

## Shelter Non-Food Item Monitoring Assessment

Mingkaman IDP site

Awerial County, Lakes State, South Sudan

25-30 April 2014



**Shelter NFI Cluster South Sudan**

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### *Background*

The political crisis that began in December 2013 spurred an increase of conflict across key locations in South Sudan, including the chronically conflict-affected Jonglei State. Since the crisis, thousands of people from various areas of Jonglei have continued to flee West across the Nile River into Lakes State. Nearing close to an estimated 100,000 individuals at its peak, most of these internally displaced persons (IDPs) settled in the area around Mingkaman town in Awerial County. Some of the IDPs have been hosted by friends and relatives already living in the Mingkaman area; the rest have set up temporary residence in the area with the permission of the County Commissioner and the local community on the condition that they will relocate to a new site being developed by humanitarians.

In the interim, humanitarian organizations working both independently and with the Shelter and Non-Food Item Cluster have been distributing life-saving assistance, including acute emergency shelter materials<sup>1</sup> and household items such as blankets, sleeping mats and cooking sets, to every IDP household that registers upon arrival. The plan has been that once the new sites are developed and households begin relocating, robust shelter kits including wooden poles for framing will be provided at the new site, (a project which began in June). As part of a broader cluster effort to improve information baselines and systematic data gathering, in order to better understand need and guide appropriate response, a rapid monitoring exercise that would measure shelter and NFI conditions (including what materials the IDPs already have in their possession) was organized in April.

The information gathered will serve several purposes: it will act as a baseline of data on the Shelter and NFI situation that can be used for comparative analysis in future assessments; it will indicate and confirm if humanitarian assistance to date has in fact served the population wide and well; and it will identify gaps to inform future response where they may exist.

### *Methodology*

A team of 5 humanitarian staff led by the Shelter NFI Cluster's Monitoring and Reporting Specialist spent 4 days moving throughout 5 locations in the Mingkaman area<sup>2</sup>. The team comprised of: 1 S-NFI Cluster staff; 1 IOM field officer, 2 NRC field officers and 1 CRS field officer. They supervised 12 enumerators hired from within the IDP community who collected data from a total of 620 households during house to house interviews<sup>3</sup>. The enumerators participated in a half day training on the first day of the mission, during which the tool was reviewed, translated into the local language, mock interviews were demonstrated and some modifications were suggested by the enumerators. The following day, a pre-test of the tool was conducted to ensure the questions were appropriate at the household level given the context, and that enumerators were comfortable enough with the tool to conduct interviews independent from the team leaders.

The target sample size for the mission was 400 households, and a total of 620 surveys were ultimately completed. The final number of reliable surveys that were included in the analysis, as well as the areas

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<sup>1</sup> Acute emergency shelter kits have included the following materials, notably excluding framing materials: plastic sheets, rubber ropes, nylon ropes, pegs and some limited quantities of bamboo.

<sup>2</sup> See Annex 1 for a map of the surveyed areas in Mingkaman.

<sup>3</sup> See Annex 2 for the household survey.



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surveyed<sup>4</sup>, are shown in the table to the right. The discrepancy of surveys completed in each location was due to various factors. Some enumerators were not comfortable with the tool until several days into data collection, which was conducted in a different location each day. Additionally, the second day moved slowly as many enumerators arrived late; complaints about the previously agreed working hours (8/day) delayed the exercise by 2 hours; and some enumerators took the afternoon off to attend a public speech by the Lakes State Commissioner. Ahou is a smaller IDP settlement than the others, a limited team of 4 enumerators with only 1 vehicle traveled to the location to conduct 55 interviews.

| Area         | Number of Households Interviewed | Number of Reliable Surveys Included in Analysis |
|--------------|----------------------------------|---|
| Mingkaman 1  | 68                               | 56  |
| Mingkaman 2  | 166                              | 127   |
| Mingkaman 3  | 107                              | 86  |
| Mingkaman 4  | 224                              | 171   |
| Ahou         | 55                               | 32  |
| <b>Total</b> | <b>620</b>                       | <b>472</b>                                      |

In order to avoid unreliable responses, the total caseload of surveys was refined based on the individuals present at the time of the household visit, plus a realistic projection of the number of beneficiaries declared to be part of the households but not present for various reasons. The raw data shows that 5352 individuals were declared in total, of which 3266 people were observed as present. Based on a comparative analysis on the reliability of answers (ratio of declared versus present), and starting with the most reliable (100% of those declared are present) increasing incrementally to reach the same sample size equivalent of 3260 people, the realistic projection of individuals non present during the household interview is set around 780 individuals. Therefore, the realistic projection of the population size of the case load is 3266 + 780 = **4046** individuals.

Only **472** families with a reliance level of 45% or more satisfy the reliability criteria, which is 76% of the total number of households interviewed and still well over the target sample size of 400 households.

### *Limitations of the Tool*

The tool was designed to be a rapid assessment to record the level of possession at the household level of shelter and NFI material. It is intentionally and primarily based on observation in order to A) provide more unbiased and accurate information about the quantity of materials and B) to increase speed with which the exercise can be completed. As with any rapid tool, some key information was not collected that would be useful to incorporate into future surveys. Notably, there was no space on the form to indicate what type of structure the respondent was living in: rakuba, tent, under a tree, tukul, etc., which would have provided a clearer picture of the breakdown of the types of living structures people were able or unable to construct. Another omission is the lack of question asking how many shelters the household has access to; this skews results and analysis based on household size as many were seen to have more than one shelter, but this assessment was limited to analyzing materials and space available only based on a single shelter. The tool also did not ask the quantity of additional framing materials, but only asked if they were present. The number of framing materials, though tedious to collect, would also have given a better indication of the structures occupied by IDPs. Lastly, the questions about the quality of plastic sheets and the strength of the shelter might be too subjective if filled in by enumerators rather than humanitarian staff who are familiar with targeting standards.

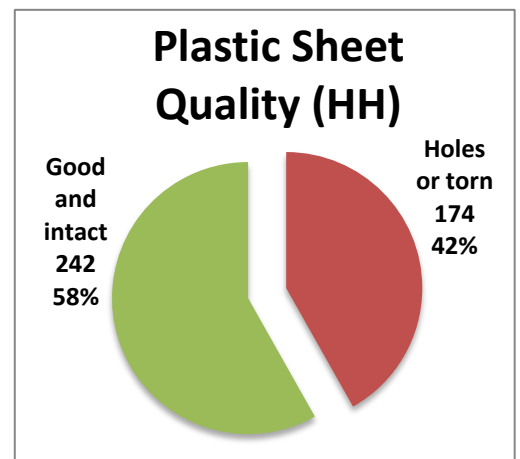
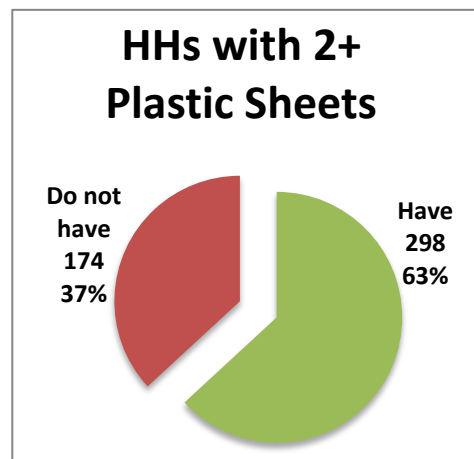
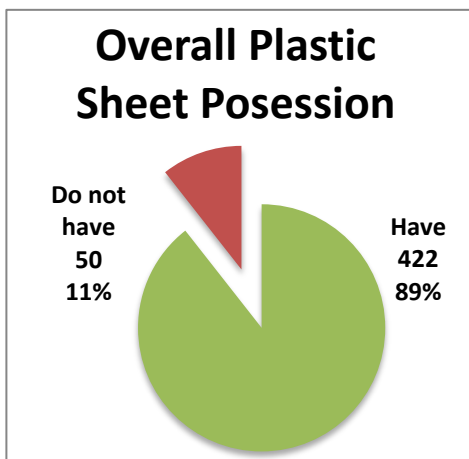
<sup>4</sup> Apart from Ahou, the areas listed on the table are informal names of areas around Mingkaman town. They were provided to the assessment team by NRC’s field officers as a means to roughly create distinct areas to sample.



## Findings

### Plastic Sheets

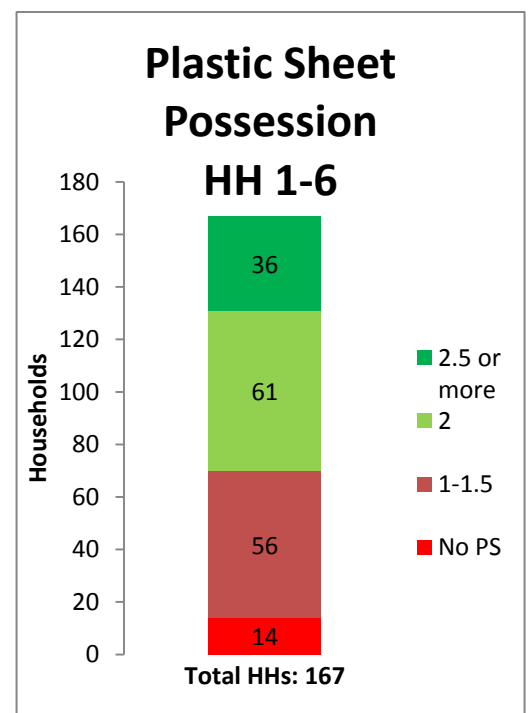
Plastic sheets are the most visible and widely distributed shelter material in emergencies across South Sudan. An overall assessment of possession of plastic sheets in the Mingkaman IDP areas shows that 89% of the IDP households surveyed were in possession of at least 1 plastic sheet. 63% of households surveyed were in possession of at least 2 plastic sheets, which is the quantity required to construct a standard temporary shelter, known as a “rakuba” in South Sudan. In a general assessment of the quality of plastic sheets present at 89% of households, data entry clerks decided that 58% of shelters were covered in plastic sheets of good quality, while 42% of plastic sheets present had holes or were torn. The analysis of plastic sheet possession was calculated and scaled against the size of households, and a detailed review of plastic sheet possession levels in the next section demonstrates that needs for additional plastic sheets are highest amongst large families, who require more materials to construct enough covered living space for all members of the household.



### Plastic Sheet Analysis by Household Size

Of 472 households surveyed, 167 reported having between 1 and 6 people. 14 HHs in this category have no plastic sheets and would be immediately targeted to receive the minimum of 2 plastic sheets required to construct a temporary structure. An additional 56 families in this category were observed to have less than the 2 plastic sheets and could potentially benefit from 1 additional plastic sheet. The remaining 97 families (58% of this category) are in possession of enough plastic sheets to meet their emergency shelter needs and would not be targeted for assistance in a distribution.

**Recommendation:** targeted approach highly recommended for families without plastic sheets, then according to stockpile, additional



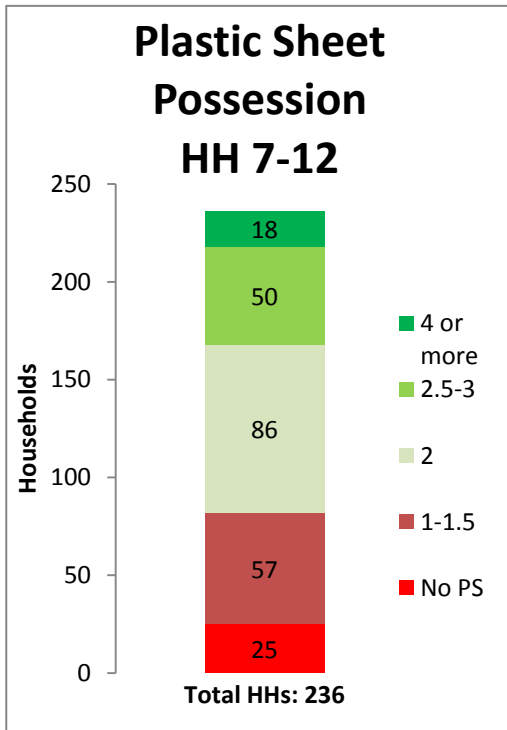


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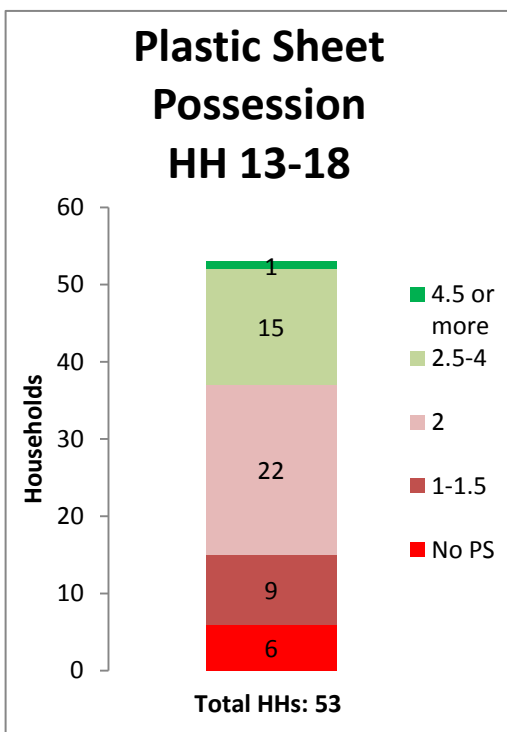
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plastic sheets could be given to families with less than 2 if they do not already have an alternative temporary structure.



Of 472 households surveyed, 236 reported as having between 7 and 12 individuals in their household. Of this category, 25 were observed to have no plastic sheets and 57 were observed to have below the standard of 2 plastic sheets required to construct a temporary shelter; both groups (35% of this category) would be targeted immediately for a distribution of between 1-4 plastic sheets depending on household size and the number of plastic sheets already possessed. An additional 86 families have enough plastic sheets to construct a standard rakuba, but could benefit from an additional 2 plastic sheets if a second structure is required. Families 9+ people would normally receive 2 shelter kits and would therefore be targeted with 2 additional sheets. 68 families have enough plastic sheets to meet their emergency shelter needs and do not need assistance.

**Recommendation:** targeted distribution to families with less than 2 plastic sheets; families with 9+ people could be targeted with an additional 2 plastic sheets, only if they do not already have a second shelter not included in the scope of this assessment.



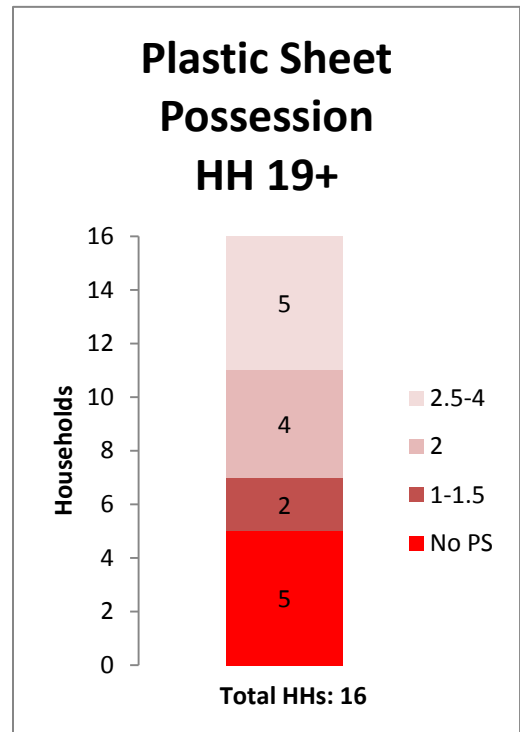
Of 472 households surveyed, 53 reported having between 13 and 18 people in their household. Of these 53 families, 6 need to be immediately targeted for a distribution of 4 plastic sheets to construct 2 temporary shelters. An additional 31 households would benefit from a distribution of between 2-3 additional plastic sheets to construct enough sheltered living space, while 16 households in this category satisfy the minimum living situation with enough plastic sheets for 2 shelters.

**Recommendation:** targeted distribution of plastic sheets for those having less than 4 plastic sheets, and only if they do not already have multiple shelters with sufficient plastic sheets.



Of 472 total households surveyed, 16 reported to have over 19 people in their household. Given the very large number of people in these households, the data demonstrates that a distribution of supplementary plastic sheets is required by all families in this category, albeit at varying quantities. It must be noted that assessing the total number of structures in the household's compound is necessary as there are likely additional structures not captured in the survey being occupied by some members of these large households.

**Recommendation:** distribution of additional plastic sheets to very large families who do not already have more than 1 shelter is needed. Distributing Partners must assess how many shelters very large households already occupy in the compound as this survey assessed only one shelter as its unit of measurement, but several shelters with several plastic sheets may be present for some families.



*Typical shelters in Mingkaman IDP area: one using a variety of covering fabrics, including old and new plastic sheets, likely carried from home and received in distributions. The other appearing freshly constructed using materials distributed humanitarians.*

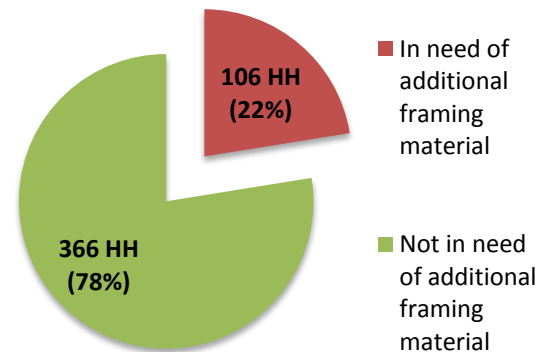


## Framing Material

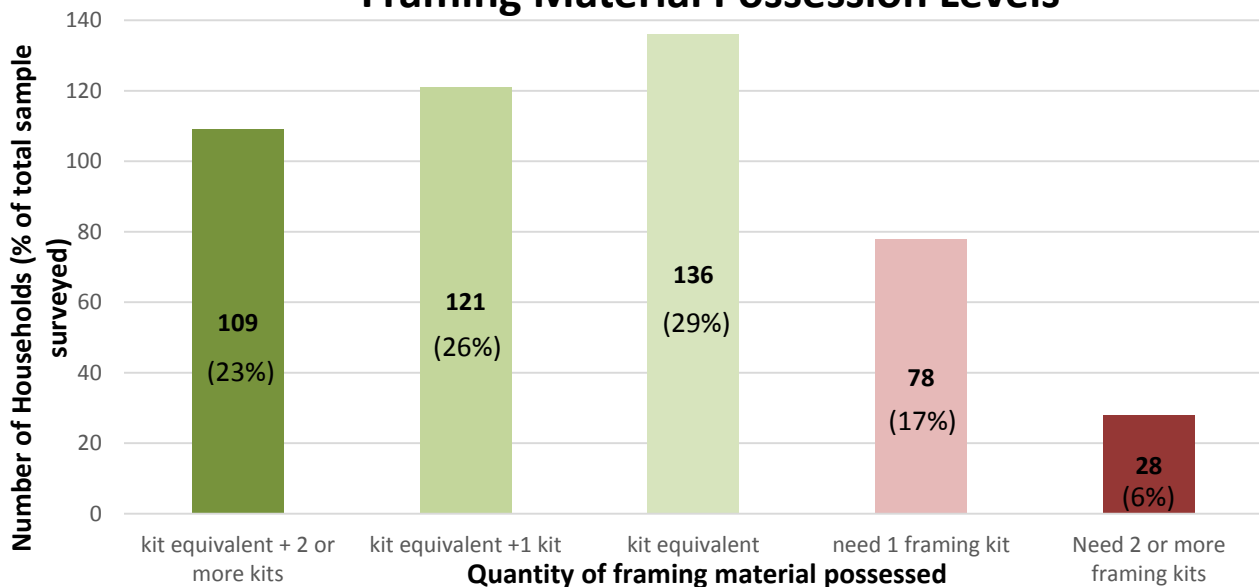
Results show that despite the absence of a distribution of framing material to the Mingkaman IDP community by the time of this exercise, 78% of households surveyed had accessed enough wooden poles for their emergency shelter framing needs<sup>5</sup>. Surprisingly, 49% had 2-3 times more framing materials than they would be targeted for in a distribution according to their household size. Moreover, in addition to these wooden poles, 57% of households were observed to have accessed supplementary framing materials to strengthen their temporary shelters.

The quantity and sufficiency of framing materials were calculated and scaled according to the size of the household, using the number of individuals declared. In a similar finding to that of plastic sheets, a detailed review (see table section highlighted in yellow on next page) of households in need of additional wooden poles demonstrates that much of the additional need rests with larger families, who require more framing materials to build enough sheltered living space for all members of their households. Therefore, a well-targeted and limited distribution of framing materials to families that have not managed to access enough to meet their emergency shelter needs is recommended.

### Population in Need of Framing Material



### Framing Material Possession Levels



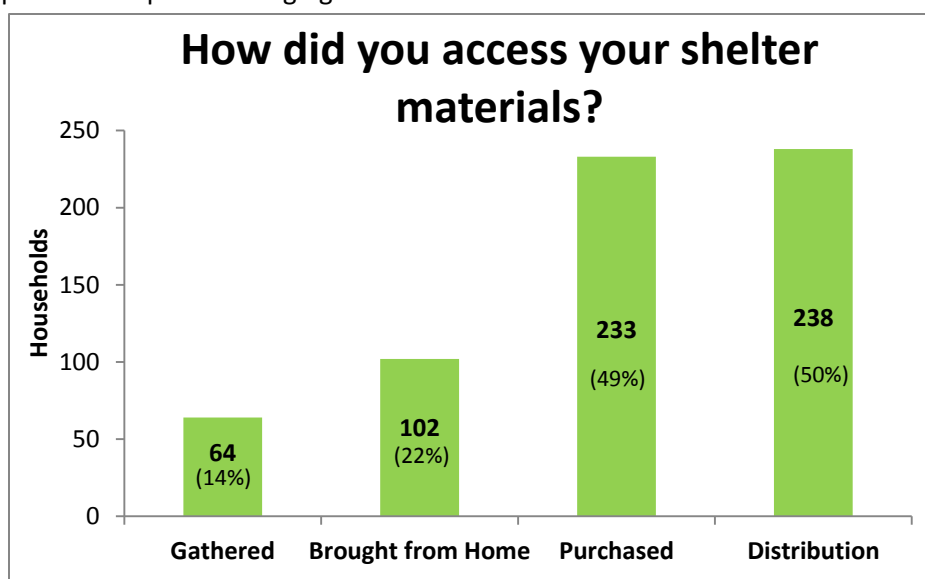
<sup>5</sup> The survey format only required enumerators to count the number of wooden poles, not the number of pieces of other framing materials. 23/472 surveys did record the number of other framing materials, which were included here at 50% the quantity recorded. Formula:  $(T2+V2/2)-(HH)$ ; Where T2 is the number of wooden poles; where V2 is the number of other framing material then divided by 2 assuming some other materials are of poor quality; the subtracting the number of people in the house, for a total number of additional framing materials per person.



| Framing Material Possession Levels by Household Size |                                 |                        |                |                    |                             |                  |
|--|---------------------------------|------------------------|----------------|--------------------|-----------------------------|------------------|
| # of people declared                                 | Kit Equivalent + 2 or more kits | Kit Equivalent + 1 Kit | Kit Equivalent | Need 1 framing kit | Need 2 or more Framing Kits | Total Households |
| 1-3 people   | 14                              | 5                      | 5              | -                  | -                           | 24               |
| 4-6 people   | 40                              | 50                     | 38             | 15                 | -                           | 143              |
| 7-9 people   | 43                              | 40                     | 41             | 33                 | -                           | 157              |
| 10-12 people   | 9                               | 18                     | 32             | 11                 | 9                           | 79               |
| 13-15 people   | 2                               | 5                      | 11             | 11                 | 6                           | 35               |
| 16-18 people   | 1                               | 1                      | 8              | 4                  | 4                           | 18               |
| 19-21 people   | -                               | 2                      | 1              | 4                  | 5                           | 12               |
| 22+people  | -                               | -                      | -              | -                  | 4                           | 4                |
| <b>Total</b>   | <b>109</b>                      | <b>121</b>             | <b>136</b>     | <b>78</b>          | <b>28</b>                   | <b>472</b>       |

### Access to Shelter Materials

At the time of the survey, plastic sheets had been distributed widely as part of both NFI and acute shelter kit distributions; wooden poles had not yet been distributed in any humanitarian response to the IDPs. The team was interested to know how people were accessing shelter materials, and respondents were able to reference more than one of the available options. Given the high levels of wooden pole possession, it is surprising that only 64 households (14% of total surveyed) had collected their poles from Mingkaman’s lush natural environment. Given that wooden poles had not been distributed yet, it is evident that the large majority of households were able to purchase wooden poles in the markets around Mingkaman. 22% of respondents reported bringing at least some of their shelter materials from home areas, likely a combination of covering materials, tents and some limited framing materials. At least 50% of respondents reported receiving shelter material in a distribution and this likely refers to plastic sheets. This percentage in particular appears to be falsely low given that nearly all respondents (89%) were observed to be in possession of plastic sheets known to be distributed by humanitarian agencies in the area.







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## Most vulnerable households

While 50/472 (10.5%) HHs were recorded as having no plastic sheets, 34 of these 50 surveys (68%) have recorded a response in the quality of plastic sheets section. This makes it difficult to know if the households did or did not have plastic sheets. Some of the zeros recorded may therefore be errors, or the discrepancy may represent a misunderstanding of how to fill this section of the survey.

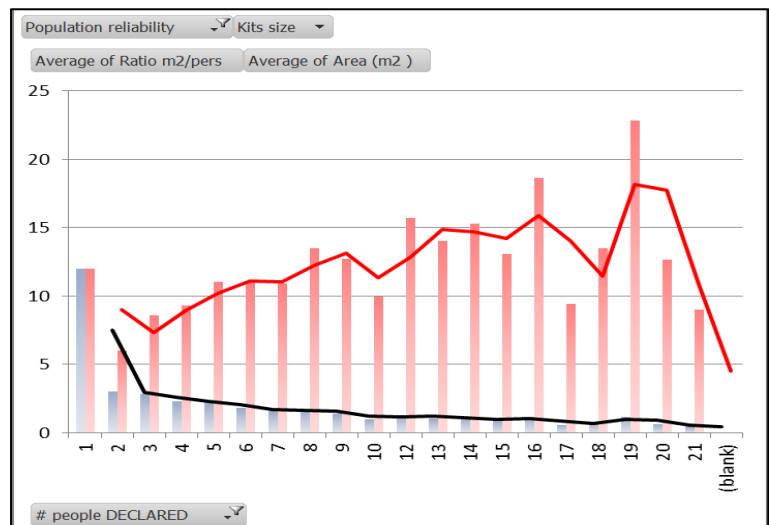
Nonetheless, if it is taken that 50 HHs do not have plastic sheets, it is promising that 17 of these 50 (34%) were observed to be in possession of at least 1 tent, and the same amount but not the same households (17 HHs, 34%) were recorded as having other covering materials. Of the population with plastic sheets, 67% were also supplementing with other covering materials, and 9% were in possession of at least 1 tent.

Of the 50 households without plastic sheets, 17 (3.6% of the total HH surveyed) were observed to be without wooden poles or tents, and therefore represent the most vulnerable families living without any kind of sheltering materials<sup>6</sup>. Related to this is the number of families living under trees. A few families observed under trees did in fact have some plastic sheets as covering material (see picture above), and in the absence of a question clearly indicating the type of shelter, a proxy for households sheltering under trees can be those without wooden poles and without a tent. 23/472<sup>7</sup> (4.8% of total surveyed) households fit these criteria and were likely living under trees.



## Covered Living Space per person

In general and as the relatively consistent level of the average area (red bars on graph to the right) demonstrates, the measurements of shelters do not fluctuate widely based on the number of people in the household. Rather, the total covered area in the average shelter



<sup>6</sup> 3 households recorded to have no wooden poles, no tent and no plastic sheet, did record a measurement of the shelter structure, so it is assumed these people did in fact have a shelter to measure, despite it not being clear which type of shelter it was. They are not included in this number of most vulnerable and a data entry error is assumed.

<sup>7</sup> Same as above footnote.



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is consistently between 10 and 16 square meters, almost regardless of the size of the family<sup>8</sup>. The blue bars (ratio of meters squared to individuals declared) demonstrate acceptable levels of square meters per person that are within international standards for small to average sized families, but the standard and available space drops drastically for large families, and especially those with 10 or more people. As explained below, these findings are at most indicative and reflect the similar findings above for individual shelter items: smaller and average sized families are faring well, while larger families may struggle to provide enough covered living space for all members of the household. As such, targeted assessment and distribution on the basis of visually verified needs for large families who only have 1 shelter would be appropriate if the distributions conducted after this assessment have not already catered for the residual need. Protection partners could refer cases to the S-NFI Cluster if concerns arise for vulnerable households.

In the South Sudan context, a few key points are important to consider. The standard traditional shelter of mud walls and a thatched roof, called a 'tukul', is typically not more than about 20 meters square in total. As such, and given that families in South Sudan tend to be large, the international standard of 3.5 meters per person<sup>9</sup> is often not available in the average 'non-emergency' context for the majority of South Sudanese families. It would not be realistic or appropriate to provide emergency shelters that are larger, or provide more space, than 'non-emergency' or host community shelters. Additionally, cultural uses of the shelters and breakdowns of which household members use specific shelters complicate the collection of accurate data at a basic level in a rapid assessment. Different shelters are used for different purposes, such as cooking, keeping livestock, or sleeping, and assessing covered living space when there might be multiple shelters in a compound or available to the family lacks precision and consistency in a survey that assesses only one shelter per one household. Moreover and while it differs by region, tribal affiliation and other factors, women and children, sometimes from different households, usually sleep together in one shelter, while men and teenage boys tend to sleep in another shelter. Similarly, this complicates a rapid exercise that assesses only one shelter and only one household as a single unit.

The result of the above realities means that generalizing about if covered living space is adequate against fixed international standards, and subsequent planning of emergency humanitarian intervention, requires careful consideration of: already existing shelter standards in 'non-emergency' times; discrepancies between proposed emergency shelter solutions and the standard and quality of host community shelters; the number of households and individuals accessing each shelter in the home compounds; and the culturally determined shared living arrangements of typical households and communities in South Sudan.

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<sup>8</sup> Please note that range for the households with 20 and 21 persons are very likely unrealistic, and may be due to the fact that these families declared more people than are living in the house in reality, or that they have a second structure that was not included in the assessment (which was at the level only of a single shelter in a compound).

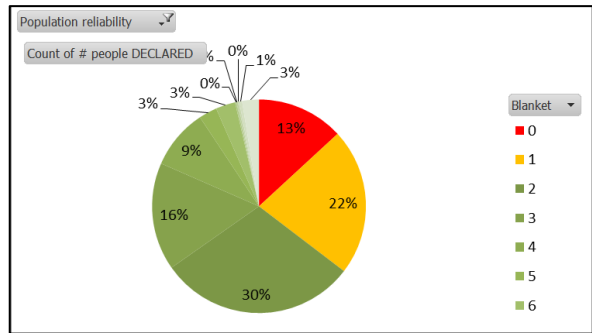
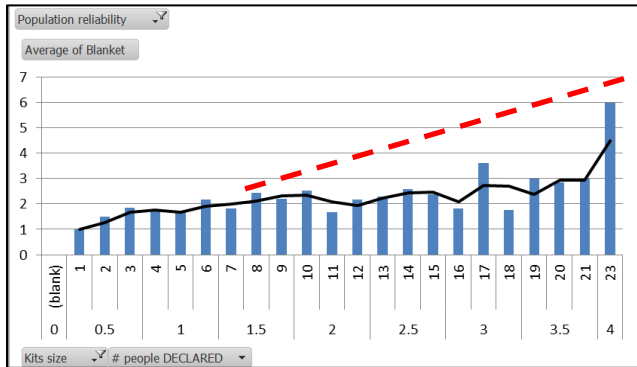
<sup>9</sup> See Sphere Project guidelines on minimum standards in Shelter, available at < <http://www.spherehandbook.org/en/how-to-use-this-chapter-2/>>.



## Non Food Items

While shelter was the primary focus of this mission and report given that blanket distributions of NFI have been conducted, it is instructive to select a few key NFI to assess here. It should be noted that some NFI were being distributed as this data was being collected, so the needs are expected to have decreased in terms of basic coverage since then.

### Blankets



The coverage of needs in terms of blankets is satisfactory for small and average sized families. Needs begin to appear (red dotted line) as family sizes increase. 13% of households surveyed were also observed to have no blankets, while another 22% were observed to have only 1 blanket available to them for sleeping. Therefore, a targeted distribution of blankets to very large families who may not have enough for all members of the household, as well as to those families who may not have received an NFI kit yet is recommended.



The assessment team observed that many households were using several blankets to cover their shelters to both cool the inside of the shelter and to protect the plastic sheet against sun. It appears that these blankets were not recorded in the table about NFI possession as they were not being used for the intended purpose of sleeping.



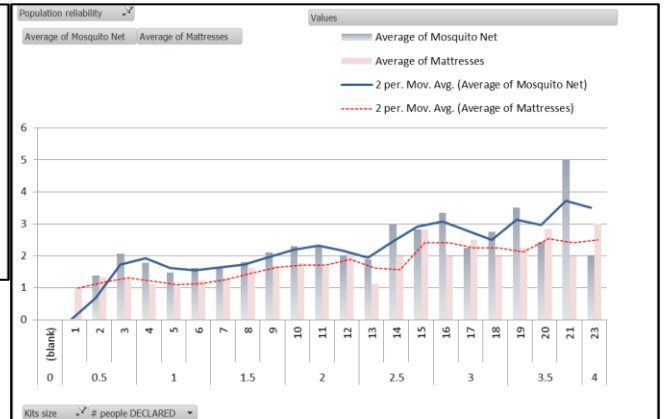
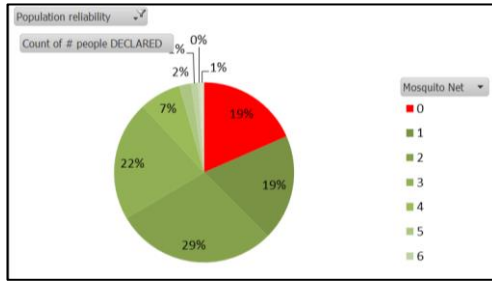
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## Mosquito nets

While the majority of families (62%) have more than 2 mosquito nets, some families did not have enough to meet their needs at the time of assessment, and 19% had none. If not already met with subsequent NFI distributions that have taken place, a targeted distribution for those families without sufficient quantity to meet their need is recommended.

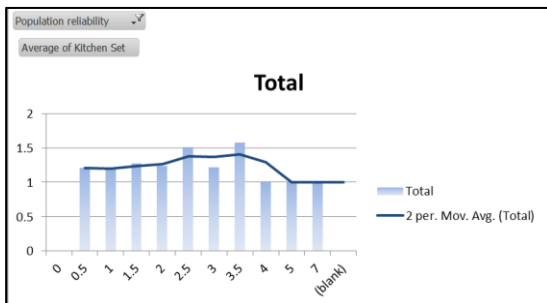
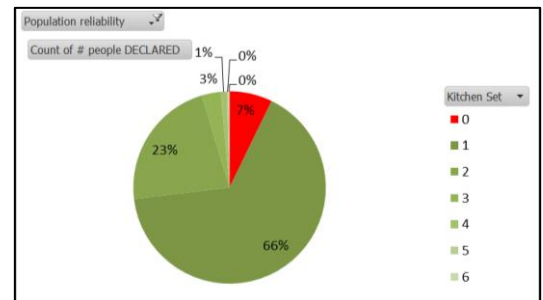


*This compound had at least 5 mosquito nets hanging from a central tree, indicating both that people are sleeping outside under the tree at night, and that they've accessed mosquito nets through a variety of channels, likely carried from home together with those distributed by humanitarians in the area.*



## Kitchen Sets

The level of kitchen set possession is quite high with the vast majority of households (93%) having access to kitchen sets and cooking utensils. A referral from protection partners of vulnerable households that might be new arrivals or potentially missed

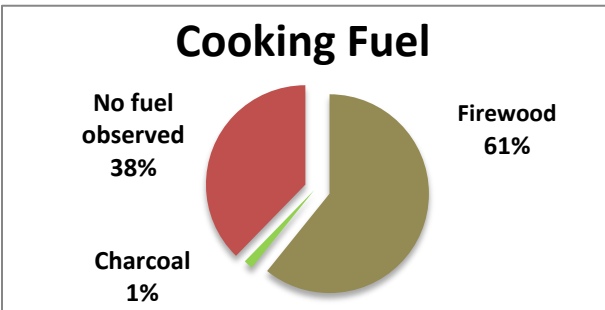
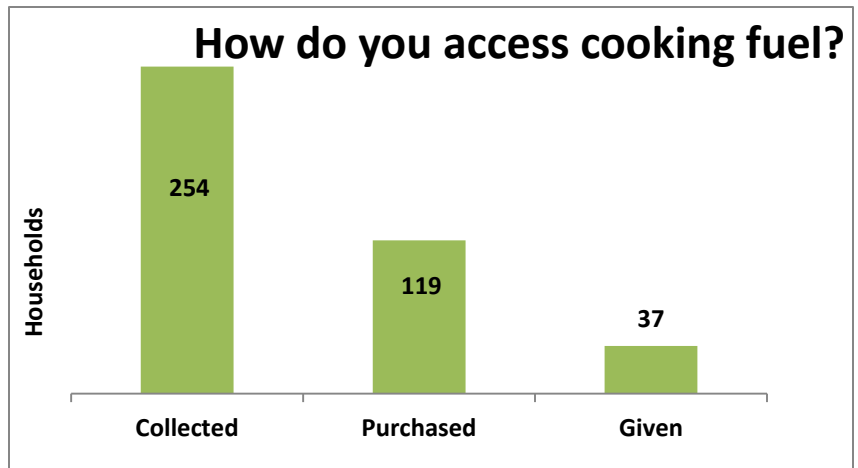


out from previous NFI distributions could trigger a case by case distribution of kitchen sets where gaps still exist.



## Cooking Fuel (Firewood and Charcoal)

61% of households were observed as having firewood, while 1.5% of households had charcoal. 54% of households surveyed reported collecting their cooking fuel, while 25% manage to purchase it. Some vulnerable families were observed to be without cooking fuel in the compound and cook using limited resources, such as in the picture below.



Discussions surrounding cooking fuel provision and the provision of fuel efficient stoves can be expected if the IDP situation remains protracted in the coming months, and if tensions arise with the community whose land IDPs are collecting fuel on.

*This woman is cooking with small sticks gathered from her immediate surroundings rather than more robust firewood collected from areas further from her shelter.*





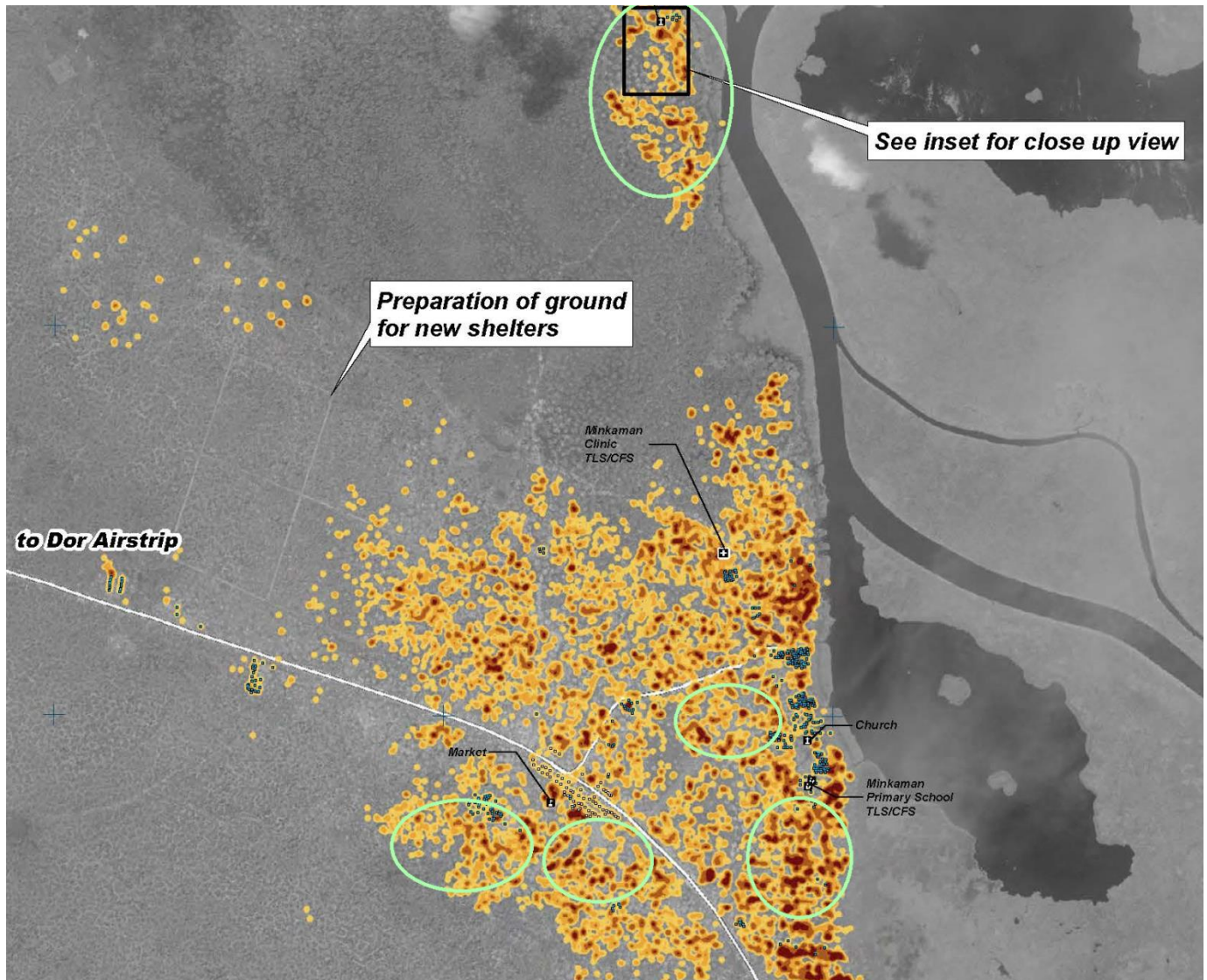
## Recommendations

1. **Blanket distributions of any material or item are not recommended on the basis of this assessment mission as there is no item for which need is consistently high across the population.** Any item under consideration for distribution, including and especially robust shelter kits given the relatively high possession levels of framing materials, should be distributed on the basis of acute need that is visually verified by humanitarian staff at the location of the shelter itself. Households relocating to any new site should be encouraged to dismantle and carry their shelter materials with them in order to avoid households dividing themselves and their receipt of items multiple times in multiple locations.
2. **Data suggests that at the time of the assessment, the need for shelter items (both plastic sheets and framing material) was most acute for large and very large families,** who do consistently possess items, but who may lack enough to provide adequate covered living space for all members of their households. Therefore, visual verification of residual life-saving need and a targeted distribution of supplementary shelter materials to those who do not have access to a second shelter would be appropriate.
3. **Ongoing assessments of both Shelter and NFI need should be conducted for newly arrived households that have not yet been targeted by any round of distribution.** Much of the need highlighted in this report should have been covered by distributions conducted after this monitoring exercise. However, if needs still exist and are visually verified by Partners in the area, targeted distributions on a case by case basis should take place.
4. **Discussions on the provision of cooking fuel or solutions such as fuel efficient stoves should begin to take place.** Consistent over collection of firewood in the surrounding area may have harmful deforestation effects, and could potentially cause tensions with host communities and land owners.
5. **Ongoing monitoring exercises and needs assessments should be continuously conducted to inform response within the communities and IDP sites.** These will enable staff to accurately determine if life-saving needs continue to exist, and identify those households with life-saving needs to be specifically targeted. Targeted needs assessments, protection partner referrals on a case by case basis and monitoring exercises such as this are highly recommended in order to continue informing humanitarian programming in the area.
6. **The assessment tool should be amended** to include less-subjective questions about the quality and strength of materials; to include more specific questions on the quantity of other framing materials; to ask the respondent how many shelters the household members have access to; and to require the enumerator to specify which type of shelter, if any, the respondent is currently residing in.
7. **Where possible, enumerator and assessment teams should be comprised of humanitarian staff who are already familiar with standards in the sector.** This ensures less need for negotiation, prevents tension and delays with the assessment team; it also ensures more objective and quality information against humanitarian standards; and it speeds up the data collection process as humanitarian staff are more familiar with what observations need to be made during these exercises, and are less likely to make errors in data entry.



## Annex 1

### Map of Mingkaman Sample Areas





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## Annex 2

### Household Survey Tool

Location: # people declared:  
# people present:

| Age group | Total (#) | Visible Disability (Y/N) |
|-----------|-----------|--------------------------|
| Under 5   |           |                          |
| 6 to 60   |           |                          |
| Over 60   |           |                          |

#### **Shelter (observation)**

Plastic sheeting (#):  
Other covering fabrics (#):  
Wooden structure (# of poles):  
Other framing materials (y/n):

#### **Quality of shelter**

Plastic sheet/covering: Intact/Good      Holes/Torn  
Surface interior (length by width in meters):  
Any other shelter touching (y/n):  
Ditch/Drainage Visible (y/n):      Slope Point (y/n)

Structure: Strong      Weak  
Tukul/Circle Structure (diameter):  
Distance 1:      Distance 2:

#### **Shelter (Question to participant)**

Where did you get your shelter materials?    Gathered      Brought from home      Purchased it      Distribution

#### **NFI (Observed #)**

|           |             |               |            |
|-----------|-------------|---------------|------------|
| Kanga:    | Mattresses: | Kitchen set : | Soap:      |
|           | Blanket:    | Mosquito net: | Tent:      |
| Tools:    | Radio:      | Lamp:         | Jerry can: |
| Mats:     | Bucket:     | Ropes:        | Livestock: |
| Charcoal: | Firewood:   | Other:        |            |

#### **NFI (Question to Participant)**

Where do you get your cooking fuel?    Collect/Gather      Buy      Given      Other