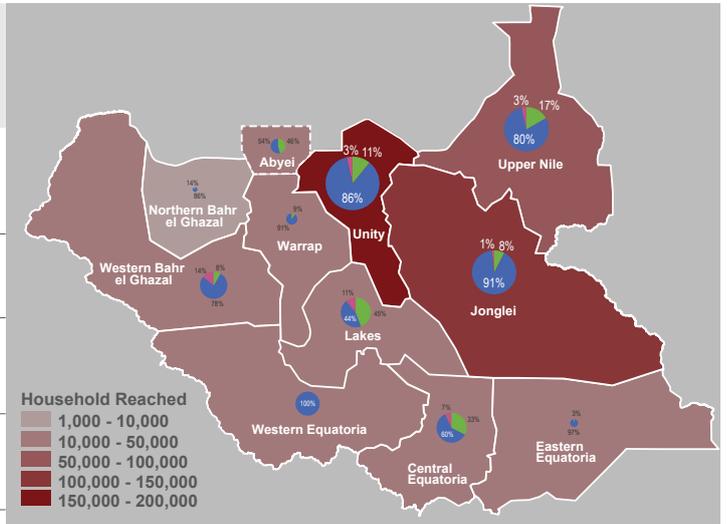


OVERVIEW

SOUTH SUDAN 2013-2016 / COMPLEX

CRISIS	Complex, 2013 onwards Conflict, economic decline and food insecurity provoking protracted internal and cross-border displacement.
TOTAL PEOPLE IN NEED OF HUMANITARIAN ASSISTANCE	10 million (approx. 88% of the total population)
TOTAL DISPLACED PEOPLE	1.83 million¹
SOUTH SUDANESE REFUGEES IN NEIGHBOURING COUNTRIES	1.17 million¹
TOTAL PEOPLE SUPPORTED (shelter-NFI)	748,430 households² (Dec 2013 - Nov 2016)
SHELTER-NFI RESPONSE OUTPUTS (households)	569,422 non-food items 146,917 shelter solutions 32,091 shelter-related NFIs



Cumulative figures of households served with shelter and NFI assistance, Dec 2013-Nov 2016: (Source: Shelter-NFI Cluster South Sudan). The pie charts represent the percentage of assistance for each state (Blue = Household NFIs, Green = Shelter, Pink = Shelter-related NFIs).

SUMMARY OF THE RESPONSE

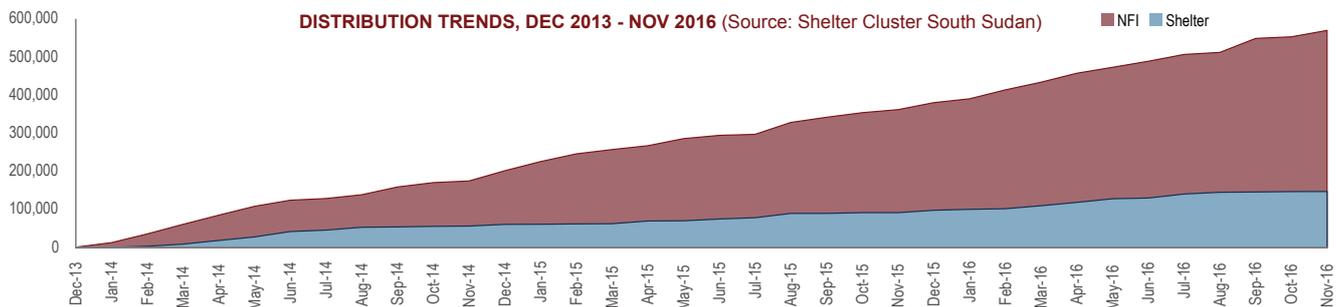
The complex emergency in South Sudan – after the breakout of violence in December 2013 – created massive displacement and required a flexible approach to planning, coordination and implementation. The response focused primarily on meeting immediate needs through emergency NFI distributions. As the crisis continued, increasing efforts were made to include more durable (emergency) shelter support options for individuals in protracted displacement, particularly within Protection of Civilians sites (PoCs).

¹ South Sudan Humanitarian Update, 24 Jan 2016, <http://bit.ly/2kRPmLn>.
² Data reported by the Shelter-NFI Cluster.
³ Humanitarian Response Plan 2015, <http://bit.ly/2krYDfp>.
⁴ Humanitarian Needs Overview 2016, <http://bit.ly/2kh9uqe>.

15 DEC 2013



- 1 15 Dec 2013: Conflict starts in South Sudan.
- 2 Feb 2014: Humanitarian response scaled up.
- 3 Sep 2014: 1.43 million people internally displaced; 470,000 refugees in neighbouring countries³.
- 4 31 Dec 2014: 267,573 households assisted with shelter-NFI.
- 5 May 2015: Emergency airlift operation in Greater Upper Nile begins.
- 6 17 Aug 2015: Agreement on the resolution of the conflict.
- 7 Sep 2015: Population in PoC sites reaches about 196,000 individuals.
- 8 15 Dec 2015: 1.66 million people internally displaced; 646,000 refugees in neighbouring countries. 6.1 million people in need of humanitarian assistance⁴.
- 9 31 Dec 2015: 491,943 households assisted with shelter-NFI.
- 10 11 Jul 2016: Battle in Juba and resuming of hostilities.
- 11 30 Nov 2016: 748,430 households assisted with shelter-NFI.





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Large-scale displacements in South Sudan led to a significant minority of hundreds of thousands of people seeking refuge in and next to UN bases. These sites were known as Protection of Civilians sites, or PoCs.

BACKGROUND

Following its independence on 9 July 2011, South Sudan was the world’s newest state, with high hopes for the future. However, civil conflict started on 15 December 2013 and led to massive internal and external displacement of citizens, with extreme violence, harassment, and the deliberate destruction of community and civil infrastructure. Since then, South Sudan has been experiencing a complex crisis: political, economic and security-wise.

The situation in certain locations, such as Greater Upper Nile and Jonglei, continued to decline throughout 2014-2016. Other areas that were considered stable, such as the Equatorias and Greater Bahr el Ghazals, have experienced intense periods of fighting. Rising food insecurity and the effects of conflict on trade and crop planting have further impacted displacement dynamics and mobility shifts.

The August 2015 Agreement on the Resolution of the Conflict was set-back after major conflict episodes in 2016. Crucially, in July 2016, a major battle in Juba killed hundreds and led to thousands fleeing in fear. This led UN, Embassies and NGOs to evacuate or relocate staff.

PROTECTION OF CIVILIANS SITES

Prior to the conflict, the United Nations Mission in South Sudan (UNMISS) bases had hosted civilians under threat of physical violence, with limited humanitarian response. The continual violence from 2013 on caused people to flee to Protection of Civilians (PoC) sites and stay there for far longer than ever before. International debate has arisen over the sustainability of these sites; resources have continually been stretched and it has become obvious that IDPs in PoC sites require long-term assistance.

Initially, response was difficult, as many organizations were development-based and did not have the capacity or security

protocols to respond to a quick-onset emergency. Shelter provision has been, for the most part, in concentrated IDP sites, such as the PoC sites in UNMISS bases, and the towns of Mingkaman and Melut – where large numbers of displaced people settled. While the majority of NFI response has taken place along the same lines, people in need across each state have been assisted with NFIs, since the beginning of the crisis.

SITUATION DURING THE CRISIS

There has been little satellite mapping or systematic collection of housing and construction data in the country, nor on the type of and damage to residential dwellings that have been destroyed. Additionally, South Sudanese people normally migrate between different localities, depending on the season or movements of livestock. Sections of certain towns were assessed post-conflict, however the lack of baseline data complicates assessing damage and, therefore, the collection of information is ad hoc. South Sudan is mostly rural, with underdeveloped infrastructure and roads, which have also been damaged through season weather patterns, conflict or neglect. People have generally been assisted in areas far from their homes, where this type of information would be more easily collected. **Thus, the focus of assistance in South Sudan has not necessarily been to rebuild shelters, but to provide new emergency shelters in areas of displacement, where people fleeing their homes have found relative safety.**

SHELTER-NFI RESPONSE

The Shelter-NFI Cluster has been in existence since 2011, when it had been assisting returnees from Sudan to the newly independent South Sudan. Returnees had differing shelter and NFI needs, according to the stage of their journey, and whether they were returning to rural or urban locations. The Cluster Strategy emphasized development and sustainability interventions, which took into account local context and community dynamics, such as disaster risk reduction for



Protection of Civilians sites, such as the one in Bentiu, are heavily secured because of the constant threat of attack by armed groups.

flooding, livelihoods support and cash transfers, linked to the intended three-year Humanitarian Response Plan.

In the first months after the 2013 crisis, operations were scaled up to respond to the vast increase of needs and scope. At a certain point, the mobile team increased from three members, to more than ten. Further, the team employed four technical experts and engineers in shelter design and site planning, to advise on shelter interventions in concentrated sites.

Given the changing and diverse contexts, a flexible approach to response, coordination and strategy was needed. During 2013-2014, the focus was on emergency shelter designs. Due to the protracted displacement and continued conflict, focus then shifted to more durable solutions. This included **developing robust designs and re-enforcing existing shelters**, with complementary framing support to enhance structural strength. With the extreme space limitations and increasing populations flowing into the PoCs, **communal shelter designs were introduced** to ensure space efficiency. At locations where this was not an issue, the Cluster advocated for individual shelters. However, progressive designs have not been an option, due to the protracted emergency.

In 2015, the Shelter-NFI Cluster worked with other clusters to coordinate the **delivery of multisectoral survival kits**. In May 2015, an emergency airlift operation began, to provide lifesaving assistance to civilians who were cut off due to insecurity and access constraints in Greater Upper Nile. The operation delivered lightweight, portable, survival kits, which included: essential, multisector, items such as mosquito nets; short-maturity vegetable seeds; fishing supplies; water containers, water purification tablets, oral rehydration salts and nutritional biscuits; and kitchen sets. By the end of 2015, agencies had delivered more than 27,800 survival kits in 14 deep-field locations, reaching 140,000 people.

COMMON SHELTER-NFI PIPELINE

Following several years of humanitarian needs in Sudan and the former southern Sudan region, a common Shelter and NFI pipeline was established in 2011, to increase efficiencies of scale, as well as the timeliness and predictability of service to beneficiaries.



Annual flooding affects people across South Sudan every year. With crowded conditions in PoCs, this caused significant additional public health concerns.

With the outbreak of political conflict in December 2013, the pipeline scaled up significantly. With ongoing and protracted conflict, multiple waves of displacement, and the need for continuous service in large displacement sites (e.g., the PoCs), **the distribution of NFIs and shelter materials through a common pipeline remained the primary method** of delivering humanitarian shelter assistance. As of late 2016, the pipeline has been used to reach 1,585,850 individuals, though in some cases the same people were reached multiple times, due to protracted displacement.

SITUATION IN 2017

By January 2017, more than 2.6 million people have been forcibly displaced from their homes. There were 1.83 million IDPs and 1.17 million others had fled to neighbouring countries (98,000 per month, since July 2016). More than 224,000 IDPs were seeking refuge at existing PoC sites in Bentiu, Unity; Malakal and Melut, Upper Nile; Juba, Central Equatoria; Wau, Western Bahr el Ghazal. The scale and protracted nature of internal displacement into PoC sites is unprecedented, throughout the UN's history.

The following case studies deal with the set up and operation of the common shelter-NFI pipeline (A.24) and a shelter project and site works conducted in the PoC site in Bentiu (A.25).

CASE STUDY

SOUTH SUDAN 2014-2016 / COMPLEX

KEYWORDS: Pipeline, NFI distribution, Emergency shelter, Procurement

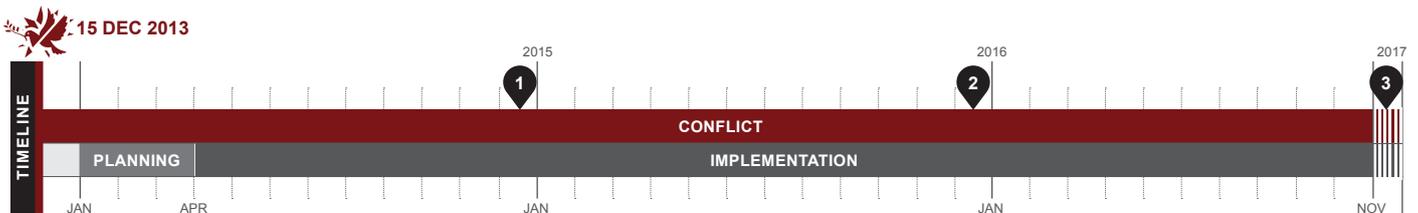
CRISIS	South Sudan Civil War, Dec 2013 - ongoing. Complex crisis.
TOTAL PEOPLE AFFECTED	6.1 million in need of humanitarian assistance and 1.66 million internally displaced, as of December 2015 ¹ . <i>For more updated figures, see overview A.23.</i>
PROJECT LOCATIONS	South Sudan, country wide
BENEFICIARIES²	579,849 households (2,894,407 individuals, 52% female) assisted between Dec 2013 and Dec 2016
PROJECT OUTPUTS	438,958 households assisted with NFIs 140,891 households assisted with shelter materials
SHELTER SIZE	Shelter designs supported by the pipeline: 72m² for communal shelters (for 32 people). 16m² for individual shelters (for 5 people).
MATERIALS COST PER SHELTER	USD 110 for individual shelters.
PROJECT COST PER SHELTER	USD 135



PROJECT SUMMARY

Through the management of a common Shelter-NFI pipeline in South Sudan since 2013, this programme has ensured a continual and quality supply of materials for rapid distribution by cluster partners to displaced and conflict-affected communities across the country. The pipeline has helped partners quickly implement emergency shelter interventions, through coordinated planning and positioning.

¹ South Sudan Humanitarian Needs Overview 2016, <http://bit.ly/2d3Y2tB>.
² There is some duplication in these figures, as individuals in protracted displacement may be reached multiple times.



People were displaced across multiple sites and large distances across South Sudan (here within the PoC site in Wau, Western Bahr el Ghazal).

- 1 Dec 2014: **54,005 households** assisted with shelter materials, **159,725** with NFIs
- 2 Dec 2015: **36,011 households** assisted with shelter materials, **123,654** with NFIs
- 3 Dec 2016: **50,875 households** assisted with shelter materials, **155,579** with NFIs.

STRENGTHS

- + The timely projection of potential breakages in the pipeline enables swift procurement of items.
- + Cost savings, by reducing overheads and staffing needs for partner organizations.
- + Standardized the quality of assistance.
- + Prepositioning of stocks in strategic locations.

WEAKNESSES

- Long lead times, mainly due to administrative processes.
- Lack of flexibility in the items supplied through the pipeline.
- Continuous staff turnover.



A common NFI pipeline allowed materials of consistent quality to be efficiently delivered across South Sudan.

BACKGROUND

For information on the South Sudan conflict and background on the Cluster and the pipeline, see overview A.23.

PIPELINE OPERATION

A common Shelter and NFI pipeline for cluster partners was established in 2011 to increase efficiencies of scale, timeliness and predictability of services. It is managed by a dedicated small team of international and national staff from the cluster lead agency, while all stocks in strategic locations are overseen by the organization's logistics unit. The pipeline programme was designed to support all shelter partners in South Sudan, through a central depository of materials, accessible upon identification of needs. The stocks are pre-positioned in key locations across the country (based on strategic planning and continuous context analysis), to facilitate a swift delivery of items in emergency situations. Standard Operating Procedures include statistically weighted assessment and targeting tools. Rapid mobile response teams, as well as post distribution monitoring and evaluation exercises, are standardized and supported by the Cluster.

The primary users of the pipeline are partners of the Shelter-NFI Cluster, numbers of which varying from 16 in 2015, to 21 by the end of 2016. The common pipeline is open to all operational agencies, however requires a formal contract, in order to ensure that minimum humanitarian standards are met and partner organizations are accountable to beneficiaries. The pipeline provides a reliable, cost-effective and steady stream of quality materials for distribution to populations in need, allowing the implementation of humanitarian interventions that are efficient and economic, as well as large-scale procurement and distributions.

LOCATIONS AND BENEFICIARY SELECTION

Humanitarians only engaged in direct construction within Protection of Civilians sites (PoCs), where land was already secured for camp settlement by the UN Mission, or agreed with local government representatives. Other shelter interventions, such as those outside PoCs, have been limited to distribution of materials only, mainly due to unclear land ownership.

Beneficiaries served with materials through the pipeline are identified by State Focal Points in coordination with Operational Working Groups of the Cluster, mostly in priority locations after needs assessments have been performed, and with logistical support prioritized at the Inter Cluster Working Group. Beneficiaries are primarily those residing in concentrated IDP sites, such as the PoCs. Humanitarian agencies focused the assistance to people with specific needs and those who were extremely vulnerable. Gender considerations are integrated in planning, assessments, implementation and monitoring. Populations with specific vulnerabilities (physical disabilities or individuals made vulnerable due to gender or age) are considered and targeted with assistance to meet their needs, using methodologies that ensure access and prevent harassment.

Shelter responses outside of concentrated sites were limited due to transportation challenges and weight of framing materials. Assessments confirmed these locations in most cases have access to local construction materials and are able to construct their own shelters.

BENEFICIARY ENGAGEMENT

Continuous engagement of beneficiaries allowed to incorporate indigenous knowledge into materials specifications. For example, log species suited for a certain area improved the lifespan of shelters and reduced the risk of environmental impacts, including negative effects of insecticides. Shelter-NFI



Common NFI and logistics procurement planning were key to ensure a constant supply, in an environment where it takes over four months between placing an order and it being delivered.

interventions are designed around resilience and self-coping mechanisms of communities. Assessment reports are critically analysed to ensure interventions complement, and not compete with or undermine, community resources.

Communities have been empowered to strengthen their capacities through training and community organizing, including participating during distribution and monitoring activities.

Post-distribution monitoring explored in detail the efficiency and effectiveness of pipeline items. Based on the feedback collected, pipeline items specifications were adjusted and improved, to enhance their quality, durability, functionality and service.

COORDINATION

Working within the Cluster approach, the Inter Cluster and Operational working groups provide a common platform for different service providers and clusters, such as WASH, Health and Livelihoods, to optimize limited supplies, complement resources, address common issues and improve the quality of the humanitarian response. The pipeline is a reliable resource that supports Shelter-NFI partners and the Cluster for coordination by streamlining responses to avoid duplications.

RISK MITIGATION

Shelter-NFI partners work closely with community leadership to ensure interventions are conflict sensitive and respect the ethnic dimensions, privacy, land rights, safety and security of the affected populations. Contingency plans are discussed with communities, taking a holistic view of the context and improving operational preparedness. Methods to make livestock safe, or protect other community assets, are also analysed as a whole, wherever possible.

PROCUREMENT

All framing materials are sourced nationally, while cladding materials such as plastic sheets are imported. These stocks are initially stored in central warehouses and then transported to field locations. In some areas with functioning markets, framing materials such as wooden poles, bamboo poles and rubber rope are locally sourced. Items are then transported to strategic locations via road. However, in cases where this is not possible, items are transported via barge or air. To supply framing materials, “no objection certificates” from the government are mandatory to ensure items come from a sustainable source. Additionally, suppliers need to provide logging certificates issued by the Ministry of Environment. The organization also planned to conduct an environmental impact assessment

in 2017, to better understand the effects of its shelter programming on the environment.

MAIN CHALLENGES

Poor infrastructure and road networks often make getting supplies in dispatch warehouses difficult. This is worsened during the rainy season, wherein most dirt roads are inaccessible. To address this challenge, multiple suppliers have been identified and sometimes items are procured from local markets.

The rugged land terrain, insecurity along transport routes, seasonal hazards and vast distances, mean large areas of the country are cut off during the rainy season. Thus, **transport to field locations poses a significant challenge**. Humanitarians must preposition supplies during the dry season after negotiating for access. In this context, a high level of coordination and emphasis on secure, accessible, common, services is required. In some cases, convoys are arranged and items transported in collaboration with other cluster supplies. After July 2016, **access and security challenges increased**, including: looting and ambushes on humanitarian convoys; higher number of checkpoints and armed actors demanding road taxes; seizure of private assets; security threats along unpoliced roads; and increases in transportation costs.

South Sudan is a landlocked country and does not have a well-developed manufacturing industry. Thus, plastic sheets need to be transported through border posts, where **waiting times** are often long. **Delays in obtaining tax exemption certificates** also impact procurement timelines and pose challenges for all partners in the country. The pipeline team must forecast trends and plan procurement activities far in advance, in order to mitigate these delays. As of early 2017, **investments were being made in sustainability and resilience activities** to improve predictability of supplies for local procurement. For instance, in order to reduce delivery time and support local traders (who often lack resources to supply required quantities), the organization was planning a pilot project to form a **consortium of traders** in areas with functional markets. The organization was also working on **Long Term Agreements and Framework Contracts** to ensure a minimum number of supplies are readily available on short notice.

WIDER IMPACTS OF THE PROJECT

The common pipeline allows a uniform, coordinated and efficient response. Its use has improved coverage, by enabling organizations to complement their own resources and achieve large-scale interventions, especially in concentrated PoC sites.

STRENGTHS, WEAKNESSES AND LESSONS LEARNED



Partner agencies were essential to ensuring effective and targeted delivery of shelter-NFI assistance.

WEAKNESSES

- Generally, **procurement takes between four to five months**, largely due to the tax exemption process. While this issue is largely factored into programming, and procurement processes start well ahead of time, it still represents a weakness, due to certain funding mechanisms that do not allow long lead times.
- **Lack of ability of the pipeline to support flexible responses**, as only a few types of items can be supplied.
- **The continuous staff turnover** within partner agencies has made it difficult for new staff to understand common pipeline systems and procedures.

LEARNINGS

Post-distribution monitoring, conducted between two to 16 weeks after distribution, highlighted beneficiary feedback and helped to improve the response and planning for future interventions. For instance, **in communal shelters, protection and privacy were highlighted as key concerns**. To address this, shelters were partitioned into smaller, independent, family units that enhanced privacy, especially for women and girls. This addition, although minor, was not planned and stretched the pipeline resources. **Better gender analysis and incorporation in reporting** would have provided an opportunity to segregate and analyse information for gender-sensitive responses, and therefore better resource planning.

The pipeline is a common service that **reduces procurement burdens on partners, ensures standardized assistance** (as per the criteria set by the Cluster), **improves coordination and reduces overlaps** through a centralized control system.

STRENGTHS

- + **Timely projection of potential breakages in the pipeline**, caused by a lack of stock flowing through the pipeline or supply chain and transportation challenges, has enabled timely procurement of items.
- + **The common pipeline concept significantly reduces overheads and staffing needs for partner organizations** with centralized services. The project has contributed to value-for-money efforts and effectiveness of the humanitarian response as a whole, whilst also helping to **standardize the quality** of assistance.
- + **Prepositioning materials in strategic locations** across the country facilitates rapid deployment of life saving items. The availability of a **network of contracted transporters** has facilitated adequate prepositioning of shelter materials during the dry season, when roads are operational.

CASE STUDY

SOUTH SUDAN 2014-2016 / COMPLEX

KEYWORDS: Emergency shelter, Site planning, Phased construction, Infrastructure, Planned camps

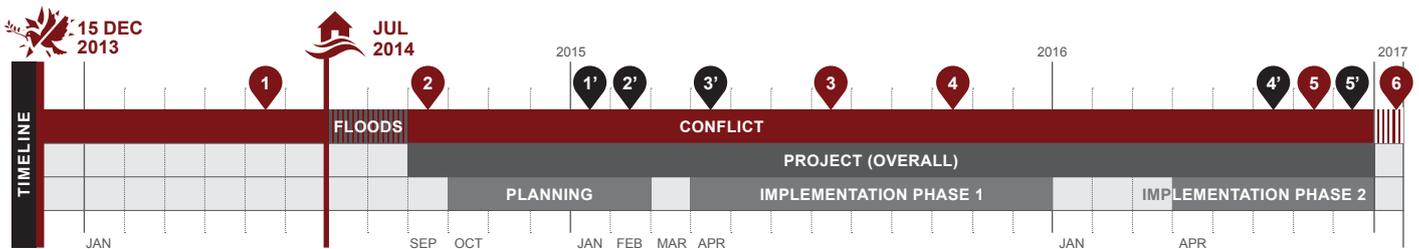
CRISIS	South Sudan Civil War, Dec 2013 - ongoing. Complex crisis
TOTAL PEOPLE AFFECTED	6.1 million in need of humanitarian assistance and 1.66 million internally displaced, as of December 2015 ¹ . <i>For more updated figures, see overview A.23.</i>
PROJECT LOCATIONS	Bentiu, Protection of Civilians (PoC) site, Unity State.
BENEFICIARIES	105,786 people (47% male; 53% female; with 47% under five years old), relocated across communal shelters, at 45 people per shelter.
PROJECT OUTPUTS	11,778 robust shelters.
SHELTER SIZE	84m² (4.5x21m communal shelters, with partitions to accommodate between 35 and 55 people in groups of 7 to 11 individuals).
SHELTER DENSITY	1.5m² at peak. Shelter occupancy has been variable due to space constraints, with huge influx in PoC caused by repeated insecurity.
MATERIALS COST PER SHELTER	USD 837 (Materials: USD 687, Labour: USD 150 approx.).



PROJECT SUMMARY

The project constructed 11,778 shelters in the Protection of Civilians site in Bentiu. The project was closely linked with the phasing of a broader USD 18 million project of site works, which converted a camp that seasonably flooded into a habitable site.

¹ South Sudan Humanitarian Needs Overview 2016, <http://bit.ly/2d3Y2tB>.



- 1 May 2014: Population in Bentiu PoC: 8,000 individuals.
- 2 Sep 2014: Population in Bentiu PoC: 46,000 individuals.
- 3 Jul 2015: Population in Bentiu PoC: 87,000 individuals.
- 4 Oct 2015: Population in Bentiu PoC reaches 120,000 individuals.
- 5 Jul 2016: Population in Bentiu PoC: 102,000 individuals.
- 6 Dec 2016: Population in Bentiu PoC: 120,000 individuals.
- 1' Jan 2015: Robust emergency shelter design agreed upon, and approved by the community.
- 2' Feb 2015: Site redevelopment begins to reduce overcrowding and provide adequate drainage, addressing the flooding risk.
- 3' Apr 2015: Implementation phase begins with a two-months delay (due to negotiations with UNMISS regarding usage of the space), and as a result of community resistance to being relocated to the new site within the PoC.
- 4' Jun 2016: Site development gradually completed in a phased approach, with sectors/blocks handed over to the partner NGO as the site works ended.
- 5' Aug 2016: Phase 2 of shelter construction completed (though ongoing, as new arrivals continue and reinforcement is done).

STRENGTHS

- + Provided shelter secure from violence and localized flooding.
- + Effective coordination between all actors.
- + Strong forward-planning for procurement and implementation.
- + Use of local materials where possible.
- + Enhanced cladding with grass to improve comfort and durability.

WEAKNESSES

- Delays due to logistics and weather constraints.
- Assistance was provided only within the site, causing disparities with the populations outside.
- Overcrowding in shelters.
- Issues in timber procurement and poor market analysis.
- Lack of partitions in the initial design.



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Although it is widely recognized that camps are an option of last resort, for tens of thousands of residents in Bentiu PoC, conflict meant that there was no other option. However, the site was too small and would flood every year. This required massive expansion and infrastructural works.

BACKGROUND

For more information on the context and the shelter-NFI response in South Sudan, see overview A.23.

Before the outbreak of conflict in 2013, the bases of peacekeeping forces – United Nations Mission in South Sudan (UNMISS) – had hosted small populations seeking protection for short periods, with limited humanitarian response. Following the outbreak of conflict, tens of thousands of people fled to – and stayed in – Protection of Civilians (PoC) sites far longer than expected.

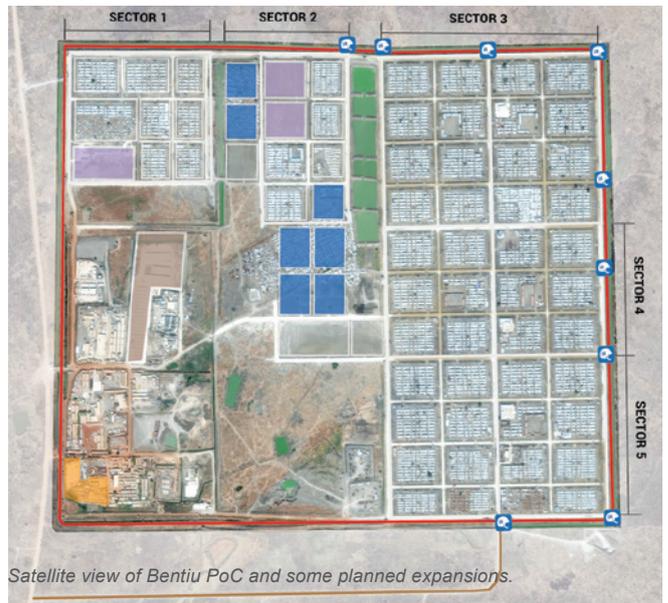
Over the course of the conflict, multiple waves of violence affected the town of Bentiu, leading to 120,000 people seeking shelter in the PoC site. Bentiu is extremely hard to access, with a small airstrip of limited capacity, and is inaccessible by road during the rainy season. During the dry season, it is regularly cut off, due to poor security. As a result, all logistics and supplies had to be planned in advance of the wet season, and plans needed to be flexible, to allow for this variable security context.

Humanitarians arrived in Bentiu in January 2014, to provide essential, life-saving, services to the population residing there. In March 2014, the PoC site in Bentiu hosted 11,000 IDPs, with the population rapidly rising to 43,718 by December 2014 as a result of escalated conflict in Unity State. The huge influxes created overcrowding and difficulties in service provision.

In the rainy season of 2014 **the site flooded for several months**, leaving the camp population trapped, with many parts of the site deep in water. By mid-2014, living space was limited to 9m² per person across the site. Overcrowding was compounded by stagnant water, which worsened living conditions and exacerbated the risk of water-borne diseases, such as cholera. The site itself remained highly insecure, with regular violence outside the PoC – and at times inside, due to ethnic conflict – leading to fatalities throughout the project.

SITE WORKS

To respond to the growing site population and address the issues of localized flooding, during 2015 and 2016, the Bentiu PoC was expanded and rehabilitated over 1.68 million m² (168 hectares). To create better living conditions for people seeking shelter in the site, **a massive drainage network was estab-**



Satellite view of Bentiu PoC and some planned expansions.

lished, based on the Dutch “polder” system. Major works (with 74 pieces of heavy machinery) led to the establishment of a 4m tall berm (mainly for security purposes) and 24m² section drainage ditch around the site. This was to prevent surface run-off from the surrounding land. Additionally, a series of drainage ditches and water retention basins were dug. These had large capacity pumps, to remove rainfall from inside the berm.

The site works were achieved through contractors and a carefully phased construction plan. This plan allowed for additional timing for contingencies and monitored the volumes of soil moved, as well as the length of drainage ditches and berms.

Beyond the major site works, the site development project included shelter construction, establishment of water, sanitation and hygiene systems, health and education facilities, alongside other services. Given that the site was already occupied, **agencies needed to work together** to ensure carefully phased relocation. Shelters, latrines and other structures could not be



The expansion plan included land that was already spontaneously occupied by camp residents. Careful phasing of major upgrading works was required, as the whole site needed to be upgraded.



Phase 0: survey and de-mining. Phase 1: Access to site works and perimeter. Phase 2: Internal access and drainage. Phase 3: block development and relocations. Phase 4: block development, relocation and completion.

erected until ground works were ready and, if they were built before people were relocated, they risked falling into disrepair, or being looted.

GROWING SITE POPULATION

The site was designed for 50,000 people with a contingency of up to 75,000 people. As the site population continued to rise, reaching over 87,000 people by July 2015, revisions to site and shelter plans were necessary. In the first phase, there was significant community resistance to the programme, as the population influx meant that the number of people per shelter had to be increased from five to eight. In 2016, this increased further to 11, as the population increased to over 120,000.

IMPLEMENTING TEAM STRUCTURE

The lead organization for the site sub-granted to a partner NGO for the shelter activities. The implementing NGO had a Shelter Programme Manager and a Shelter Advisor, and was supported by the lead organization by two deployments of Shelter Cluster rapid response officers. The project also included an implementation and management team with functions such as quality control, cross-sectoral coordination and information management. In addition to project staff, the project implementation team included around 200 camp residents, who were chosen by the community leadership and trained by the organization on shelter design and construction. The construction of shelters was phased employing six different teams (including plot demarcation, digging, erecting skeletons and spraying walls).

Technical supervisors and contractors were recruited by the partner NGO within the PoC sites, with each of the contractors further recruiting a team of labourers to build shelter frames.

COMMUNITY ENGAGEMENT

Close engagement with the community leadership was critical for maintaining the ability to operate safely in the camp. It was also essential to enable safe and phased relocations within the site, as new shelters were built.

PHASING AND COORDINATION

As people were already occupying the site, a phased relocation process allowed site works to continue, according to an overarching project plan. The site was split into sectors and each sector was moved as the ground works were finished and shelter frames erected.

Relocation could only take place once plots for families and communities had been established, shelter materials had been distributed and construction was completed. Given the limited space, some sectors had to be moved to newly renovated plots before all of the land could be worked on. This made the timing of different activities for the entire site reconstruction project **interdependent and highly time critical**.

On 21 May 2015, the camp management agency coordinated 160 humanitarian workers in a population verification exercise, recording biometric details and assigning addresses within new areas. Verification was an important first step and helped in demarcating plots and defining movement plans.

Overall, UNMISS, peacekeepers, humanitarians and the authorities had to negotiate between each other and **coordinate closely in a very complex military environment** and in incredibly harsh conditions, including shrinking humanitarian access and a protracted conflict situation.



The shelter project built communal shelters due to lack of land and nationally limited resources. These shelters allowed to maximize the use of limited space and impacted shelter strategies throughout the country.

CONSTRUCTION PROCESS

Shelter frames were built by contractors and guards were hired to protect the shelter frames from theft, until they were allocated to a household. Once households had been allocated a shelter plot by the organization (in coordination with camp management agencies), they collected a shelter kit from the implementing partner NGO to complete their shelter. Demonstration shelters were built as prototypes and the partner NGO provided technical supervision to households to ensure that the materials were used effectively. For example, care was taken to ensure that plastic sheets were attached correctly. Individuals with identified vulnerabilities, such as disabled persons, pregnant women and the elderly, were provided additional assistance. A timber workshop was set up at the logistics base in the UNMISS site with outdoor storage for 3,000m³ of timber. At the workshop, teams prepared the timber for the structures of the shelters, including treating them with anti-termite solution.

SHELTER DESIGN

The shelter design was discussed with the Technical Working Group in Bentiu and the national Shelter-NFI Cluster before being presented to communities. Local adaptations included the use of elephant grass, which could be harvested by women residing in the site. The windows and doors were also revised to be based on traditional local designs. The shelter design had an estimated life-span of one year, providing displaced households with a solution that is significantly more sustainable than standard emergency shelters built in the country by humanitarians. The design was inspired by the local summer housing solution known as *Rakuba*.

In 2016, concerns were raised by the community about security in the site and the security of shelters. As a result, the partner NGO started the process of providing doors to shelters which did not have one, starting with the most vulnerable, as identified by protection partners.

To protect from water coming in, it was initially planned to use sand to raise the floors of the shelters, but this proved impossible to procure. Households were therefore encouraged to use white soil to raise their floors instead.



Shelter frames were built by contractors.

THE SITE IN THE LONGER TERM

Relative stability in the first half of 2016 and the expansion of humanitarian services to wider Unity State led to a net reduction in the number of people in the PoC site. However, a resumption in hostilities following the July 2016 crisis led to a population increase in Bentiu PoC (as of 31 December 2016, the population was 119,853 individuals). The sustainability of this and other PoC sites has been object of debate, due to the limited resources, the protracted nature of the crisis and the need of displaced populations for long-term assistance.

WIDER IMPACTS OF THE PROJECT

Humanitarians have been running similar sets of projects in other PoC sites, such as in Malakal, where the organization has been redeveloping and rehabilitating the PoC site throughout 2015 and 2016. The shelter partner in that site has applied the communal shelter design and aimed to ensure the continued provision of essential emergency shelter services through distributing shelter kits, repairing damaged communal shelters when required and providing assistance to people with special needs to construct shelters.

The implementation of activities across the country has been in line with the Shelter-NFI Cluster objectives and humanitarian best practices, including lessons learned in Bentiu.

Through regular monitoring and technical guidance, humanitarian shelter teams have been working to help residents construct their shelters in more durable ways.

STRENGTHS, WEAKNESSES AND LESSONS LEARNED

STRENGTHS

+ The project provided (relatively) **secure shelter from violence and localized flooding**.

+ **Coordination between all actors** was key to the success of such a large-scale programme, which required careful phasing within many constraints.

+ **Strong, forward-planning** regarding required supplies helped the project team mitigate extreme weather variability and the lack of transport infrastructure. This enabled over 1,000 units to be constructed per week, at the height of the relocation process.

+ **Wherever possible, local materials were used.** 84,000 bundles of elephant grass, bamboo and garang rope were procured. The local elephant grass was procured from women over a period of two weeks, through a large community-mobilization campaign.

+ **The plastic sheet cladding was enhanced with grass** to improve insulation and extend the lifespan of plastic sheets.

WEAKNESSES

- **Activities were delayed** by approximately eight weeks compared to the proposed work plan. This was primarily due to logistics and weather constraints.

- **The site became the only significant location** where assistance at scale could be provided in the state. **This caused disparities** between the assistance provided to those living in the PoC and those outside and was one of the causes of population growth of the site.

- **The site became very crowded and shelters were relatively small.** Although the reasons for the lack of space were unavoidable (both political and financial), the overall density was higher than desirable.



The site works were based on a Dutch "polder" system. They included 28m² section drainage ditches, berms, water retention basins, and large volume pumps to evacuate water.

MATERIALS LIST FOR ONE COMMUNAL SHELTER

Material	Unit	Unit cost (USD)	Quantity	Total cost (USD)
Plastic sheet (4x5)	Piece	15	8	120
Rubber binding rope	Bundle	5	20	100
Bamboo poles	Bundle of 10	5.5	10	55
Timbers 3 x 2" x 3m	Piece	4	28	112
Timbers 2 x 2 x 4m	Piece	6	10.25	61.5
Timbers 2 x 2 x 3m	Piece	4.5	12	54
Timber 4 x 2 x 5m	Piece	11	4.25	46.75
Timber 3 x 1" x 3m bracings	Piece	3.5	8	28
Nylon Rope 30m	Roll	8	5	40
Nails 4"	Kg	2	2.5	5
Nails 3"	Kg	2	5	10
Nails (roofing)	Kg	3	1.5	4.5
Anti-termite and wood borer	Piece	10	5	50

LEARNINGS

- The project demonstrated the **value of early collaboration and planning**, particularly in such a complex and challenging environment. While shelter activities in 2014 were constrained significantly as a result of a lack of dry space and logistical challenges, the convening of stakeholders and the establishment of a technical working group to plan the redevelopment project in September 2014, as well as the relatively timely procurement of materials during the dry season logistical window, ultimately ensured the success of the project.
- Shelter designs that are meant to accommodate households beyond an acute emergency phase **should take into account privacy considerations and install partitions**. The communal shelters were initially built without partitions, as the shelter approach was based on individuals-per-shelter (and not households). This was mainly a result of limited space available and the increasing population in the camp.
- For such large projects, **it is important to have a proper market analysis** and adopt a design that suits locally available materials. Not enough consideration went into the **procurement** of timber, nor its **potential environmental impact**. With a non-functional timber market, non-standardized sizes and right species available, it was difficult for the supplier to keep up the demand; compounded by its limited understanding of the requirements, as well as access to appropriate tools and workshops to provide desired sizes.