DTM MULTI-SECTORAL LOCATION ASSESSMENT SOUTH SUDAN

SUMMARY REPORT ON ENERGY ACCESS

MOBILITY TRACKING ROUND 11

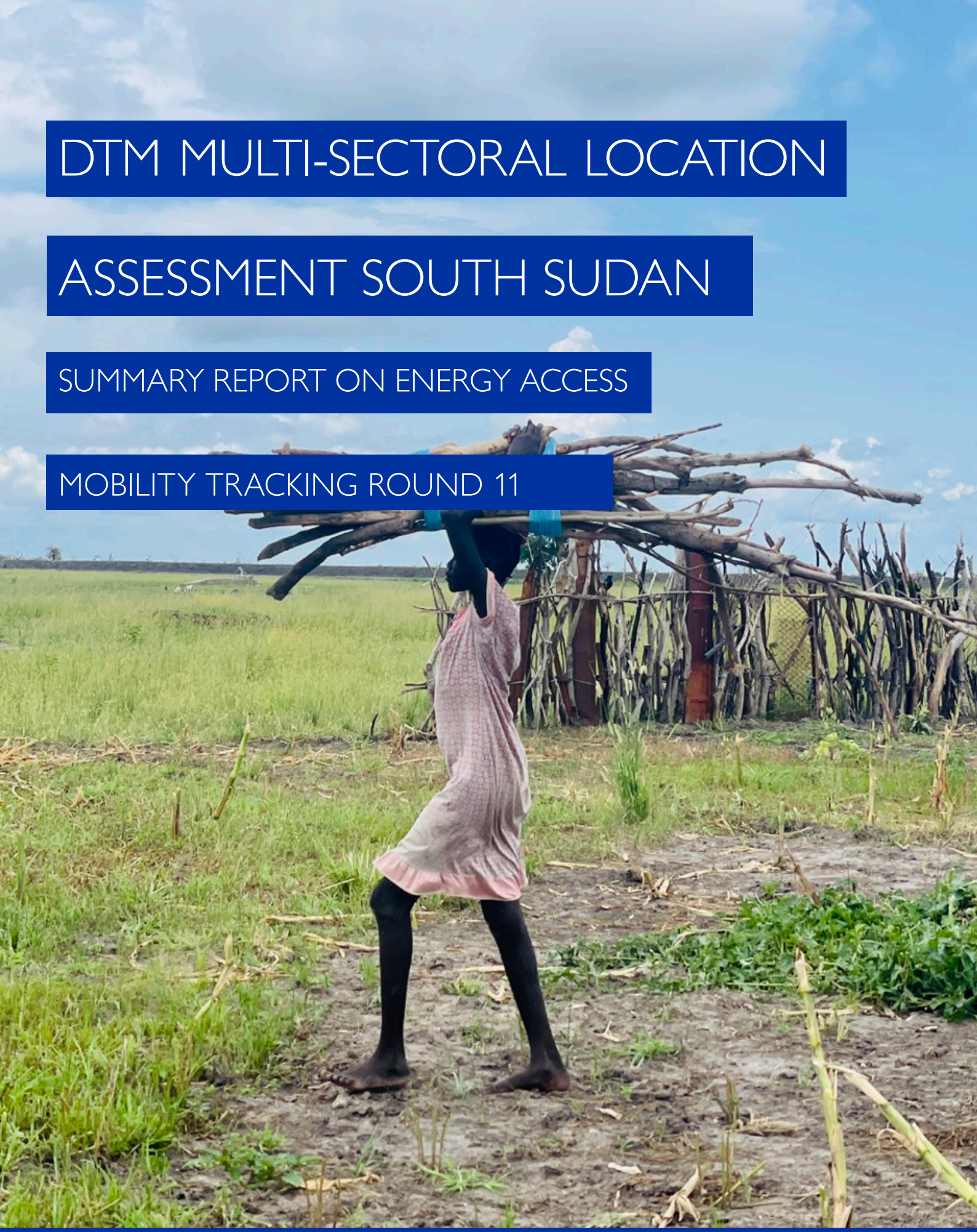

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TABLE OF CONTENT

SUMMARY OF THE FINDINGS

Country: South Sudan
Regions: 10 States
Survey Period July – September 2021

DTM IOM DISPLACEMENT TRACKING MATRIX

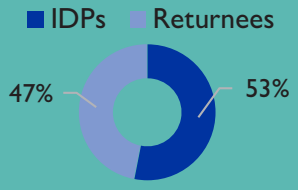
Summary Report on DTM Multi-Sectoral Location Assessment (MSLA)
Round 11 - Energy Access

Locations Assessed
2,606 locations

Population
3,212,367 individuals

Women 32%
Men 25%
Children 43%

Population Classification



FIRST PRIORITY IN TERMS OF ENERGY SERVICES

Energy for household lighting is among the top three priorities for 53% of the population in the settlements, while cooking fuel and energy access for health facilities is one of the main priorities for 40% and 29% of the population respectively.

LIGHTING AROUND WASH FACILITIES

It was reported that 51% of the population in the settlements do not have lighting around the latrines, while 23% of the population in settlements use flashlight/mobile phone as source of light.

ENERGY FOR COOKING

Wood is the most commonly used source of cooking fuel by 85% of the population in the settlements, while 8% and 3% of the population use charcoal and agricultural waste respectively.

77% of the population in the settlements use a combination of three-stone/open fire cook stove and wood, while 8% use a combination of clay/mud cook stove and wood.

Three-stone/open fire cook stoves and fired clay cook stove, are most commonly used as a cooking stove by respectively 82% and 13% of the population in the settlements.

For 31% of the population in the settlements, fuel collection time takes between 30 minutes and 1 hour 30 minutes , while for 28% of the population it takes less than 30 minutes .
About 50% of the population reported not having enough cooking fuel

HOUSEHOLD LIGHTING

About 30% of the population in the settlements do not have any source of lighting in their households.

The most common source of lighting for 27% of the population in the settlements is lighting from fires/cooking sources , while for 25% of the population use flashlight and mobile phone

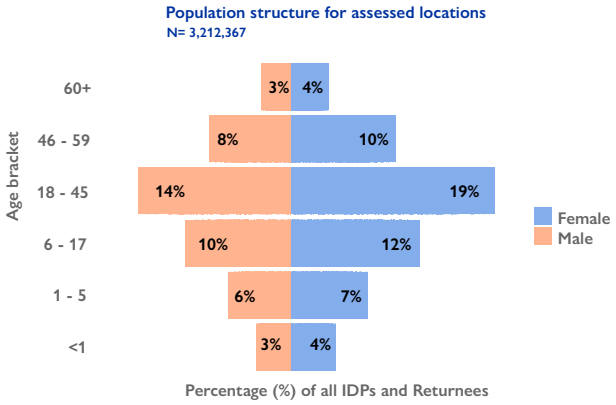
Figure 1: Summary findings

1 GENERAL OVERVIEW

1.1 BACKGROUND

The Displacement Tracking Matrix (DTM) Energy Module[1] was developed in 2021 by DTM and the IOM Environmental Sustainability Unit, with support from NORCAP. The new DTM Module was piloted in four countries including South Sudan, Mozambique, Nigeria and Niger.

This report presents a summary of the analysis of energy-related data based on the Mobility Tracking Round 11 of the DTM Multi-Sectoral Location Assessment (MLSA) in South Sudan. The assessment had the novelty of including energy access-related questions, following the structure of the newly introduced DTM Energy Module.



(Figure 2: Population structure for assessed locations)

2 METHODOLOGY

2.1 Key definitions

- **Internally Displaced Persons (IDPs):** Persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of, or in order to, avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized state border". As of 2019, IDPs captured include those previously abroad and those within South Sudan.

- **Returnee:** Someone who was displaced from their habitual residence either within South Sudan or abroad, who has since returned to their habitual residence. MT in South Sudan distinguishes returnees who were displaced to another country (refugee returnees) from those who were only displaced within the country (IDP returnees). Timeframe considered: past 3 years.

- **Planned camp/site:** A well-organized site specifically built for IDPs and/or refugees. These sites are under the management of a Camp Management agency or national authority. (Example: Protection of Civilians sites)
- **Collective Center:** A site using pre-existing buildings or structures – such as churches, schools, warehouses, hospitals or abandoned barracks – to host IDPs and other individuals. These sites can be self-managed or assisted by a humanitarian agency.

1. HNAP, Internally Displaced Persons (IDP) stock, March 2019

- **Spontaneous camp/ site:** A site on open land without any pre-existing buildings or structures. This land can be private land, community land, farming fields or bushes and were not designed to specifically host IDPs. They can be self-managed or assisted by a humanitarian agency.
- **Dispersed settlement:** A location containing dispersed IDP settlements. They can be self-managed or assisted by a humanitarian agency.

2.2 Methodology

The Multi-Sectoral location assessment (MSLA) collects data in the locations identified during the B2 assessment and gets more precise estimates and information on needs, services and risks at the site or village level. The data collected includes: number of individuals, site characteristics, vulnerabilities, data on multi-sectoral needs and gaps (wash, NFI, food, education, health, livelihood, protection), etc.

The data is collected through key informants' interviews, focus group discussion and observation. The forms to be filled are the Site assessment form (SA) and Village/Neighborhood assessment form (VNA) as applicable in the payam. While the data were collected at the location level, the analysis presented in this report is at the State level for the graphics and at the administrative level for the maps.

2.3 Key Informants

During Round 11, DTM enumerators consulted key informants, including 1,324 at the sub-area level, 2,516 at the village or neighbourhood level and 78 at displacement sites. Some key informants were consulted at multiple levels. Data was triangulated with direct observation by the enumerators and subsequently verified against secondary data from partners and other DTM sources, including biometric registration figures. Therefore, the analysis gives insights on the general situation for the majority of the households living in the assessed locations. However, one needs to keep in mind that individual households might show different profiles of energy usage.

DTM MSLA is not an in-depth Sectoral Needs Assessment tool. It does not interview individuals or households, but rather key informants. Moreover, DTM enumerators and key informants are not sectoral experts. DTM MSLA questions are designed to be answered by non-sectoral experts, in a way that the results might not depict the exact situation on ground but can be used by sectoral experts for analysis.

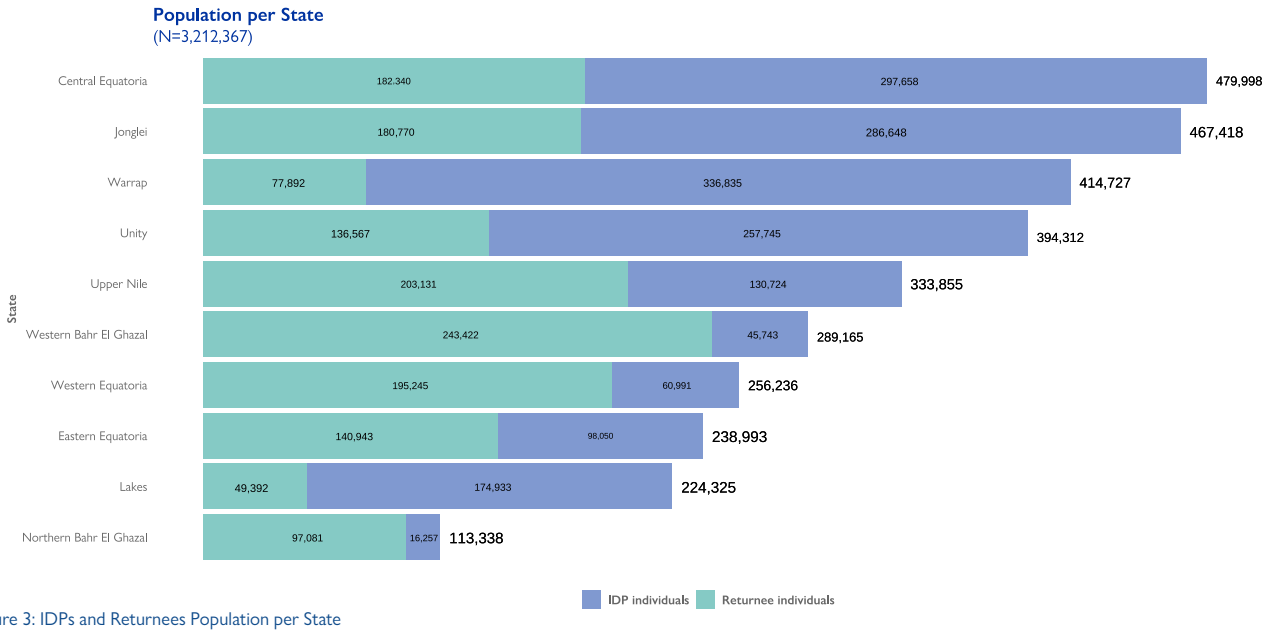
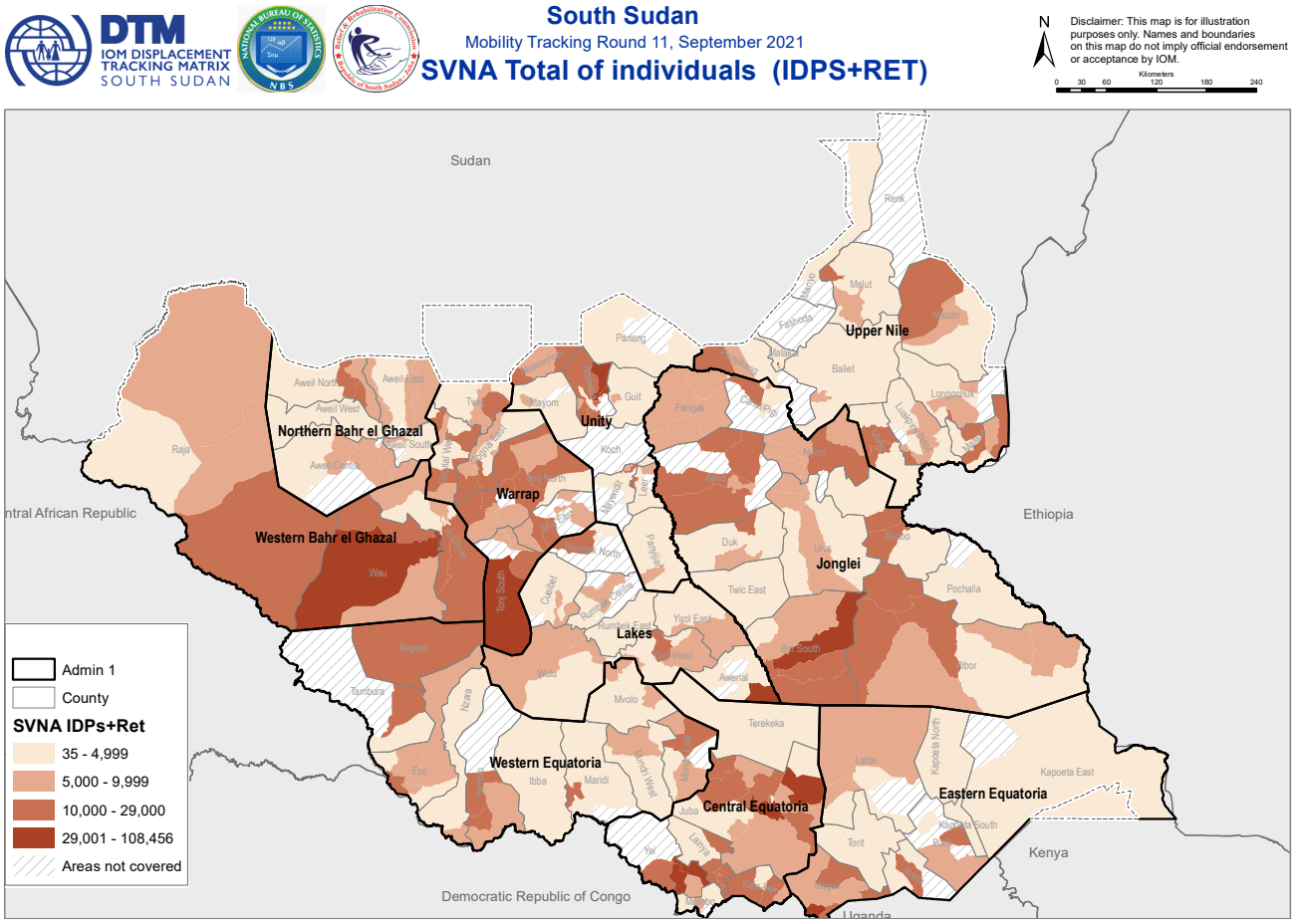


Figure 3: IDPs and Returnees Population per State

2.4 Scope

The assessment was performed between July and September 2021. These locations host an estimated total of 3,212,367 individuals: 1,705,584 Internally Displaced Persons (IDPs) and 1,506,783 returnees[2]. As presented in Figure 2, about 32 per cent of estimated population are women, 25 per centare men and 43 per cent are children. The breakdown of total individuals of IDPs and returnees per state can be found in Map 1.



Map 1: Number of IDPs and returnees individuals' distribution in the assessed locations

2.5 Distribution of IDPs and returnees Population per Type of Shelter

The assessed population lives in different types of shelters. As seen in Figure 4, these include:

- **Tukul**: These shelters are mud huts with thatched roofs and are traditional houses and more permanent than rabooka.
- **Rakooba:** These shelters are shacks built with some readily available local materials (e.g., corrugated stell panels), which characterize them as temporary shelters.
- **Community structure:** These are facilities like schools, churches, and other public buildings.
- **Houses with concrete walls:** These shelters are more solid and permanent houses compared to tukul and rabooka.

2. Note: For the SNVA data, the number of affected people is different than the baseline numbers. SVNA represents the 85per cent of IDPs and returnees estimated during Round 11.

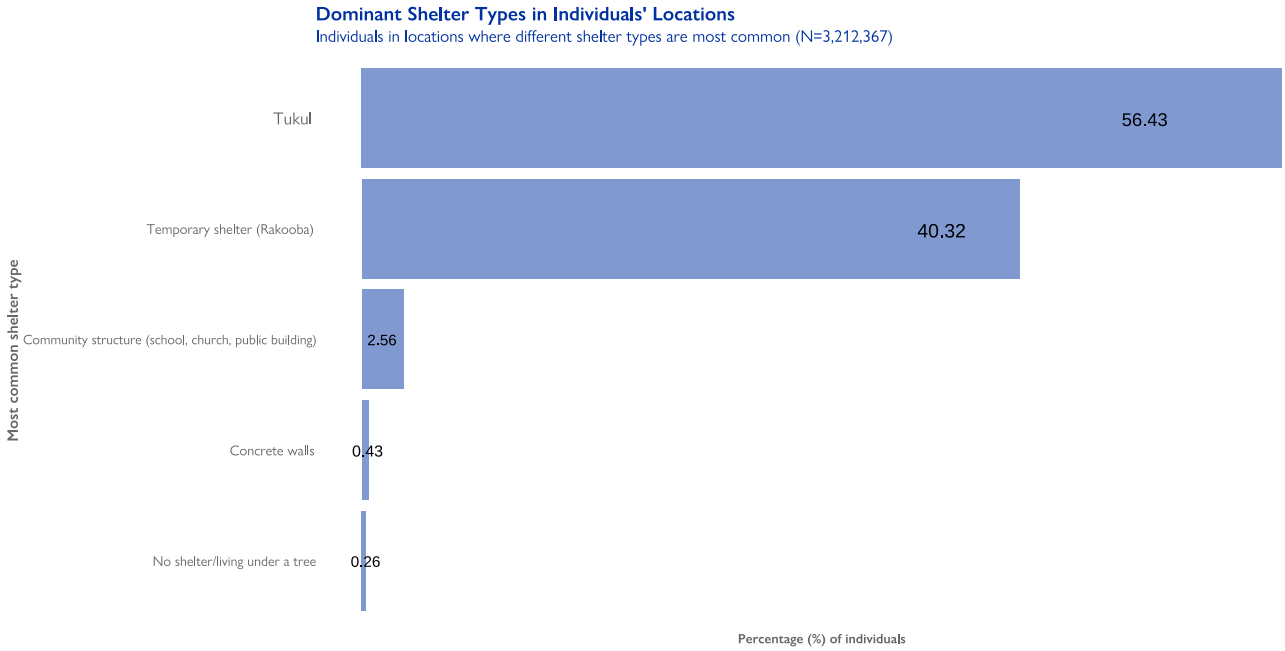


Figure 4: Types of Shelters used in the settlements

2.6 Energy Access Framework

This summary report is organized according to three thematic areas: household energy for cooking, household lighting and lighting around Water, Sanitation and Hygiene (WASH) facilities. Electricity is often used to power lighting, space heating/cooling, street lighting, and sometimes cooking and WASH activities. However, where electricity access is unavailable, alternative energy sources such as fuel (wood, kerosene, etc.) or hand power (manual) are used. It is important to highlight that energy access does not only consist of energy for cooking and basic lighting, but also energy for connectivity, productive uses, and basic services (education, health, WASH, etc.). Therefore, a holistic approach to evaluate the overall energy needs is used as an analytical framework in this report. In order to reflect that, the Energy Sector Management Assistance Program (ESMAP) Programme from the World Bank has established a Multi-Tier Framework (MTF)[3] that offers a more comprehensive definition and metric of energy access based on nine attributes of energy supply (see Figure 5).

Therefore, the DTM energy indicators from the Energy Module[4] have been defined to be aligned with the MTF and enable the evaluation of the (estimated) Tier of overall energy access. It is necessary to note that despite advocating for a more holistic approach to address the overall energy needs ("total energy approach[5] "), the limited resources and limited length of survey from DTM to include a higher number of indicators prevents this assessment to cover a wider scope.

3. Reference: Rysankova, D., Portale, E., Carletto, G. (5 April 2016). Introduction to the Multi-Tier Framework. ESMAP. Available online: https://www.seforall.org/sites/default/files/MTFpresentation_SE4ALL_April5.PDF
4. See https://displacement.iom.int/dtm-partners-toolkit/guide/dtm-energy-0, https://displacement.iom.int/dtm-partners-toolkit/energy and https://displacement.iom.int/dtm-partners-toolkit/field-companion-pdf
5. A Total Energy Access approach defines 'access' as "when the full range of energy supplies and services required to support human social and economic development are available to households, enterprises and community service providers". Practical Action (2014) Poor people's energy outlook 2014: Key messages on energy for poverty alleviation, Rugby, UK: Practical Action Publishing.

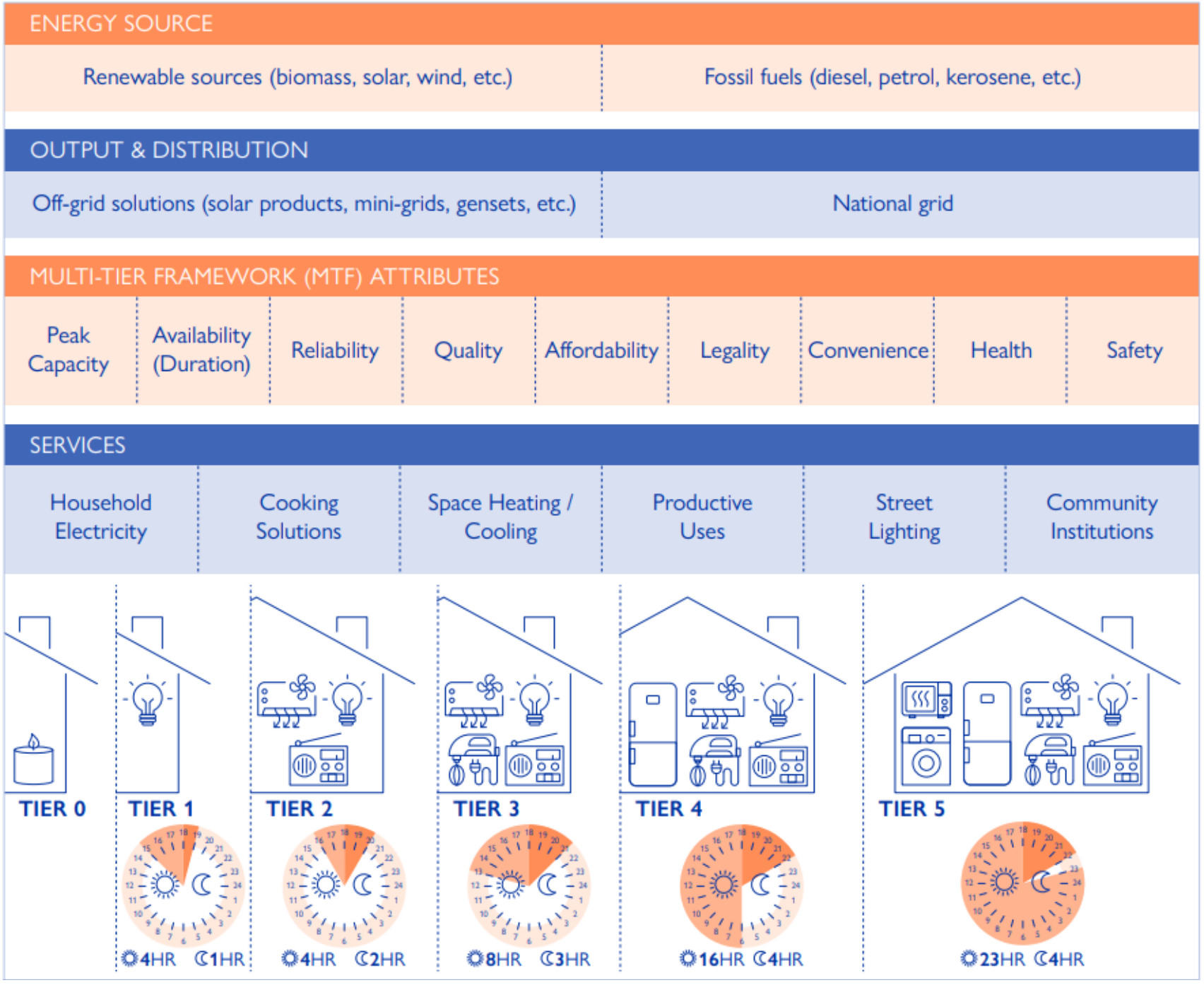


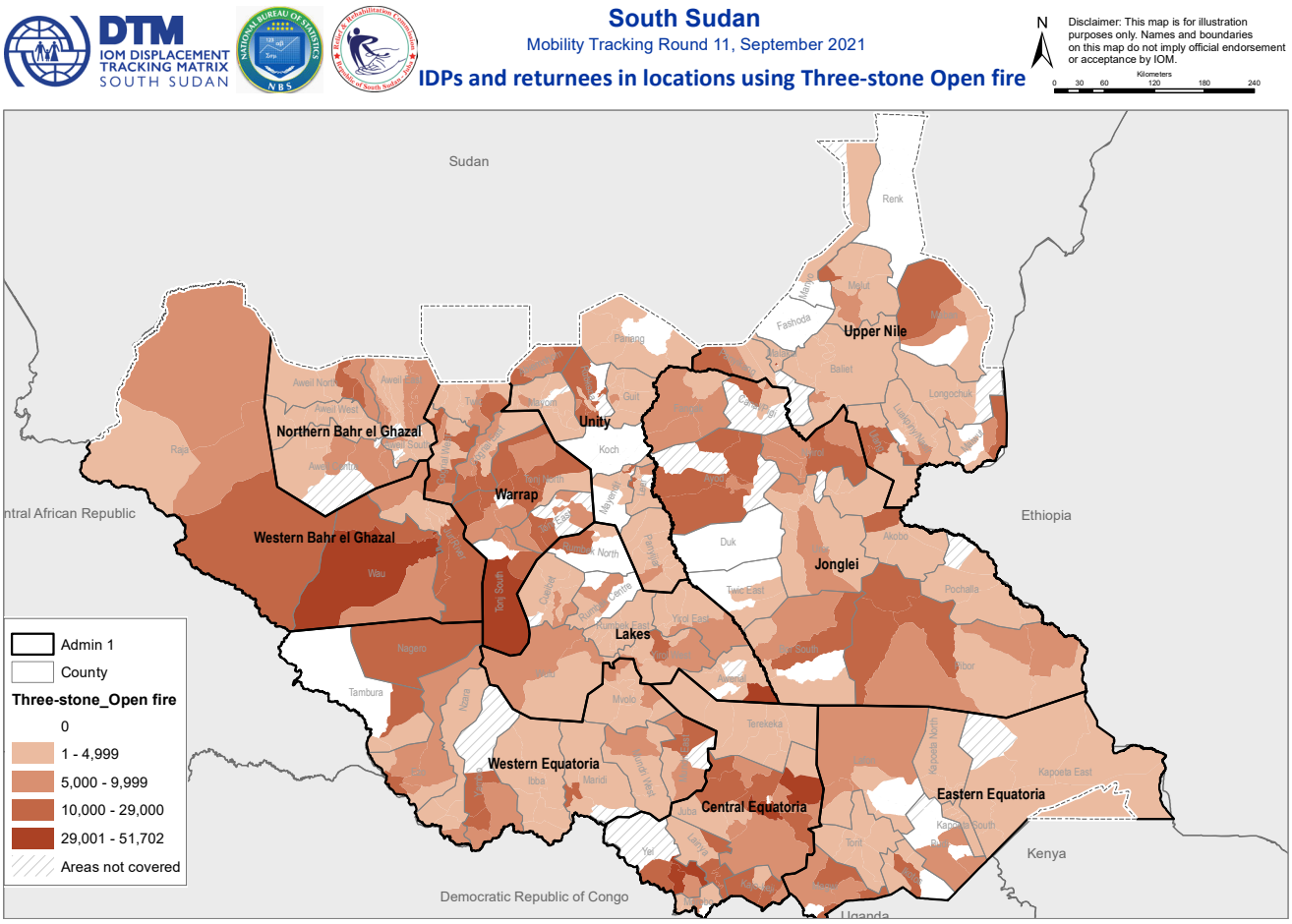
Figure 5: The Tiers of Access of the MTF (Figure adapted from: Rysankova, D., Portale, E., Carletto, G. (5 April 2016). Introduction to the Multi-Tier Framework. ESMAP. Available online)

3 KEY FINDINGS

3.1 Household cooking energy access

3.1.1 Primary Cooking Stove

It is estimated that 82 per cent of the IDP and returnee population use three-stone/open-fire as primary cooking stove (Figure 8). The use of clay/mud/brick cookstove was reported by 13 per cent of the IDP and returnee population, while one per cent use other cooking stoves and three per cent did not answer. Map 2 shows the breakdown of three stone/open fire cookstove used by IDPs and returnees population residing in various states.



Map 2: Distribution of IDPs and returnees individuals using Three-stone/Open fire Cookstove

While the majority of the population uses three-stone or open fire[6] as the primary cookstove, in Eastern Equatoria and Western Bahr El Ghazal, a relatively higher share of the population (36%) in the settlements use clay/mud/brick stove. It is also important to note that in three states (Lakes, Northern Bahr El Ghazal and western Equatoria), it was reported that a large majority of the population uses three stone/open fire cookstoves. Moreover, Upper Nile is the only state that has a share of the IDPs and returnees population (4%) in the locations using electric/induction cookstove.

6. Three stone cooking fires, three-stone cooking fires or three-rock cooking fires are fires which, unlike open fires, have the cooking pot placed close to the fire itself, reducing waste of heat. With three-stone cooking fires a heated space is effectively formed between the cooking pot and the fire. Sometimes, a circle of stones is placed besides the fire itself, to keep the fire from spreading into the environment, and to keep wind away from the fire. In an open fire, the cooking pot is generally hung well above the fire. Both options are inefficient methods of cooking, placing the environment and the health of the cook in jeopardy.

Alternative cooking stoves like ethanol/alcohol, gas/LPG and solar cookstoves, which are considered cleaner and more efficient stoves compared to three-stone/open fire have been reported to be used by about one to two per cent of the population all states apart from Lakes and Norther Bar el Ghazal. This highlights that clean cookstoves are used by only a small share of IDPs and returnees persons in the settlements.

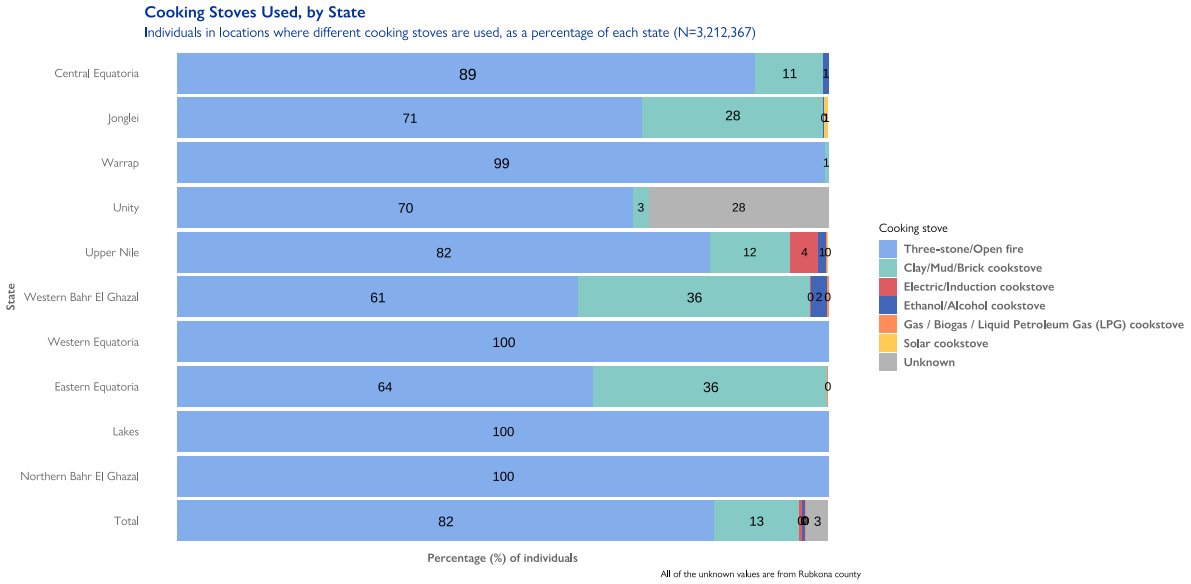


Figure 6: IDPs and returnees individuals using various cookstoves broken down by State

3.1.2 *Primary Cooking fuel*

Wood is reported to be the primary cooking fuel used by 85 per cent of the population in the settlements. The use of charcoal/coal and agricultural/crop waste are reported to be used by eight per cent and three per cent (respectively) of the IDPs and returnees living in the settlements. Alternative cooking fuels such as animal waste/ dung, ethanol/alcohol/methanol, kerosene and LPG gas are used by less than one per cent of the IDPs and returnees population in all the settlements, while three per cent of the population did not reply.

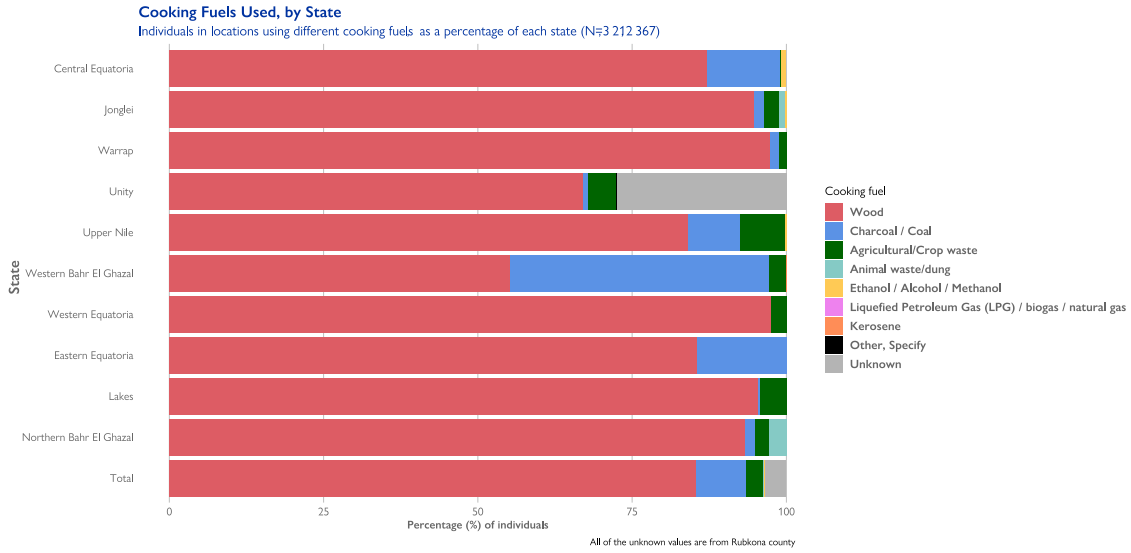


Figure 7: IDPs and returnees individuals using different cooking fuels, state-level breakdown

The main cooking fuel being wood seem to be compatible with the three stone/open fires cookstoves reported. In Western Bahr Ghazal, a larger share of population (42%) use charcoal compared to the average in other States. On the other hand, no use of charcoal is observed in Western Equatoria. This shows that there are disparities in the use of primary cooking fuels across the States.

3.1.3 *Combination of cooking stove and fuel*

It is reported that a majority (77%) of IDPs and returnees living in settlements use a combination of three-stone/ open fire cookstove and wood, while eight per cent use a combination of clay/mud/brick cookstove and wood. About two per cent and five per cent of assessed population use a combination of three-stone/open fire with agriculture waste and clay/mud/brick cookstove with charcoal/coal respectively, while four per cent use "other" combinations and information is not available for the other three per cent. Figure 8 shows the combination of cookstove, and cooking fuel used by household in the different States. While the combination is consistent with most of the population using wood with three stone/open fires, the "other" observations mentioned do not seem to be consistent.

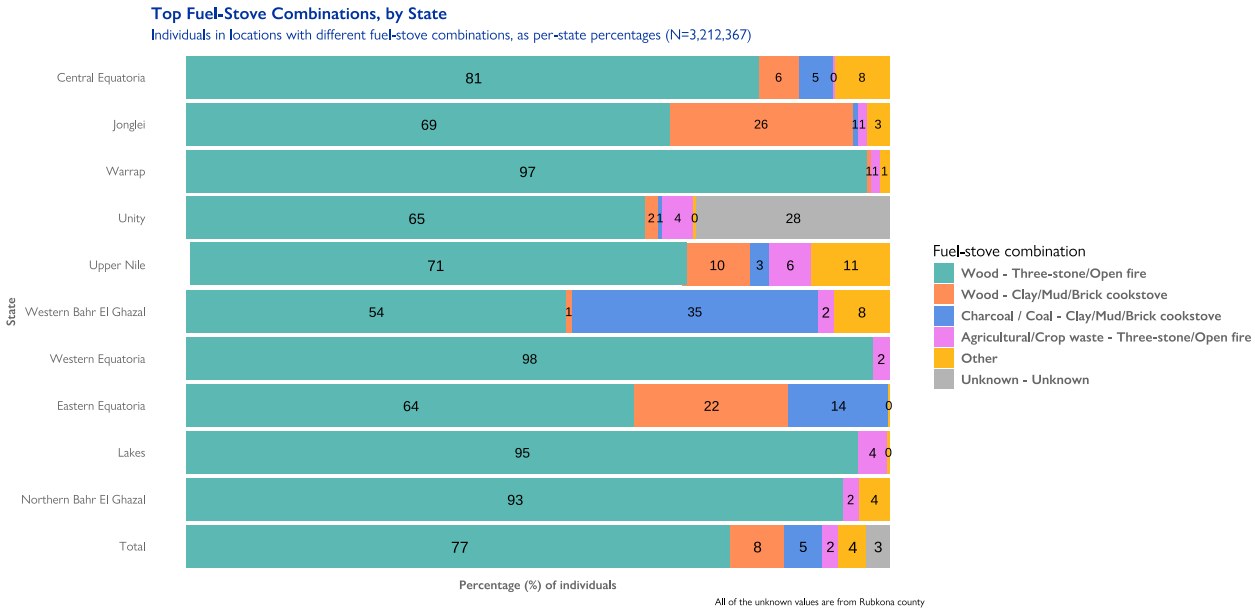


Figure 8: IDPs and returnees individuals using a combination of cooking fuel and stoves per State

One can also observe that the use of the combination of wood with clay/mud/brick cookstove is used by relatively a higher population - 26 per cent and 22 per cent in Jonglei and Eastern Equatoria respectively. No correlation was found between the main type of shelters present in a settlement (e.g., tukul, rabooka, concrete house, community structure) and the primary source of cooking fuel and cookstoves.

These findings highlight the high dependence of IDPs and returnees' population on traditional biomass and inefficient cooking methods. Collecting firewood in unstainable ways can threaten the stability of the ecosystems on which both IDPs, returnees and host communities rely for their livelihoods and health. Additional risks can include indoor air pollution, conflict with local communities and violent crimes committed against the women and children who walk to harvest wood fuel. The dependence on traditional biomass and inefficient cooking stoves can also be a sign of lack of available and/or affordable cleaner alternatives in the area.

3.1.4 *Cooking Fuel Acquisition Time*

The proportion of IDPs and returnees living in settlements where households spend between 30 min and up to 1h30 per week collecting cooking fuel is 31 per cent, while 28 per cent spend 30 minutes or less. About 14 per cent of the IDPs and returnees spend between 1.5 hours and up to 3 hours, and a similar share (14%) spend between 3 hours and up to 7 hours. A lower share (3%) of IDPs and returnees in the assessed settlements reported to spent over 7 hours per week collecting cooking fuel. The information is reported to be unavailable for about 12 per cent of the IDPs and returnees population. Figure 9 shows cooking fuel acquisition time broken down per State.

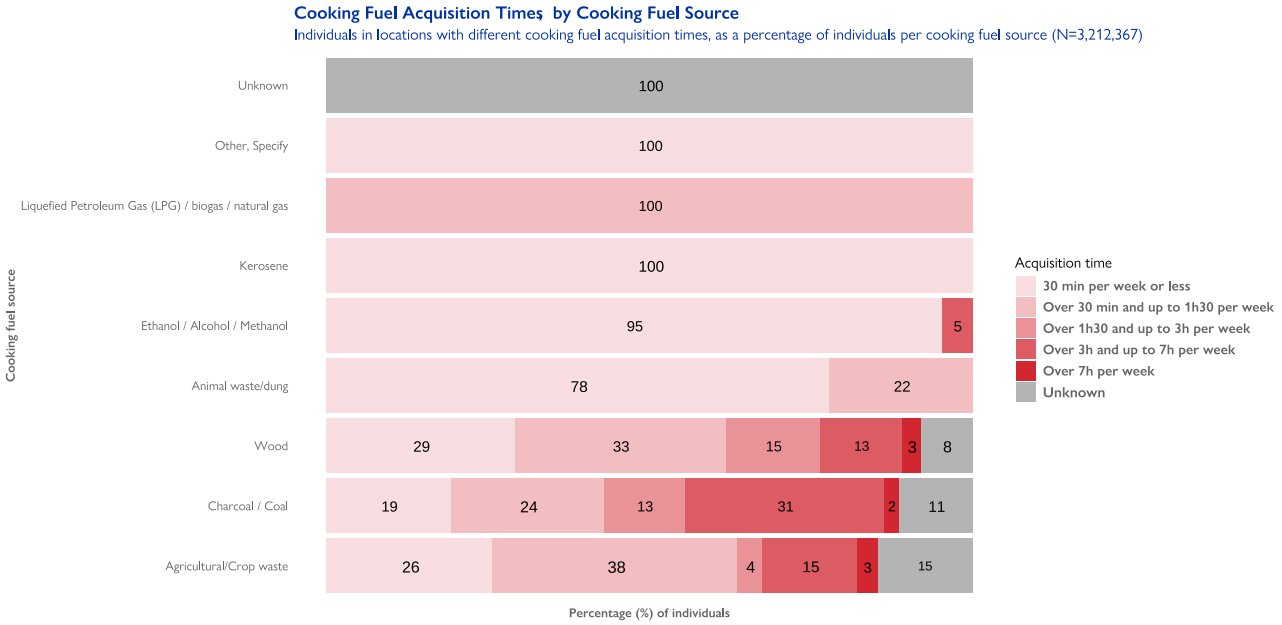


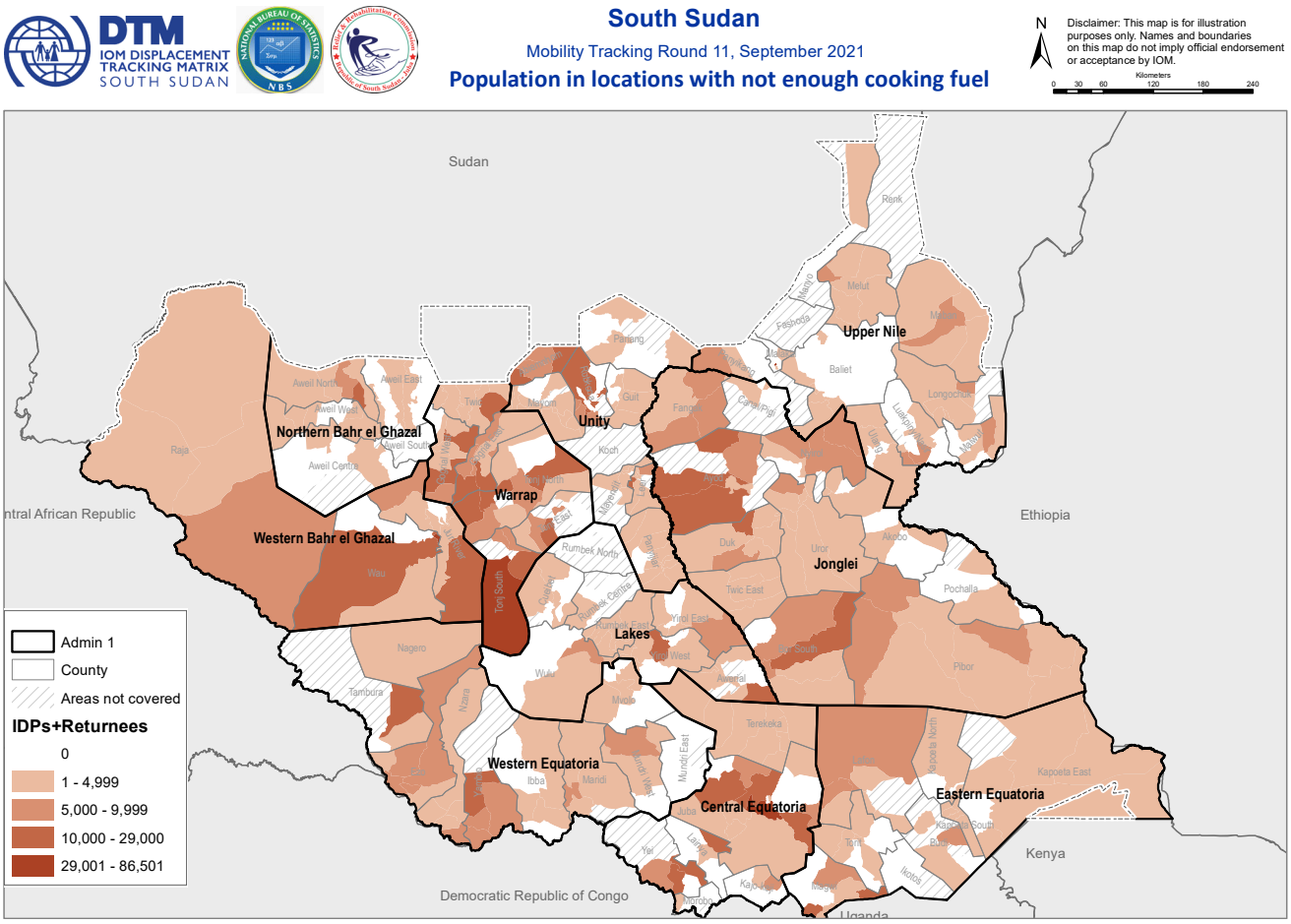
Figure 9: Acquisition time for cooking fuel disaggregated by State

On average, wood is associated with shorter fuel acquisition periods. About 77 per cent of IDPs and returnees using wood spend 3 hours or less per week, while it is only the case of 56 per cent for those using charcoal. About 16 per cent of the population using wood spend 3 hours or more per week as compared to 33 per cent for those using charcoal. Acquisition time for charcoal might include production time, or travelling time to the nearest town, which could explain this difference. Agricultural/crop waste fuel's acquisition time is similar to the one of wood. This is probably explained by the fact that explained by the fact that wood and agricultural/crop waste are located in similar areas, close to the agricultural fields of the IDPs and returnees. wood and agricultural/crop waste are located in similar areas, close to the agricultural fields of the IDPs and returnees. On the other hand, the cooking fuels less commonly used such as gas, kerosene, ethanol/ alcohol/ methanol and animal waste take significantly less time to acquire.

3.1.5 Cooking Fuel Sufficiency

In terms of cooking fuel sufficiency, it is observed that 50 per cent of the IDPs and returnees reported not having enough fuel. Figure 12 shows cooking fuel sufficiency breakdown per State. While it was reported that about 50 per cent of the population in the settlements do not have access to enough cooking fuel, the findings show that the shortage of fuel is similar independent of the main cooking fuel. For locations which use wood, 52 per cent of individuals are in locations which report "insufficiency", 46 per cent "sufficiency", two per cent "unknown"; for locations which use charcoal/coal, it is similar: "insufficiency" 54 per cent, "sufficiency" 42 per cent, "unknown" four per cent.

Most of the IDPs and returnees population settling in Warrap and Western Bahr El Ghazal States have been reported have insufficient amount of cooking fuel, with 73 per cent and 59 per cent of their population respectively. Map 3 below shows a map of the cooking fuel sufficiency broken down per State.



Map 3: Distribution of IDPs and returnees individuals with insufficient cooking fuel

In terms of acquistion time and fuel sufficiency, it is reported that 30 per cent of the population who spend more than 30 minutes to 1 hour 30 minutes in acquiring fuel do not get enough cook fuel. However, 32 per cent of the population spending 30 minutes or less get enough cook fuel in their households. Figure 10 shows cooking fuel sufficiency and acquisition time break down.

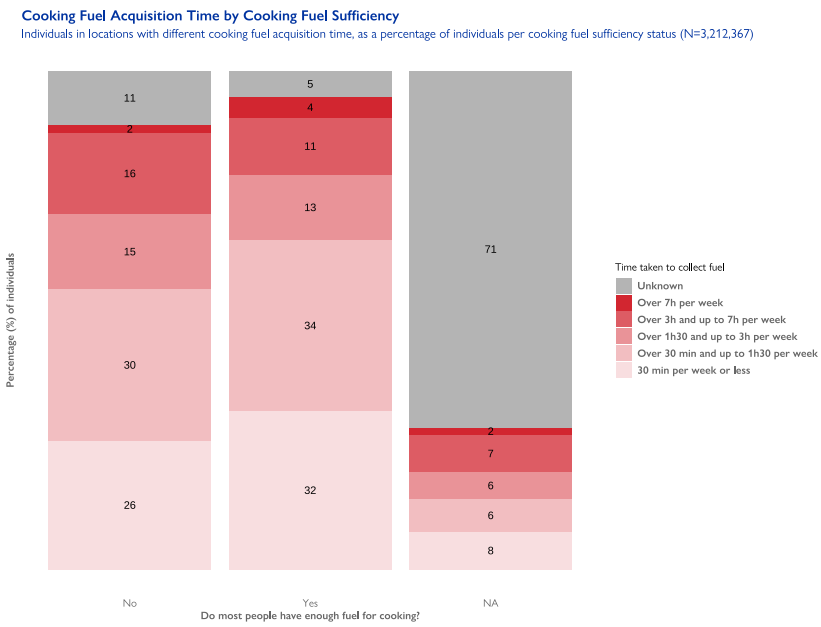


Figure 10: Cooking fuel acquisition timeby cooking fuel sufficiency

3.1.6 Associated Risks

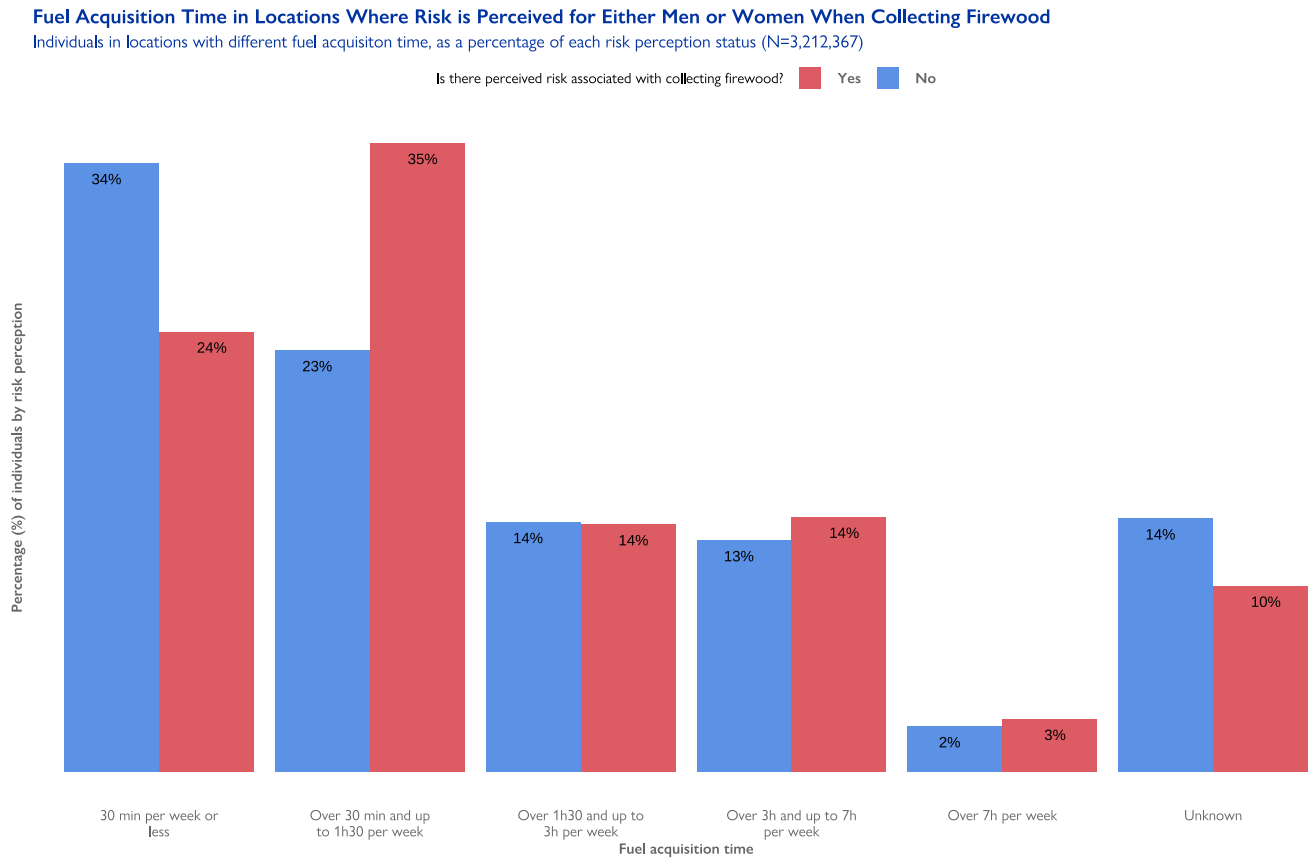


Figure 11: Fuel acquisition time in relation to perceived risk associated with collecting fuel

Cooking fuel acquisition can pose safety and security risks to both male and female IDPs and returnees, as they are exposed to risks related to wild animals, bandits, and/or gender-based violence. About 24 per cent of the population spending less than 30 minutes acquiring cooking fuel perceive a safety risk when they collect fuelwood, which increases to 35 per cent for an acquisition time between 30 minutes to 1 hour and 30 minutes. On the other hand, those spending less than 30 minutes in collecting fuel, a majority of them (34%) do not report any perceived risks associated with the activity while this represents 23 per cent of the ones spending time between 30 minutes to 1 hour and 30 minutes. As shown in Figure 11, there is no clear difference for the ones spending more than 1 hour and 30 minutets

3.1.7 Summary

Overall, it is estimated that the cooking solutions used in these settlements correspond to a Tier 0 or Tier 1 according to the Multi-Tier Framework (MTF)[7] established by ESMAP, a World Bank Program. This is actually lower than the current targets from some of the humanitarian organisations in the sector which have for goal to reach a minimum of Tier 2 of energy access. For instance, UNHCR's Global Strategy for Sustainable Energy 2019-2024[8] gives a priority to "clean modern cooking energy over firewood or other traditional solid fuels" corresponding to a Tier 2 cooking solution. This is also aligned with the Clean Energy Challenge, co-led by UNHCR and the Global Platform for Action (GPA) for Sustainable Energy in Displacement Settings[9].

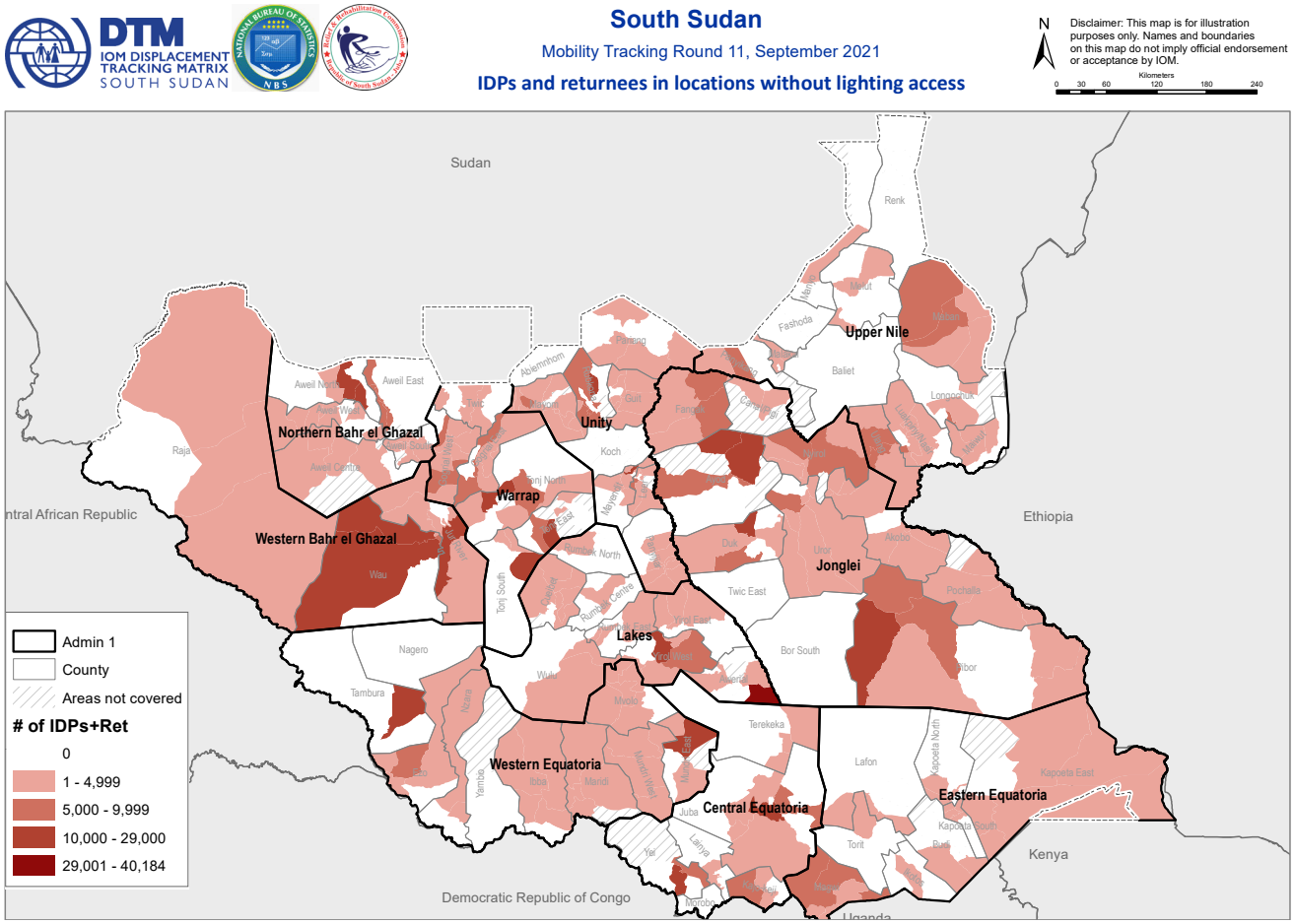
7. Reference: Bhatia and Angelou,2015. Beyond Connections: Energy Access Redefined. ESMAP. Available at: https://openknowledge.worldbank.org/handle/10986/24368
8. UNHCR (2019). Global Strategy for Sustainable Energy. Available at: https://www.unhcr.org/partners/projects/5db16a4a4/global-strategy-forsustainable-energy.html
9. https://www.humanitarianenergy.org/thematic-working-areas/clean-energy-challenge/

Finally, since firewood associated with three-stone cookstove is found to be the primary cooking solution, it is likely to encounter some cross-cutting issues such as gender-based violence, health (e.g. smoke inhalation), and environmental (e.g. deforestation) problems. Investigating these linkages in future assessments or more in-depth studies would be beneficial to design interventions to mitigate the negative impacts.

3.2 Household light energy access

3.2.1 Sources of light energy

It was reported that around 30per cent of the IDP and returnee population living in the settlements do not access to any source of lighting in their households. Figure 12 shows the geographical distribution of IDPs and returnees without lighting access per state.



Map 4: Distribution of IDPs and returnees individuals with no lighting access per state

The primary source of lighting used by 27 per cent of the population is lighting from fires or cooking sources. On the other hand, around 25 per cent use flashlight, mobile phone torch, and/or battery-powered light while 11 per cent use candles/burning sticks. The other sources of lighting used by a smaller proportion of people in the settlement sites include solar lanterns (2%), kerosene/gas (1%), and solar home system (1%). It should be noted that due to missing information the type of the source of lighting used by three per cent of the IDPs and returnees population in settlements is unknown. Map 4 shows the breakdown of the primary lighting sources disaggregated per State.

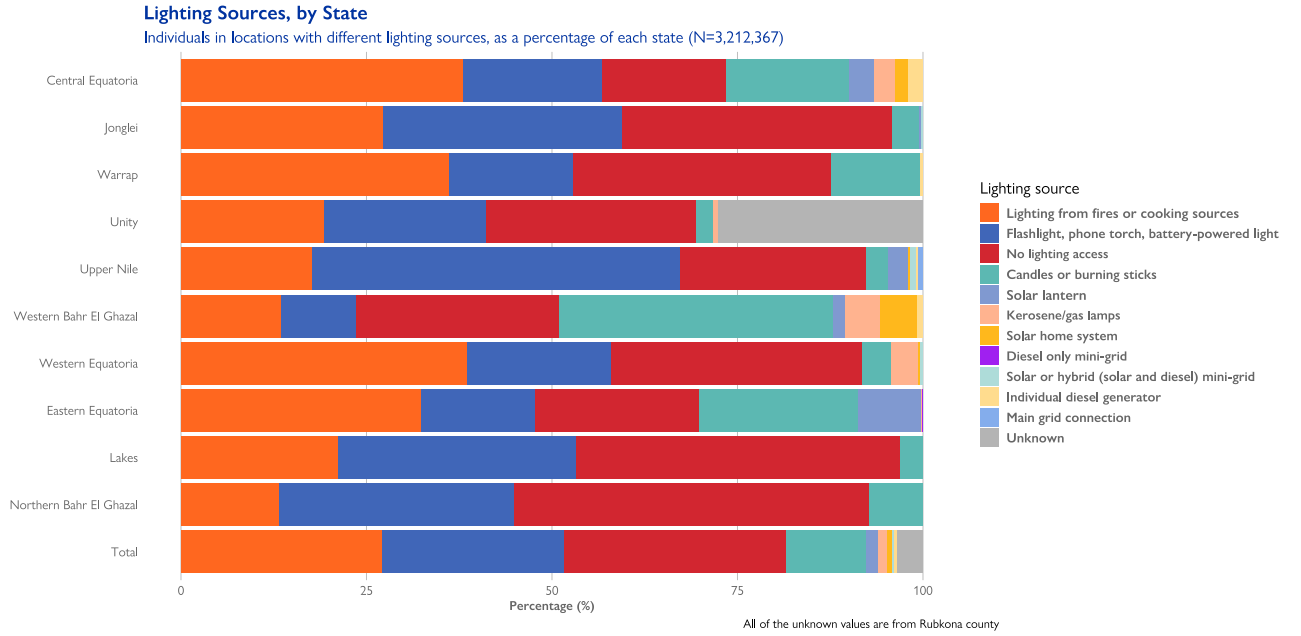


Figure 12: Sources of Lighting per state

The shelter types including tukuls, temporary shelter (rakooba), and community infrastructure show similar pattern of primary lighting sources like presented in Figure 12. However, the population residing under a tree (i.e. without proper shelter) has a relatively higher proportion of its population (65%) using lighting from fires/cooking sources, as shown in Figure 13. Furthermore, the population living in houses with concrete walls only uses flashlight/ phone torch/battery-powered light (71%) or is connected to the main grid (29%). This is a higher Tier compared to lighting from fires or cooking sources, candles or burning sticks, or no lighting access at all, and might be correlated with ability to pay for improved lighting sources. The only other type of shelter associated with a grid connection is the tukul, which does not seem compatible with temporary shelter (rabooka), and uncommon in community infrastructure.

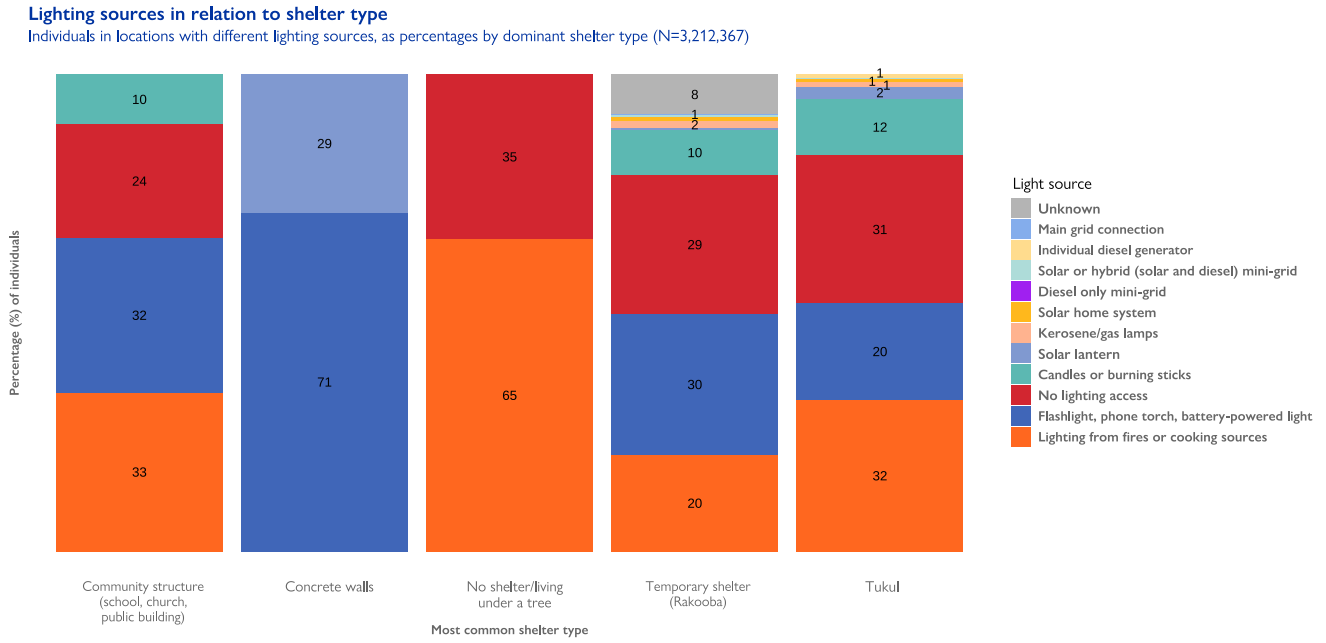


Figure 13: Sources of Lighting per shelter type

3.2.2 *Hours of Lighting*

The availability (duration) of lighting is an important aspect of energy access as per the MTF Framework. It was reported that in the resettlements corresponding to about 40per cent of the IDP and returnee population, around 25 per cent of the IDP and returnee population received at least 2 hours of light at night from the primary source of light (which somehow corresponds to Tier 2 electricity access). In the resettlements corresponding to about 34 per cent of the IDP and returnee population, it is reported that none of them received at least two hours of lighting at night, while 11 per cent reported that about half (50%) of the households had light for this duration after dark.

Only a very small proportion of the resettlements corresponding to about one per cent of the IDP and returnee population reported that almost everyone accessed the two hours of lighting. This information was missing for nine per cent of the population. Figure 14 below shows the breakdown per States for lighting duration.

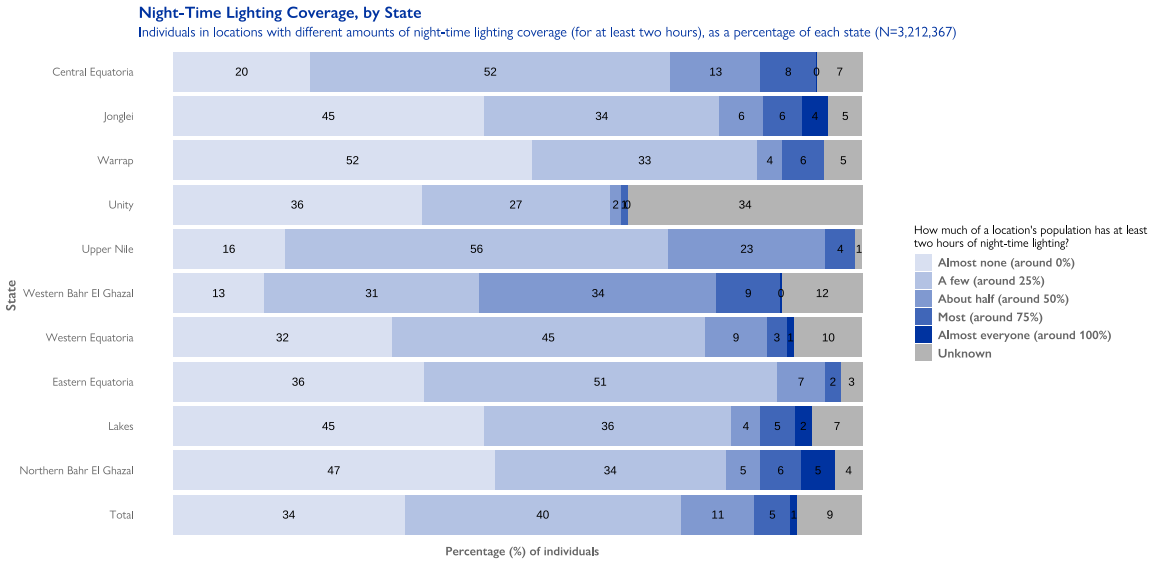


Figure 14: Proportion of IDPs and returnees individuals receiving at least two hours at night at the household level

Figure 15 shows the relation between the lighting source and the proportion of population receiving at least two hours of light at night in their shelter. One can observe that either none or a few (around 25%) individuals in the resettlement have two hours of lighting at night if they use solar lantern, lighting from fires and cooking sources, flashlight/phone torch/battery-powered light, and candles/burning sticks. On the other hand, about half or most (around 75%) of the individuals have two hours of light after dark in the settlements if they use the main grid, solar home system, individual diesel generator or kerosene/gas lamps.

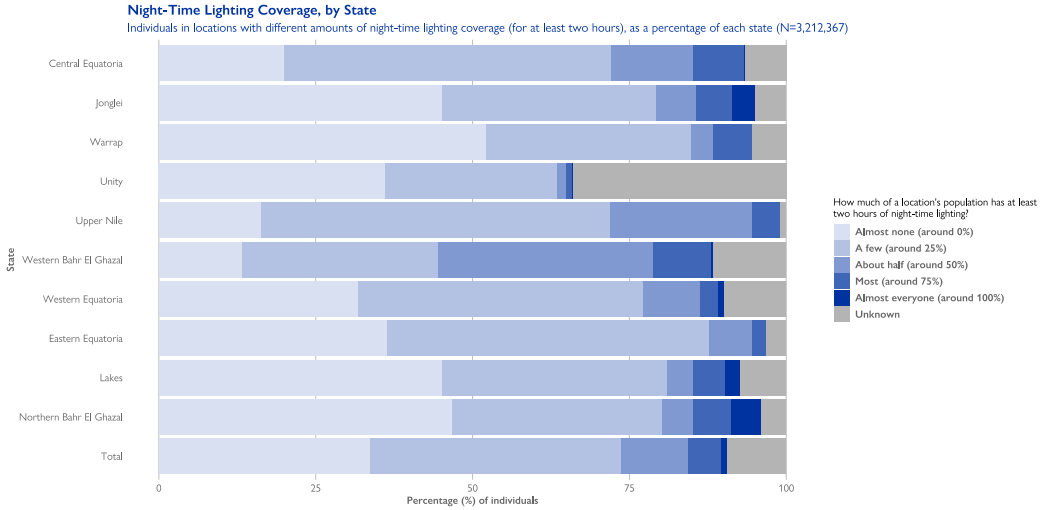


Figure 15: Lighting Availability (Duration) per Lighting Source

3.2.3 Summary

Overall, it can be estimated that the lighting solutions used in these settlements correspond to a Tier 0 or Tier 1 according to the MTF[10] established by ESMAP. This is actually lower than the current targets from some of the humanitarian organisations in the sector which have for goal to reach a minimum of Tier 2 of energy access. For instance, UNHCR's Global Strategy for Sustainable Energy 2019-20254[11] gives a priority to "access to about 200 Wh/household/day, allowing for basic lighting and connectivity", which corresponds to Tier 2 of electricity access. This is also aligned with the Clean Energy Challenge[12].

3.3 Lighting around WASH Facilities (latrines)

Lighting around communal points and WASH facilities such as latrines is important to ensure safety and security after dark. Adequate lighting can reduce the risk of attacks from animals and gender-based violence. In the settlements, it was reported that 51 per cent of the IDP and returnee population does not have lighting source around the latrine area. The most common source of lighting used around latrines by 23 per cent of the IDP and returnee population is flashlight/mobile phone/ torch/battery-powered light. Figure 16 shows the sources of lighting around latrines broken down per state.

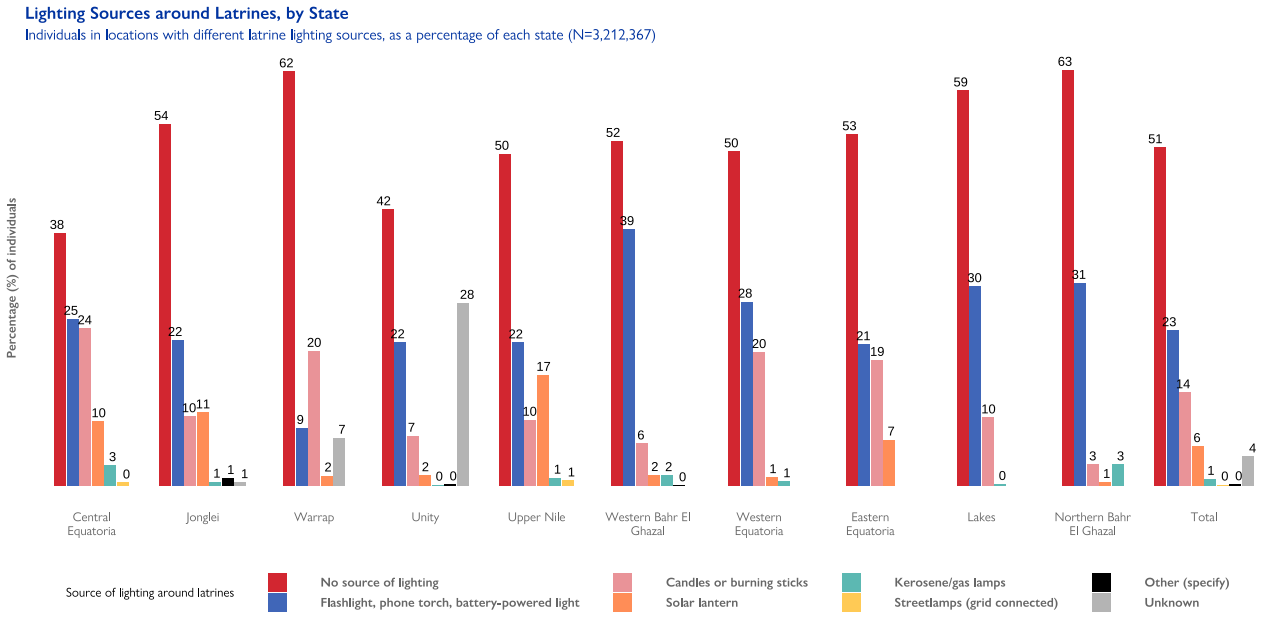


Figure 16: Sources of Lighting in Latrines Per State

Other lighting sources being used include candles/burning sticks (14%) solar lanterns (6%) and kerosene/gas lamps (1%) while streetlamps (grid-connected) are least used. The results are aligned comparing with household level lighting sources, with the exception of the use of lighting from fire or other cooking fuel as it is not a portable lighting sources such as candles/burning sticks and other lamps mentioned previously. The higher share of "no source of lighting" compared to household level lighting might also be explained with the challenge of having perhaps only one lighting source in the house, preventing the person who needs to use the latrine to take it with them.

10. Reference: Bhatia and Angelou,2015. Beyond Connections: Energy Access Redefined. ESMAP. Available at: https://openknowledge.worldbank.org/handle/10986/24368
11. UNHCR (2019). Global Strategy for Sustainable Energy. Available at: https://www.unhcr.org/partners/projects/5db16a4a4/global-strategy-forsustainable-energy.html
12 .https://www.humanitarianenergy.org/thematic-working-areas/clean-energy-challenge/

3.4 Energy priorities

The priorities in terms of energy access vary greatly depending on the state. Generally, the top three priorities in terms of energy services are: household lighting, cooking fuel, energy for health facilities. Figure 17 shows the break down per State of the priories related to energy access.

For 53 per cent of the IDP and returnee population energy for household lighting is amongst their top three priorities, while 40 per cent reported cooking fuel as a priority. Powering health facilities (29%), agriculture/livestock rearing/fishing (26%), mobile phone charging (23%), powering schools (21%), street lighting (15%), and powering businesses/enterprises (8%) are respectively reported as one of the three main priorities in terms of energy access.

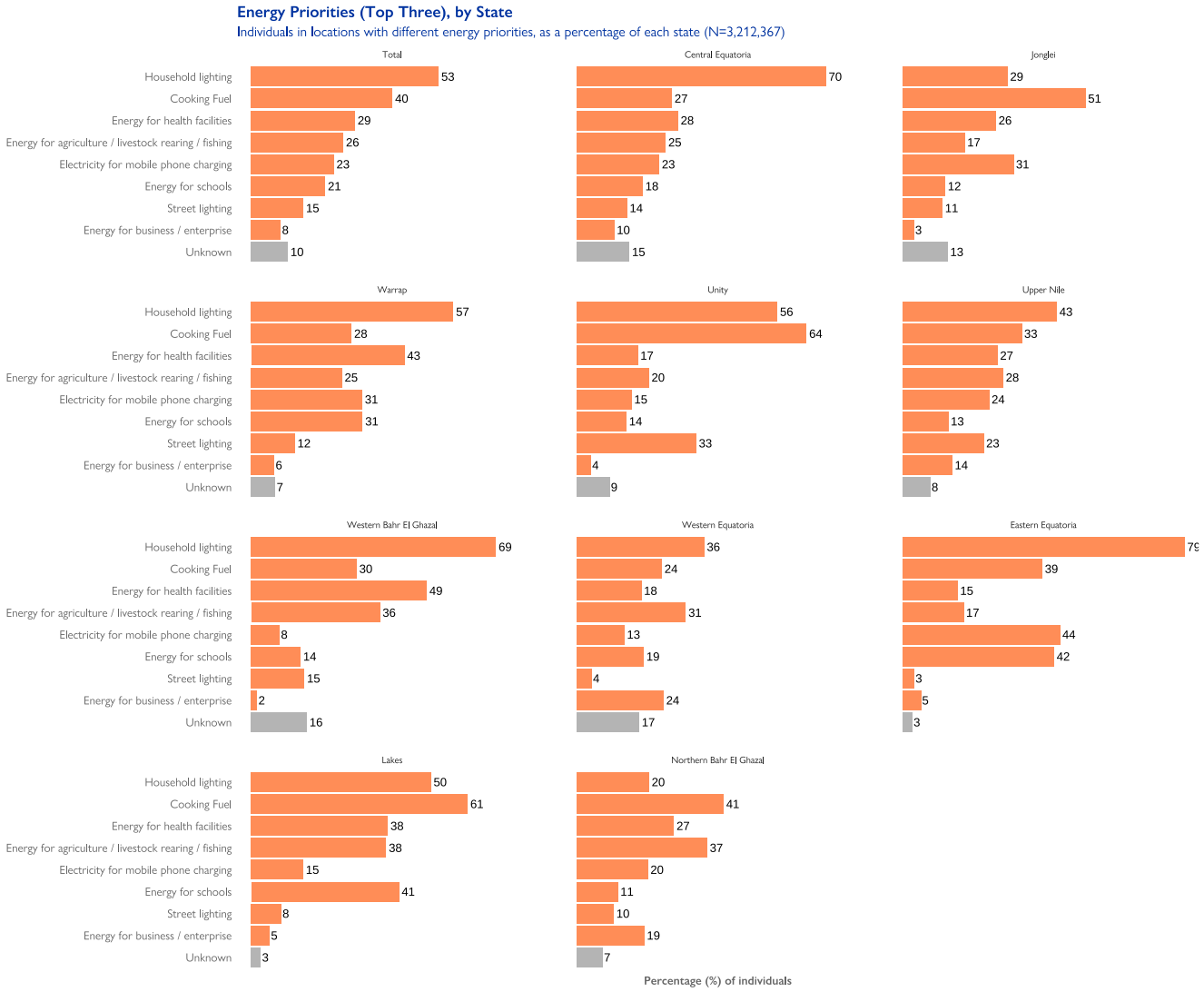


Figure 17: IDPs and Returnees Population proportion of energy priorities per state

4 SITE LEVEL ANALYSIS

4.1 Average Energy Profile

After analysing the data based on the three thematic areas presented in Section 3 and identifying what are the energy practices of the majority of the households, one can establish the average energy profile of the locations/settlements assessed. The summary of energy access situation reported in a majority of settlements assessed is shown in Figure 18.

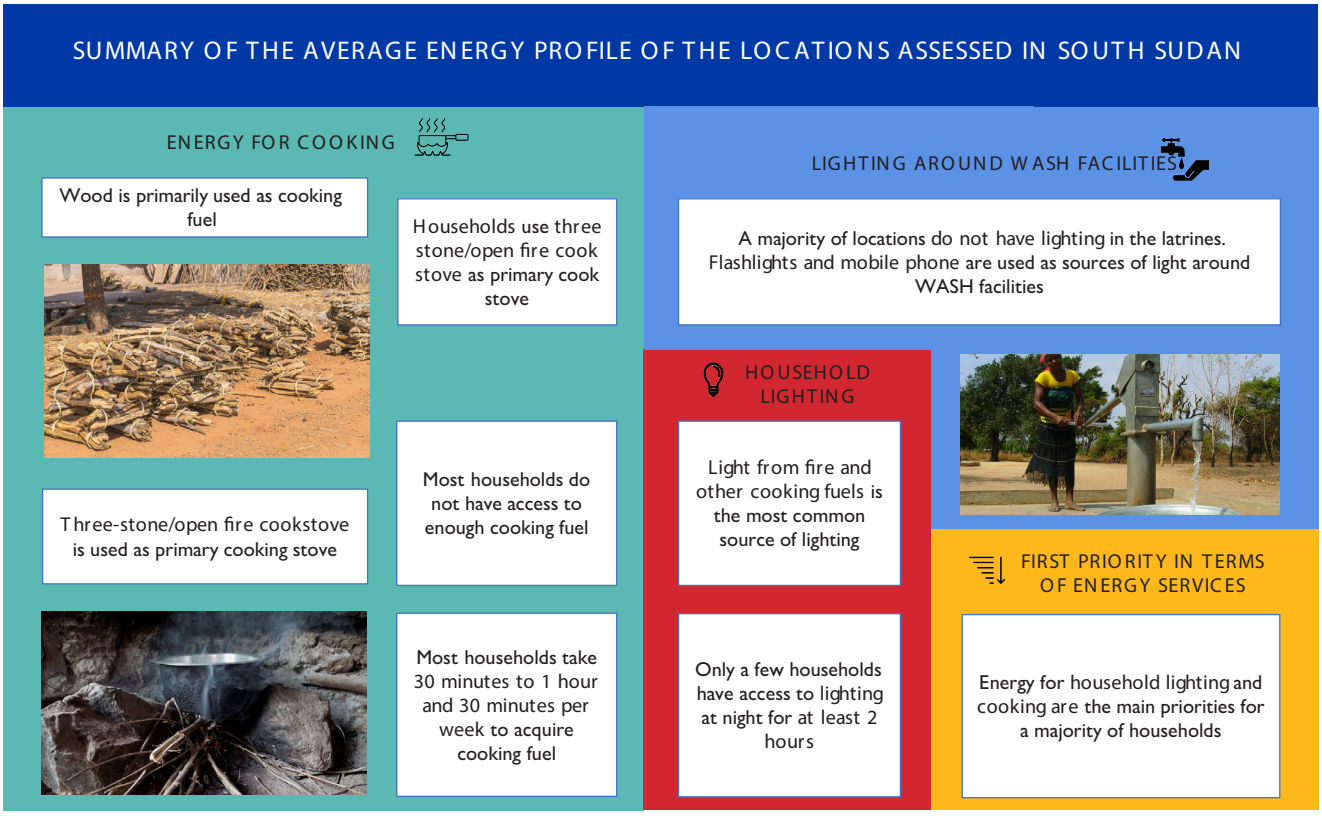


Figure 18: Summary of the average energy profile of the locations assessed in Round 11

In terms of the cooking energy access, use of wood and a three stone/open fire cookstove is the most prevalent in a majority of the locations assessed. Based on the MTF, the level of household energy level is very low, approximated to a Tier 0 since it relies on solid fuel (traditional biomass, i.e. firewood), which is not considered a modern cooking fuel, and three-stone/open fire, which is not an improved cooking stove. It is important to highlight that the use of the traditional cooking energy sources has hazardous health effects due to the pollution from smoke inhalation and associated gender risks in collection of firewood.

In terms of electricity access (with lighting used as a proxy), a majority of the IDPs and returnees living in the settlements assessed lack access while others used either lighting from fires/cooking sources, or flashlight/mobile phone torch/ battery-powered light. Therefore, based on the MTF, most settlements can be categorised to fall in Tier 0 level of electricity access.

5 GENERAL RECOMMENDATIONS AND NEXT STEPS

5.1 Short Term Recommendations

- To avert the negative health and safety effects caused by the extensive use of inefficient cookstoves and cooking fuel, the activities linked to Non-Food Items (NFI) distribution should focus on provision of clean and more efficient cooking solutions, when possible.
- To improve the access to electricity and lighting, it would be recommended to prioritize solar home systems to provide at least a Tier 1 of energy access (about 4 hours of light and electricity for charging, according to the MTF), over pico-solar lanterns.
- It is also recommended that lighting around WASH facilities (especially latrines) should be improved by installing energy efficient street lighting systems in order to reduce the gender-based violence risks associated with darkness around WASH facilities.
- Market-based approaches to deliver clean cooking and sustainable electricity solutions should be promoted when designing energy interventions.
- In the future, it could be relevant to conduct further analysis on the linkage between energy access and other cross-cutting issues such as economic activities, gender equality and access to social services (education, health, etc).

5.2 Long Term Recommendations

- In the long run, it would be recommended to partner and coordinate with humanitarian actors and other stakeholders to design market-based approaches where feasible (depending on context, stability, etc.) to tackle the energy access issues in the displacement settings. This can be done through finding innovative solutions to remove barriers to participation of both demand and supply sides by involving all stakeholders.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