

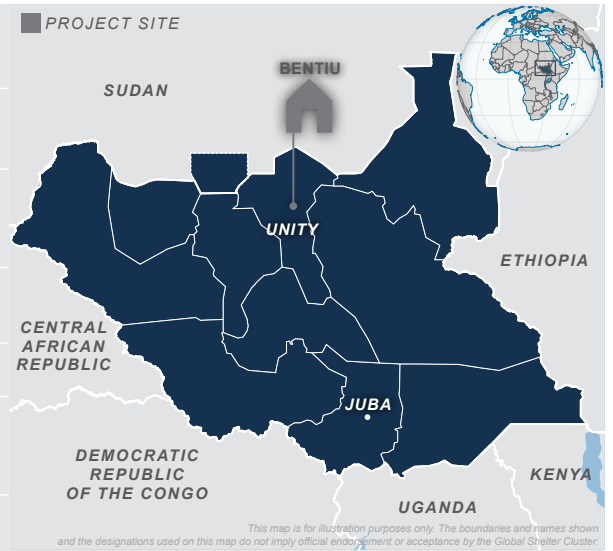
CASE STUDY

SOUTH SUDAN 2017–2018 / CONFLICT

KEYWORDS: Fuel-efficient stoves, Vouchers, Women’s empowerment, Private sector, Cost-effectiveness

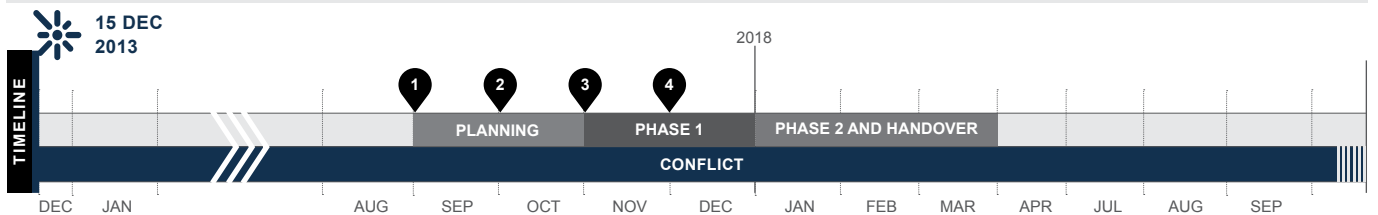
CRISIS	South Sudan Civil War, December 2013–onwards
TOTAL PEOPLE AFFECTED*	7 million individuals , as of Dec 2017
TOTAL PEOPLE DISPLACED	1.9 million individuals displaced* Over 265,000 individuals in PoC sites**
TOTAL PEOPLE WITH SHELTER NEEDS*	1,673,044 individuals in 2018
PROJECT LOCATION	Bentiu Protection of Civilians site, Unity state
PROJECT BENEFICIARIES	22,360 households (100,620 individuals) 4 local traders engaged
PROJECT OUTPUTS	11,180 fuel-efficient stoves built 1,280 participants of skills training USD 76,120 injected into the local economy
OUTCOME INDICATORS	98% usage rate of the new stove; 99% satisfaction rate; 1% of women go out to collect firewood daily (7% before the project); 0% of beneficiaries classify cooking-related fire risks as “high”; 99% state that the stove produces less smoke
MATERIALS COST	USD 6.7 per household (USD 5.2 cash for work, USD 1.5 stove materials)
PROJECT COST	USD 11.6 per household

* South Sudan Humanitarian Response Plan 2018; ** DTM, April 2018.



PROJECT SUMMARY

The project enabled the construction of fuel-efficient stoves in a camp through a voucher system. Beneficiaries (almost entirely women) used the vouchers to access stove construction materials procured by local traders and were responsible for constructing the stove. The organization provided cash-for-work grants upon successful completion of a fully functional stove, as well as skills trainings. Significant cost savings were achieved by procuring locally sourced materials from multiple local traders and transferring the supply chain management costs to them, including storage, transport and distribution.



- 1 Sep 2017: Community engagement plan developed and consortium of small-scale traders established.
- 2 Oct 2017: Baseline survey for the pilot phase.
- 3 Nov 2017: Completion of pilot phase, which activated the full roll-out of the FES project.

- 4 Dec 2017: Endline survey of the pilot, which informed project implementation.

STRENGTHS

- + High community involvement and women’s empowerment.
- + The project built on local capacities and the skills-transfer process was organic and self-sufficient.
- + The cash-based approach was cost-effective.
- + Local ownership was promoted.
- + Fewer women had to collect firewood on a frequent basis.
- + Reduced smoke pollution, improving health and well-being.

WEAKNESSES

- The project could have taken less time.
- The main construction material was not available on site.
- The project did not include people with special needs.
- Limited collaboration with GBV and Protection actors.



The project promoted local ownership by providing women with training to construct fuel-efficient stoves with local materials, which were accessed through a voucher system.

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CONTEXT OF BENTIU POC SITE

See overview A.23 in *Shelter Projects 2015-2016* and A.6 in this edition for more background information.

Almost five years after the beginning of the crisis, the number of internally displaced people (IDP) seeking shelter in the Protection of Civilians site (PoC) in Bentiu was estimated at 113,310 individuals.¹ Since December 2013, the site witnessed multiple influxes of new arrivals in connection with spikes in insecurity in surrounding areas. Due to protection concerns, many individuals, particularly men, had not left the site since they arrived over four years before. While some households chose to leave the site, specific threats and generalized insecurity meant that Bentiu remained a life-saving refuge for displaced populations.

COOKING PRACTICES IN SOUTH SUDAN

Due to gender roles, women in South Sudan are mainly responsible for meeting most household needs, including food preparation and fuel collection. Different stoves are used for different size pots, which allow women to prepare a variety of foods for their families to enhance nutrition. Charcoal is the most common source of fuel for these stoves. Women traditionally gather the firewood, while men make the charcoal. In more rural areas or in periods of displacement when no stoves are available, firewood can be the primary fuel source and women cook over polluting and inefficient “three-stone” fires. Women face several challenges in accessing cooking fuel. Firstly, by being forced to venture further and further away from their homes for prolonged periods of time, women are exposed to high risks of gender-based violence (GBV), while men rarely leave the PoC sites for fear of attacks by armed actors. Women also often have inadequate income to support procurement of alternative fuel sources.

IMPORTED STOVES

Households in Bentiu PoC prepared their daily meals on three-stone stoves, in very tight and poorly ventilated quarters, due to the overcrowded conditions of the site. Previous interventions were largely around distribution of technically advanced, fuel-efficient stoves from foreign suppliers. The organization conducted a comparative study of these imported models with locally made stoves. These included both manually produced and industrial products, generally of good

¹DTM Headcount, March 2018.

²UNFPA, Lessons learned on Fuel FES in South Sudan, 20 March 2017.



Women and girls in South Sudan often need to travel long distances to access firewood, which exposes them to safety risks. The project reduced their need to do so, by providing fuel efficient stoves.

quality and durability. However, in the site, imported stoves failed to generate long-term usage among the population, often ending up being sold on the local market, not used at all or left behind, as families move to other locations. This was due to the lack of community buy-in, as these models did not identify and build on solutions that were well adapted to the local context. Additionally, these imported models were relatively costly (from USD 22 to 38) and had high maintenance and repair costs.

PROJECT OBJECTIVE

The project aimed at improving the living conditions in the site through the use of community-made, fuel-efficient stoves, resulting in better fuel collection and meal preparation practices. In line with the Humanitarian Response Plan and Shelter-NFI Cluster strategy, the project focused on increasing the resilience and capacities of the affected populations by using a cash-based modality.

PROJECT IMPLEMENTATION

The project targeted over 11,000 households (almost 90% of the population in the site) and was implemented by a team of three staff. It consisted of four main components: stove design; training of trainers; procurement; and construction through a voucher system. It was preceded by a pilot phase and followed by a verification process that included the disbursement of a cash-for-work grant.

PILOT PHASE. Prior to full roll-out, a pilot phase was implemented to evaluate the feasibility, time, challenges and community buy-in, and to improve the project design. A baseline study, market analysis, stakeholder analysis and evaluation of the pilot phase were also conducted. This provided a background on the population’s challenges and capacity to contribute to the project and confirmed that a cash-based approach was feasible. Hence, a cash-for-work and community engagement plan were developed, cow dung was procured and a consortium of four, local, small-scale traders was established.

STOVE DESIGN AND SELECTION. The organization identified a stove model based on the results of the research study on fuel-efficient stoves and with careful consideration to local cooking practices and community preferences. The stove was built from locally available materials (mud and cow dung) and had a user-friendly design developed by the affected population themselves. It also reduced firewood consumption and improved users’ health through reducing smoke. A total of seven stoves, including the selected community-made design, together with imported and other local rudimentary stoves, were tested with a minimum of 15 families. The models were rotated



Communities in the site, including women’s groups, were engaged throughout the project.



Skills trainings on the construction of the stove were conducted in the site, starting with a training of trainers for construction assistants who then cascaded the training to 1,280 participants.

to a different family after three days, to ensure that average firewood consumption was not affected by household size or varying cooking techniques. Stoves were tested on insulation, firewood consumption, smoke reduction, local production and material availability. After the tests, focus group discussions on user preferences were conducted and each stove type was scored and ranked. The locally made stove scored highest.

COMMUNITY ENGAGEMENT. All information was communicated through the radio, community leadership, block leaders, door-to-door visits, posters and general meetings. Although the selected stove design was already familiar to the affected population, a community-led communication campaign was undertaken to further highlight the associated health and fuel-efficiency gains. As part of the monitoring and evaluation of the project, a complaints response mechanism was set up at the outset of the project. Information on criteria to qualify for a cash grant after completion of the stove was disseminated through block leaders and construction assistants.

SKILLS TRAINING. The organization trained ten construction assistants in each block within the site, who themselves then trained 1,280 participants (98% women). The training of trainers lasted for one day and participants were compensated with a grant of SSP 150 (USD 1.1) upon successful completion. After this training, the construction assistants were able to provide support, repair or even build the stove. This represented a potential source of livelihood for the future.

PROCUREMENT AND VOUCHER DISTRIBUTION. The construction of the stove required 5kg of mud and 5kg of cow dung. Beneficiaries were responsible for the procurement of mud that could be found near the site. The community leadership selected local traders outside of the site to procure, transport and distribute the cow dung. The delivery of materials to beneficiaries was organized through a voucher scheme consisting of the following steps:

- The organization distributed commodity vouchers to the beneficiaries;
- Traders brought the cow dung to a designated location, just outside of the site;
- Beneficiaries collected one bag of cow dung in exchange for the vouchers;
- Traders redeemed the vouchers with the organization.

CONSTRUCTION. Beneficiaries were responsible for the construction of the stove and the organization incentivized the process by providing each household with a cash-for-work grant worth SSP 700 (USD 5.2) upon completion of a fully functional stove. Once the cow dung was received, they only needed to procure mud by themselves and had three weeks to construct and finalize the stove. After that, the stoves would dry in about two weeks. The construction assistants provided support during the construction process.

STOVE RANKING TEST RESULTS

Type	Insulation	Firewood consumption	Smoke reduction	Local production	Material availability	Total
Wire stove (traditionally used in the PoC)	0	0	0	3	3	6
Iron stove (traditionally used in the PoC)	0	0	0	3	3	6
Metal stove (traditionally used in the PoC)	0	0	0	3	3	6
Jiko Kisasa (imported)	1	2	1	2	2	8
Kuni Okoa (imported)	1	3	2	0	0	6
Eco zoom 5000 (imported)	1	3	2	0	0	6
Rubkona Rocket (locally produced)	4	3	1	4	4	16

Each stove type was scored and ranked after the results of the testing were collected and focus group discussions on user preferences completed. The evaluation scale ranged from 0 to 5, with 0 indicating "very poor performance" and 5 indicating "excellent performance". The results are presented in the table above.

VERIFICATION PROCESS. As a condition to release the cash grant, stoves were verified according to the following criteria: i) the stove must be dry; ii) it must not have any significant cracks; iii) it must have a fuel entry point, air-inlet and fuel chamber; and iv) it must be constructed on a plain surface. The size of the stove may vary according to each household's unique preferences and needs.

REDEMPTION OF CASH-FOR-WORK VOUCHER. Upon verification of the stoves, project staff distributed a carbon-copy receipt to eligible heads of household that could be exchanged for SSP 700 at the designated cash distribution point. The redemption of these vouchers was done by staff checking unique pre-printed numbers (valid only for one day) off a tally sheet.

TARGETING

There were two beneficiary selection processes. For the stove construction, the project targeted almost 90 per cent of the total number of households in the site. In coordination with all concerned residents, a focal point was identified for each shelter that was responsible for interacting with the organization, constructing the stove and receiving the cash-for-work grant. A total of 11,180 focal persons were selected for 11,180 shelters. As most shelters were communal, residents had to agree on who within the shelter would receive the grant.

For the skills training, the construction assistants were selected in coordination with all relevant stakeholders within the site, including the women's committee, youth committee, block leaders and the chiefs' high committee. The process was guided by three key criteria:

- All geographical sections within the site should be equally represented. Each sector should be home to at least 15 per cent of the total number of training participants.
- Individuals whose livelihood opportunities could be negatively affected by a decrease of firewood consumption within the site should be given priority. Due to the gender dimension of fuel collection, at least 60 per cent of construction assistants should be female.
- Idle youth without access to any other income should be prioritized. At least 80 per cent of construction assistants should be between 18 and 25 years old.



MAIN CHALLENGES

RENT-SEEKING BEHAVIOUR FROM ARMED ACTORS. The local traders were being arbitrarily taxed by local authorities, so had to find more effective mechanisms to deliver materials, such as optimizing delivery times and reducing the accesses to the site, to also reduce the number of times they would get taxed.

UNFAMILIARITY WITH PARTICIPATORY APPROACHES. Initially, people would ask what they were going to receive, rather than how they could be involved. This was due to the negative impact that in-kind distributions had over time on their attitudes. It took the project team time to get the community fully involved.

CURRENCY FLUCTUATIONS. Due to the volatility of the South Sudanese Pound, the longer the project duration, the more chances of the value of the cash grant changing, as it was a fixed amount. For this reason, the team needed to ensure that the completion of the stove and the verification process were done on time.

CAPACITY OF THE ORGANIZATION TO IMPLEMENT. The organization did not have yet the programmatic expertise and operational capacities required to implement a cash-transfer programme smoothly. To address this, programme staff organized weekly meetings with finance and procurement staff to align the process with standard financial management rules and procedures. Efforts at improving communication between programme staff and support units proved highly successful. Payment of suppliers and cash distribution plans were established to allow for a certain flexibility as required on the ground (for example, delays in service delivery due to fluctuating stocks or vehicle breakdowns).

WIDER IMPACTS OF THE PROJECT

By adopting a community-led approach, the project sought to strengthen resilience and self-sufficiency, engaging in partnership with local leaders and entrepreneurs, as well as other stakeholders such as women and youth. The cash-based intervention promoted local ownership and sustainability, as the community was closely involved in all stages of the project cycle. The skills training provided participants with a livelihood skill that could become an income-generating activity beyond the site. This may serve to address humanitarian needs in the long term, by reducing underlying vulnerabilities, such as unemployment and scarcity of cooking fuel.



The project replaced inefficient three-stone stoves used in the camp (left) with fuel-efficient stoves made with local materials (right) through an people-driven process.

STRENGTHS, WEAKNESSES AND LESSONS LEARNED

STRENGTHS

+ **High community involvement** throughout the project. The project also had a **focus on women's empowerment** through their strong participation – specifically during stove design process, training and construction.

+ The project **built on local capacities by engaging local actors and conducting skills training**. As a result, 96 per cent of targeted households reported to be capable of building the stoves, 95 per cent that they could teach someone else the building skills, and 92 per cent that they would be able to maintain and repair their own stove. **The skills-transfer process was organic and self-sufficient**, only requiring the initial training for 20 selected women in the pilot area before rapidly spreading to cover 1,280 people in the site.

+ **The cash-based approach was cost-effective** as it engaged multiple local traders to provide locally available materials, resulting in cost reductions of 59 per cent compared to the distribution of imported stoves.

+ **Local ownership was promoted** by identifying a stove which was in line with traditional cooking practices and made of local materials. The majority of the women who participated in the project used the stove (98%) and were satisfied with it (99%). Satisfaction was mainly due to fuel efficiency, cooking quality, smoke reduction and ease of use. Preparation times were lower because the stove was well insulated, better preserving the heat.

+ **Fewer women had to collect firewood daily** after the project, reducing associated GBV and safety risks (only 1% of women interviewed, as opposed to 7% before the project).

+ **The stoves reduced smoke pollution**, with positive effects on people's health and well-being. This was thanks to their compact structure and the space between the cooking pot and the open flame.

WEAKNESSES

- **Internal delays prevented the project from finishing earlier**, due to several ongoing cash-based interventions and because the operational capacity and expertise of the organization in such projects was not yet fully in place.

- **The main construction material was not available on site**. Although cow dung was available in a nearby town, it was not readily available within the PoC. The project team could have researched how the community could access cow dung from the outside, if a market for cow dung was possible, or if there were available sources within the site itself.

- **The project did not have any special measures on inclusion of people with special needs**, such as those with physical disabilities or heightened vulnerabilities, or marginalized groups. This resulted in these groups being unable to participate in the project.

- As this project had a GBV risk mitigation component, **the project team could have collaborated more with GBV and Protection actors**. This could have enabled a better identification of special needs of vulnerable groups and their inclusion in the project. Tools could have been designed to assess GBV risks and mitigating factors, and joint monitoring could have better informed the organization about GBV risks and interventions that may have been overlooked.



Stoves were made of local materials and according to traditional cooking practices. Women participated in the design of the stoves and were trained on how to construct them.

LESSONS LEARNED

- **Start community sensitization** and solicit buy-in for the project **well in advance of implementation**, as cash is time-consuming, particularly when it involves beneficiary participation. Community involvement was ensured in all stages of the project cycle and was key to avoid increased tensions between various groups in the site and beyond.
- **The terms of engagement with traders need to be communicated continuously**, from the tendering to the selection stage, to address questions and issues, as well as to mitigate any potential tension. Although participation criteria and minimum capacities required were communicated to all traders who were vying for the position, ineligible traders still hoped to be selected and tensions between them started to rise until the selected traders were announced.
- **Understand potential challenges** in importing materials into a site and **make sure local traders understand all barriers they may face** (e.g. the issue of arbitrary taxation), before agreeing on terms of reference.
- **Ensure that transportation and other logistics are adequate and ensured by the trader**. This should be included in the terms of reference, with penalties in case these are not fulfilled.
- **Ensure a proper conflict analysis prior to project design and implementation**. Fighting occurred on a regular basis in the site and it was often related to tensions within the trader community. Project staff decided to engage with outside traders as a precautionary measure, following consultations with community leadership in the site.