AND HEATING WATER FOR THE HOUSEHOLD AFTER RECEIVING THE STOVE

- Average unit cost of a bundle of FIREWOOD = 6.2 SSP
- Average FIREWOOD consumption per week = 4.3 bundles
- Average FIREWOOD cost per week = 24 SSP
- Average unit cost of a bag of CHARCOAL = 40 SSP
- Average CHARCOAL consumption per week = 0.76 bag of 50kg
- Average CHARCOAL cost per week = 38.6 SSP

Source of fuel	Frequency	Percent	Baseline
Firewood	475	68%	62.3
Charcoal	265	38%	23.1
Agricultural residues	27	4%	12.8
Animal dung	2	0.3%	0.2

BENEFITS OF USING THE STOVES PROVIDED

Firewood stove

	Frequency	Percent
Less fuel used	308	44%
Food cooked properly	278	40%
Cooks fast/less time to cook meals	215	31%
Less smoke	191	27%
Reduced expenditure on fuel	157	22%
No unique benefits	6	1%

Charcoal stoves

	Frequency	Percent
Less fuel used	258	37%
Food cooked properly	247	35%
Cooks fast/less time to cook meals	151	22%
Less smoke	264	38%
Reduced expenditure on fuel	170	24%
No special advantages	8	1%

RECOMMENDATIONS AND CONCLUSIONS

- There is a great need to recognize the importance of fuel for cooking, heating and other immediate needs in the context of humanitarian settings.
- Access to cooking fuel has implications for a range of sectors that influence livelihoods, the well-being of people, environmental sustainability and the overall resilience of crisis-affected populations to shocks.
- Because of the strong links between energy access and food security, livelihoods, environment, nutrition and health, emergency fuel response activities should be considered as life-saving interventions and have a firm place in emergency response procedures.

THANKS

