South Sudan SSH4A Baseline Survey

Final Report

October 2014

SNV Partners
Aweil East County, Magwi County and UMCOR

0 EXECUTIVE SUMMARY

SNV South Sudan is one of the 9 countries[1] implementing the DFID funded Sustainable Sanitation and Hygiene for All (SS4HA) Results Programme as from April 2014. The project aims at improving access and use of sanitation by the communities by end of 2018. A baseline survey was undertaken in June 2014 in the two counties of Aweil East and Magwi through trained enumerators who were equipped with mobile application embedded in a smart phone and carried out data collection at household levels. In addition focus group discussions were held with the County WASH steering committees to understand their capacities in relation to coordination and steering for sanitation demand.

A total of 2137 households were surveyed of which (82.12%) respondents are females and 17.88% are males. In relation to gender of household head 35% are female headed whilst 65% are male headed.

The average household size for the two counties is 8 persons. In Magwi County the average size per households is 7 people per household while in Aweil East County the average size is 8 people. The survey revealed that 83.4 % of the households have children under 5years and 16.7% of households have people with disabilities exhibiting at least 3 or 4 of the characteristics.

The distribution of households with women/girls in reproductive age group is 92% with Magwi having 91% and Aweil East having 93%.

The results show that Aweil East has the highest proportion of households (49.67%) in Q1(poorest) and less households in Q5 (richest) (6.33%) as compared to Magwi county with 9.5% Q1 and 25.56 % in Q5 respectively. Majority of households in Aweil East fall in Q1.

The proportion of people practicing open defecation (OD) is high with (67.51 %) of the households whilst 7.39 % have improved clean toilets and 17.3 % sharing toilet facilities. The proportion of households having no toilet and practicing OD is highest in Aweil East (96%) whilst in Magwi it

is 43%.

Regarding access to sanitary facilities against wealth quintiles the survey revealed that the poorest and the poorer are the majority (95% and 80% respectively) with no access to a sanitary facility whilst the richer and richest had majority of unimproved toilet.

Regarding types of sanitary facilities in the programme areas the survey revealed that most (59.66%) households have no toilet facilities, whilst 35.69% use traditional pit latrines constructed from local available materials and few use VIP latrines (4.32%).

Knowledge on washing hands at critical times is very limited among the households in the programme areas as the most commonly cited behaviour is hand washing before eating (25.94%) whilst washing hands after defecation is low (17.85%). Majority (95.58%) of the households reported having no hand washing facilities after defecation and this is across all the wealth quintiles, with 92.82% in the wealthiest households having no hand washing station.

In relation to capacity of local government to steer sanitation demand creation the survey revealed that the counties have no specific plans for sanitation demand creation as sanitation and hygiene are embedded under water development activities. In most cases the only plans for sanitation demand creation are those of partners which only cover limited areas in the counties.

In all the two counties sector alignment and coordination were identified as key challenges to improve planning as the relevant partners and local government agencies rarely met to streamline approaches and coordinate project implementation.

In conclusion, the proportion of households practicing open defecation is very high across the two counties; the highest being in Aweil East. In addition the poorest households constitute the bulk of those without access to own sanitation facilities while wealthiest households were more likely to have used own resources to finance latrine construction, though very few had such facilities in the programme areas.

Hand washing at critical times with soap/ash is very low in all the counties moreover, stations for

hand washing with water and soap are absent in most households. Knowledge of hand washing before eating is the most commonly cited behaviour across the two counties though the level is low.

Wealth underpins access to improved sanitation and hygiene and the ability to practice improved hygiene behaviours. The findings indicate a relationship between wealth, and use of improved sanitation as households in the poorest quintiles tend not to practice the recommended run to waste with either soap or ash.

Capacity of local government to steer sanitation demand creation and sector alignment is low in all the counties.

In cognisance of the above, the following are recommendations:
In the context that one of the key project objectives is to improve access to sanitation and attainment of Open Defecation Free (ODF) communities in the project areas, project intervention strategies should be more on behavioural change communication strategies and messages that aim at elimination of OD and change the mind-set of the communities.

The programme needs to adopt innovative approaches that motivate poor households to prioritize sanitation. Focus should also be on addressing household hygiene risk behaviours and practices by promoting strategies focusing on behavioural change communications.
Since the programme is to strengthen capacity of local government to steer sanitation demand creation and sector alignment through capacity building of coordination mechanisms at county, Payam and Boma levels.

Contents

0.1 LIST OF ABBREVIATIONS AND ACRONYMS

CE:	Central Equatoria State
CLTS:	Community Led- Total Sanitation
DHS:	Demographic Household Survey
EES:	Eastern Equatoria State
HHs:	Households
HWWS:	Hand washing With Soap
JMP:	Joint Monitoring Programme
NBEG:	Northern Bahr el Ghazal State
OD:	Open defecation
ODF:	Open Defecation Free
QIS:	Qualitative Information System
VIP:	Ventilated Improved Pit latrine
WBG:	Western Bahr el Ghazal State
WES:	Western Equatoria State

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0.3 OPERATIONAL DEFINITIONS

Terms	Definitions
A household	Is defined as a person or a group of persons, related or unrelated, who live together in the same dwelling unit or separate dwelling units but make common provisions for food and regularly take their food from the same pot or share the same grain store, or who pool their income for the purpose of purchasing food
Head of Household	Is the person commonly regarded by the household members as their head. The head would usually be the main income earner and decision maker for the household.
Poor person	Is defined as persons with the value of monthly total consumption below SDG 72.9 (Ref. separate poverty report from 2010). Non-poor is defined as person who lives on more than 72.9 Sudanese pounds per a month.
Expenditure Quintiles	Are five groups we divide the population into according to their level of consumption expenditure. The first group (poorest quintile) is the 20 percent of the population with the lowest consumption expenditure. Then follows the second, third (middle), fourth and last fifth quintile (richest) which includes the 20 percent with highest consumption expenditure of the population.
Household size	Is the number of members in a household.
County	Is a terri description to an area which has not less not less 250,000 to 300,000 people in term of population.
Payam	Is an administrative subdivision of a county and population of 20000 to 25 000 and an area which has congregation of 10 to 30 villages in a given area; with about 2 to 6 sub-division known as Boma.
Boma	Is the basic/smallest administrative unit of the county made up of villages having a population of not less than 5000 which divided division of an area that have not less 10 villages in a given location.
Improved sanitation	Is defined as the use of toilet facilities that are flush to sewer, ventilated improved pit latrines or covered pit latrines.

1 INTRODUCTION

Poor sanitation helps spread lots of diseases, yet efforts to advocate for toilets have been resisted by local communities due to many factors among them lack of knowledge and cultural tenets in many developing countries precisely in South Sudan. To improve the rate of uptake, some people are now advocating a market-based approach. The main reason so many people are without toilets is because they don't see a need for them, according to Jack Sim, founder of the World Toilet Organisation. Without demand, he says, there is no supply, no distribution network and no interest. "When people talk about sanitation, they usually talk water; it is easier from a social point of view. They even describe human faeces as 'waste water', 'grey water', 'black water', anything but what it is," Sim adds. Toilets are often regarded with suspicion in parts of the developing world. The relative failure of projects that provided heavily subsidized or free toilets has caused policy-makers to rethink how the United Nations' Millennium Development Goal (MDG 7) on environmental sustainability might be met by 2015.

In 1990, 46% of people worldwide had no access to "improved sanitation". By 2008 this had been reduced to 38% and is projected to fall to 33% by 2015, while the MDG target is to bring this down to 23% of the projected world population of 7.3 billion. Even if this target is met, 1.7 billion people will remain without access. The Joint Monitoring Programme (JMP) projects that by 2015, 2.4 billion people will lack "improved sanitation" and 1.1 billion of those people will still defecate in the open. Recent surveys show that less than17 per cent of the people in South Sudan, access adequate sanitary latrines, one of the lowest service coverage statistics in the world.

The household baseline survey carried out in the two counties of Magwi in Eastern Equatoria State and Aweil East in Northern Bahr el Ghazal State is to measure the socio-economic status against outcome and sustainability indicators like percentage of people having access to sanitation facilities; sanitation facility that is hygienically used and maintained; people having access to hand washing with soap. In addition, it will be instrumental in understanding the differences between the two counties and the institutional capacities.

The South Sudan Rural WASH sub-sector Investment and action plan 2012-2015 of the Ministry

of the Electricity, Dams, Irrigation and Water Resources (MEDIWR) launched in 2013, aimed at improving the Rural Water Supply and Sanitation (RWSS) through the State WASH Directorate and the County WASH Department. The investment and action plan is to increase access to safe clean drinking water and improved sanitation and hygiene in the households in collaboration with the WASH partners and other stakeholders.

1.1 SOUTH SUDAN CONTEXT

South Sudan is a country in North Eastern Africa that has a population of 8,260,490 million people (2008, Census) of whom 50.6% live below the poverty line. The main economic activity is pastoralism; farming and other income from civil service and trading. South Sudan is predominantly rural with 83 % of the population living in rural areas. The capital city is Juba and has a population of 368,436. South Sudan gained its independence from Sudan in July 9, 2011.

Administratively South Sudan is organized through different levels: the national government (central), states government and the counties government (local governments) and the payam and Boma administrators at the grass roots. South Sudan has 10 administrative states namely, Eastern Equatoria (EES), Warrap, Jonglei, Upper Nile, Northern Bahr el Ghazal (NBEG), Western Bahr el Ghazal (WBEG), Central Equatoria (CE), Unity, Lake, and Western Equatoria State (WES).

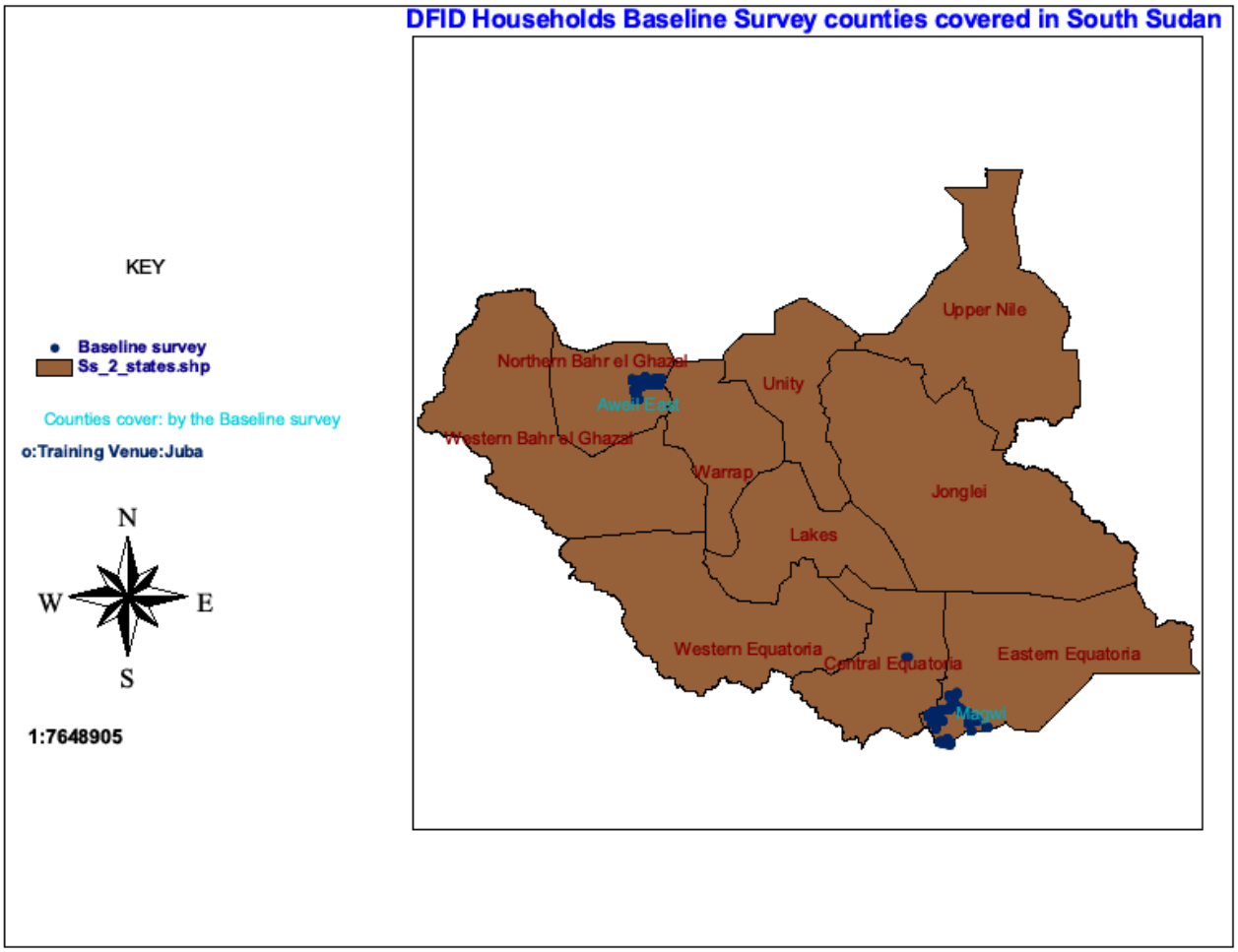
After its independence, South Sudan's priority was to rally its people and developmental actors to initiate and accelerate development of key sectors like Water Sanitation and Hygiene (WASH) Sector. The South Sudan Water Policy developed in 2007 and the WASH strategic framework, developed in 2011, provides the framework on which progress can now be made. In addition the then Ministry of Water Resources and Irrigation launched the Rural WASH Sub –sector Action and Investment Plan 2012-2015 with the aim of increasing access to safe clean drinking water and improved sanitation and hygiene in the households through collaboration of all stakeholders.

The WASH program was championed by the then Ministry of Water Resources and Irrigation which is currently changed to the Ministry of Electricity, Dams, Irrigation and Water Resources. The second level of authority is the Directorate of Rural Water and Sanitation in the Ministry of Physical infrastructure at the state level and finally implementation is done at the WASH departments at

Counties level headed by Assistant Commissioners.

South Sudan has very low WASH coverage, especially sanitation and hygiene. According to the Ministry of Water Resources and Irrigation's data for 2012/2015 Rural WASH Sub-sector Action and Investment Plan the average Rural Water Supply coverage is 41.1% and rural sanitation coverage is at 11.3%, whereas the MDG 2015 target for Rural Water Supply and sanitation are 56.3% and 17.3% respectively. Numerous studies have shown that poor water, sanitation & hygiene practices are the main causes of diarrhoea, one of the underlying causes of childhood malnutrition and a driver of numerous developmental indicators (Bartram and Cairn cross, 2010).

1.2 SSH4A Results Programme in South Sudan



SNV South Sudan is one of the developmental WASH actors and is implementing the DFID funded

Sustainable Sanitation and Hygiene for All (SS4HA) project in Eastern Equatoria State (EES), Magwi county and Northern Bahr el Ghazal State (NBEG), Aweil County as from April 2014 to March 2018.

Magwi County has an estimated population of 170, 000 and is located 140 km South East of Juba. Aweil East County has an estimated population of 310,000 people. Aweil East County is located in the Eastern part of Northern Bahr el Ghazal State close to the border with the Republic of Sudan. It is bordered by Darfur in the South, by Abyei region in the North East, by Twic County in the East and Gogrial West County in the South East.

In Greater Bahr el Ghazal region, the Rural Water Supply coverage is recorded at 43.8% and sanitation at 4.7% and is anticipated to increase by 2015 to 59.01% and 10.7% respectively. While Magwi County in EES, the Greater Equatoria region has Rural Water Supply coverage at 48.4% and Sanitation at 11.7% and this is expected to increase by 2015 to 63.61% and 17.7% respectively. In Aweil East, ACF USA in 2012 has been working to save lives of malnourished children under 5 years by providing vulnerable communities with safe WASH and solutions to hunger.

1.3 Objectives of the baseline

The household baseline survey is carried out to measure the socio-economic status against outcome and sustainability indicators:

- Progress in access to sanitation facilities
- Progress in hygienic use and maintenance of sanitation facilities
- Progress in access to hand washing with soap
- Capacity of local government or line agencies to steer sanitation demand creation at scale in their area
- Progress of sector alignment at local level
- Progress in FSM-emptying and collection

1.4 Report structure

The Report has five sections:

1. Introduction: - covers country context, SSH4A programme for South Sudan, Objectives of the Survey.
2. Methodology: - data collection tools used and work plan, sampling, data processing and analysis.
3. Findings:- divided into household characteristics, outcome indicators
4. Sustainability indicators
5. Conclusions and recommendations.

The Executive Summary will summarize all the sections presented in the table of content and important figures that are drawn from the analysis in form of percentages and frequencies that are explained in the main body of the report.

2 METHODOLOGY OF THE BASELINE

The main methodology used in conducting the baseline was the survey method where interviews were used to collect information from the households. The household questionnaire was uploaded on a smart phone whilst focus group discussions (FGDs) and meetings were held for the sustainability indicators.

2.1 INDICATORS MEASURED IN THE BASELINE

The baseline survey aims to measure the outcome and sustainability indicators as below:

Outcome indicators

- Progress in access to sanitation facilities
- Progress in hygienic use and maintenance of sanitation facilities
- Progress in access to hand washing with soap

Sustainability indicators

- Capacity of local government or line agencies to steer sanitation demand creation at scale in their area
- Progress in sector alignment at local level
- Progress FSM-emptying and collection

2.2 USE OF QIS SCALES (QUALITATIVE INFORMATION SYSTEM)

The performance monitoring framework uses the so called ladders, very similar to the ones used in the JMP programme. The method is called Qualitative Information System (QIS) and was

developed by IRC and WSP at the end of the 1990s as a means to quantify qualitative data used in process indicators and outcome indicators.

Qualitative information is quantified with the help of progressive scales called 'ladders'. Each step on the 'ladder' has a short description, called "mini-scenario", which are factual statements that describe the situation for a particular score. Each scale ranges from the absence of the particular indicator at the lowest level (score 0) to the optimal mini-scenario at the highest level (score 4). Levels 1, 2 and 3 describe the scenarios in-between levels 0 and 4 for each specific indicator. Where there is a benchmark it is usually indicated at level 2. A typical scale looks like as shown below:

Table 1: QIS description

Description	*Level*
None of the characteristics are present (Condition or practice is not present)	***0***
One characteristic is present	***1***
BENCHMARK: Two characteristics are present	***2***
Three characteristics are present	***3***
IDEAL: All four (key) characteristics are present	***4***

2.3 Data Collection Tools used in the baseline

Smartphones well equipped with households questionnaires that were developed by SNV and the mobile platform developed by AKVO was used for data collection.

For the sustainability indicators, focus group discussion and survey guides developed by SNV were used to assess the indicators.

2.3.1 The Household Questionnaire

The final questionnaire was reviewed during the training of enumerators and some specific units of measurements were included to suit South Sudan context eg. Feddans instead of acres or hectors. The questionnaire generally addressed the following areas: socio-economic characteristics of the sampled households e.g. type, size and ownership of house; water sources, types of toilet facilities in the household, hand washing practices and employment; use of energy /fuel sources for cooking, awareness and promotion about WASH activities in the surrounding areas; livestock and

agricultural land, income sources for the target households.

2.3.2 FOCUS GROUP DISCUSSIONS AND GUIDED SELF-ASSESSMENT

Focus group discussions were held and each group comprising of 8 members where the Boma chief, the village development chairperson and other key stakeholders in the villages were involved during the discussion. At the County level the WASH steering committees participated in the discussion on capacity of local government to steer sanitation demand and sector alignment. Discussions were guided by the supervisors and notes were taken during the discussion process.

2.4 SAMPLING

The overall sample size that was agreed with the MVE provider for use is 2095. The choice of the sample size was based on the minimum change in significant difference that was desired of either 5%. The sample size for South Sudan was computed based on the following sampling formulae which is widely used for determining absolute percentage change.

$$n = \frac{deff \times \left[Z_{1-\alpha}\sqrt{2P(1-P)} + Z_{1-\beta}\sqrt{P_1(1-P_1)+P_2(1-P_2)}\right]^2}{(P_2-P_1)^2}$$

Where:

- n is the sample size
- P_1 is the hypothesised value of Sanitation prevalence (100-%practising OD) at year X (This was set at 50% since this percentage would yield the maximum sample size since the percentage of the population practising some form of sanitation is not clearly known at the intervention sites).
- P_2 is the expected value of the indicator at year X+1 (This is set at either 5% for a maximum sample of 2095).
- $P= (P_1+P_2)/2$
- Z_a is the standard normal deviate value for an a type I error (set at 1.96)
- Z_{1-b} is the standard normal deviate value for a c type II error
- Deff is the design effect in case of multi-stage cluster sample design (set at 1.7% in this survey)

The primary sampling units that were preselected for intervention were Aweil East County in Northern Bahr el Ghazel state and Magwi County in Eastern Equatoria state in South Sudan. A total

of 290 villages were surveyed in the households' baseline survey that was summarized to Bomas and payams. In total, in Aweil East 40 Bomas of the 8 payams were randomly selected while in Magwi County in EES 45 Bomas of the 9 payams were randomly selected. About 26 randomly selected HHs from each sampled Boma were considered representative of the Aweil East and Magwi County and sufficient to provide valid estimates of the desired indicators. Using probability proportionate to population size, a total sample of 1,040 households were randomly selected from Aweil East county in Northern Bahr el Ghazal state and 1,040 households from Magwi County in EES.

2.5 Training and supervision of Enumerators

Enumerators were selected from the two counties that formed, two teams and each team comprising of 9 members each (seventeen males and one female) were hired for the HHs baseline survey, the gender was not well represented because in Aweil East it was difficult to get a lady, also in Magwi county there was only one lady who was recruited. The enumerators were from the various government levels, State, County and Payams. The minimum academic qualification was a certificate and previous experiences on conducting survey were considered; especially in similar cultural and geographical communities were given preference in the selection of the field teams. However, for maximal output, a training session facilitated by AKVO for 2.5 days was conducted for the enumerators' team. A survey guide was developed and fine-tuned which directed the team throughout the survey and provided basic information and instructions.

Supervision of the enumerators: The field survey was directed and guided by a plan shared and submitted to the SNV WASH sector prior to the deployment of the team and supervisors were attached to each team. Three bomas were covered by one team daily in each county. Review meetings were held on the completion of the first day field work in order to ensure that all the survey teams understood the questionnaire perfectly and carried out the households (HHs) interviews according to the survey guidelines.

The supervisors monitored the daily uploading of the data to the dashboard by each enumerator, they made sure each enumerator submits the data after filling the questionnaire and where there was no network the supervisors followed up with the enumerators to be sure that all data were submitted and uploaded daily before the next deployment. The consultant monitored all the enumerators from

the dashboard on daily bases every evening after all the enumerators had submitted the collected data and supervisors reported the coverage and how the whole day ended.

2.6 METHODOLOGY OF DATA PROCESSING AND ANALYSIS

Data processing and analysis was done centrally by the Project Management Unit (PMU) under the leadership of Monitoring and Evaluation Advisor for SSH4A project. The data processing and analysis entailed the following steps: downloading South Sudan data from the AKVOFLOW application and performing exploratory analysis to check for accuracy, completeness, relevance and consistency of the critical data elements; converting the downloaded data from excel to the standard Stata format file using the StatTransfer program; creating a Stata "do file" command for South Sudan with a view to computing indicators and other critical data elements as specified in the mutually agreed reporting template between SNV and the DFID MVE provider; performing data cleaning using a set of Stata manipulation commands to ensure that data are aligned to the data analysis plan and the agreed reporting template; creating a log file for South Sudan and performing actual data analysis using descriptive statistics. Descriptive analysis entailed computing frequency distributions; means and cross tabulations with chi square statistics.

County level analysis was also done to provide further details regarding the intervention sites. The analysed results were shared with the South Sudan project team for report writing. The PMU continued engaging the country level team for further technical support in analysis and interpretation of the results. The deliverables of the baseline analysis were as follows: a log file of the results of the analysis; a syntax or "do file" and a cleaned copy of the baseline dataset for South Sudan.

2.7 WORK PLAN OF THE BASELINE

A complete work plan was developed that outlined how execution of the activities were to be done which included, which payams were to be done first and the sequence to the Bomas as well as the households to be covered in the Bomas and the timeframe. The survey was planned to last for 15 working days. The enumerators were taken through the work plan and how the teams were deployed.

SNo	Activities	June 2014	July 2014	August 2014				September 2014				October 2014
				W 1	W 2	W 3	W 4	W 1	W 2	W 3	W 4	
1	Terms of Reference (ToR) for the baseline survey	x										
2	Procure the Local Capacity Builder (LCB)	x										
3	Purchase of mobile phones and accessories	x										
4	Selection of enumerators for the baseline survey	x										
5	Training of enumerators on data collection and Akvo Flow dashboard system	x										
6	Logistical arrangement for the baseline survey	x										
7	Baseline survey data collection	x	x									
8	Baseline survey data cleaning		x	x								
9	Baseline survey data analysis			x	x	x						
10	First draft of the baseline report						x					
11	Review of the first draft baseline survey							x	x	x		
12	Submission of the comprehensive draft baseline survey report to PMU											x

3 RESULTS AND FINDINGS ON OUTCOME INDICATORS

3.1 CHARACTERISTICS OF RESPONDENTS

The total number of respondents was 2,137 of which 82.12% were females and 17.88% were males. About 679 respondents (32%) are heads of Households.

3.2 HOUSEHOLD CHARACTERISTICS

In relation to gender of household head, 34.63% were females whilst 65.37 were males.

3.2.1 GENDER OF HEAD OF HOUSEHOLD

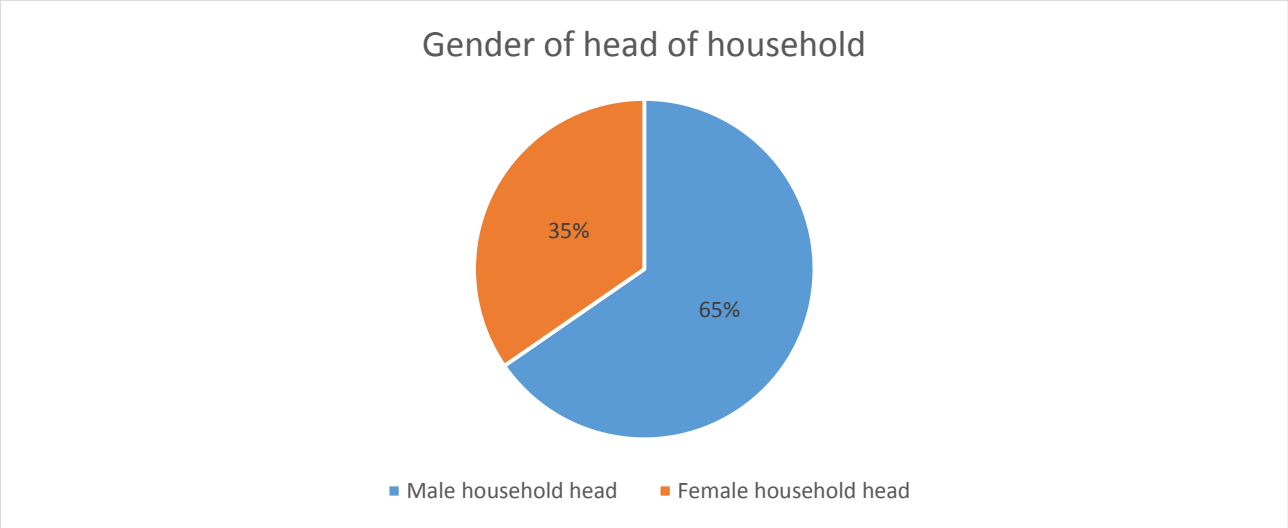


Figure 1: percentage gender of head of households

34.63 % of households were headed by females. This figure is expected in South Sudan as the family structure is mainly patrimonial where husbands are regarded as household heads and responsible for taking care of households' needs.

3.2.2 AVERAGE HOUSEHOLD SIZE

The average household size was found to be 8 people per household. This implies that the average family size of the household in the counties is around 8. In Magwi County the average size per households is 7 people per household while in Aweil East County the average size is 8 people per household. These survey results deviate from the South Sudan Demographic and Health Survey report of 2010 that shows family size of the country being estimated as 6. The findings are expected

in the context of South Sudan in which most households are polygamous and also the settling patterns in which male siblings also stay in the same compound with their parents.

3.2.3 Households with children under two and five years

The distribution of households with at least one under 2 and under 5 children is 52.52 % and 83.4% respectively. The distribution of under 2 in Magwi is 49 % and Aweil East in 51%.

3.2.4 Percentage of households with women/girls in reproductive age

The distribution of households with women/girls in reproductive age group is 92%. Magwi has 91% whilst Aweil East has 93%. These findings are expected as population statistics indicate more females than males and hence a productive population that requires sanitation and hygiene education for their daily care and good practices for caring of their children. Proportion of households with women and girls in reproductive age is fairly equally across the wealth quintiles, average 20%.

3.2.5 Percentage of household with people Older than 50 years

The percentage of households with people elder than 50 years is 59% and it is higher in Aweil East (58%) as compared to Magwi with 42%.Though no clear reason could be attributed to this. It is suspected that the war could have had an impact as most of these populations are returnees from Sudan which is closer to Aweil East, whilst in Magwi it is suspected that most of the elders remained in exile in Uganda, Kenya after the war.

3.2.6 Percentage of households with people with disabilities

Sixteen (16.7%) of households that had people with disabilities with 3 or 4 of the characteristics present at least a person with disability. The disabilities were categorized into three groups; unable to walk (1.5%), unable to care for themselves and needs support (1.59%) and special needs (8.79%).

3.2.7 Household Characteristics for Wealth Index

3.1.1.1 Wealth quintiles in the programme Counties

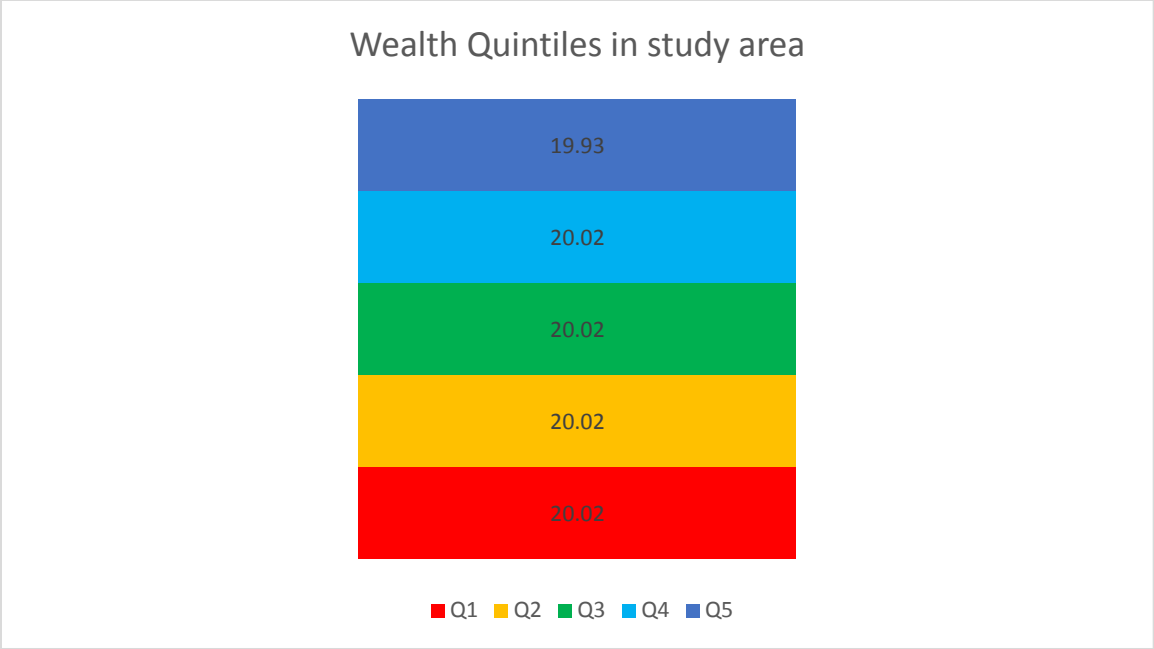


Figure 2: Wealth quintiles in the programme counties

Since South Sudan has no DHS data on wealth quintiles, we had to generate our own wealth ranking and the results show an even distribution across the wealth quintiles.

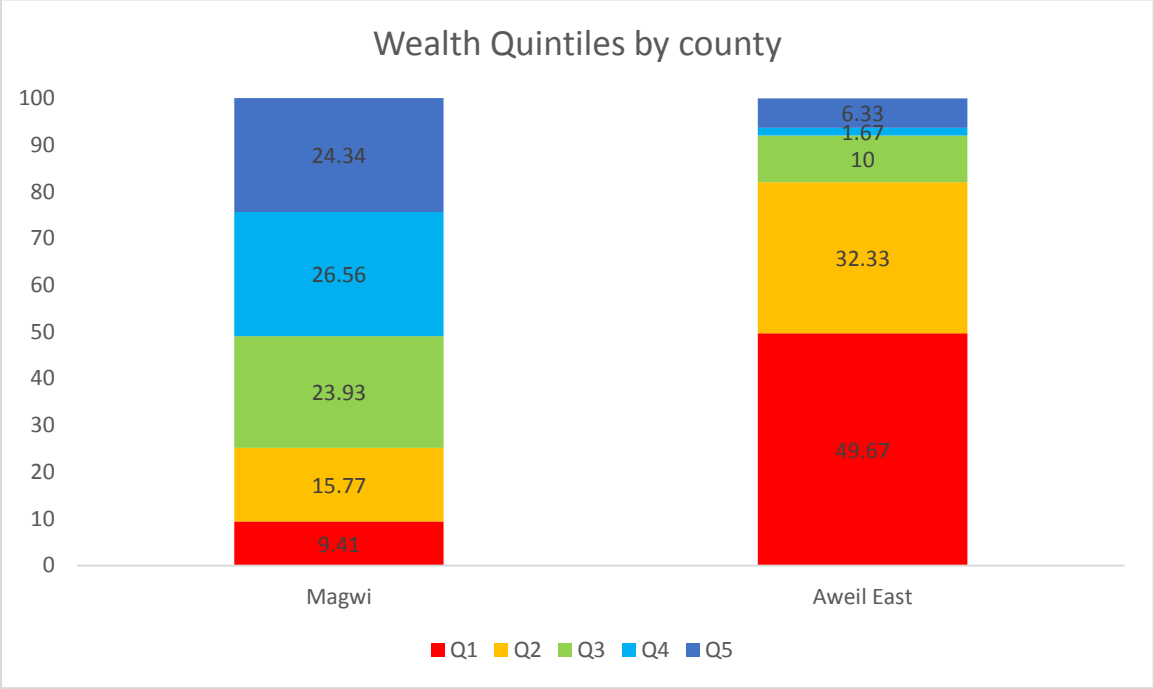


Figure 3: Wealth Quintiles by County

The results in figure 3 above show that Aweil East has the highest proportion of households in Q1(49.67%) and less households in Q5 (6.33%) as compared to Magwi county with 9.5% Q1 and 25.56 % Q5. Most households in Aweil East fall in Q1. The findings are also comparable to the Household survey of 2010 which indicates that Greater Bahr el Ghazal region is the poorest among the South Sudan regions. With 62% of households being poor in Greater Bahr el Ghazal than in Greater Equatoria (45 %).

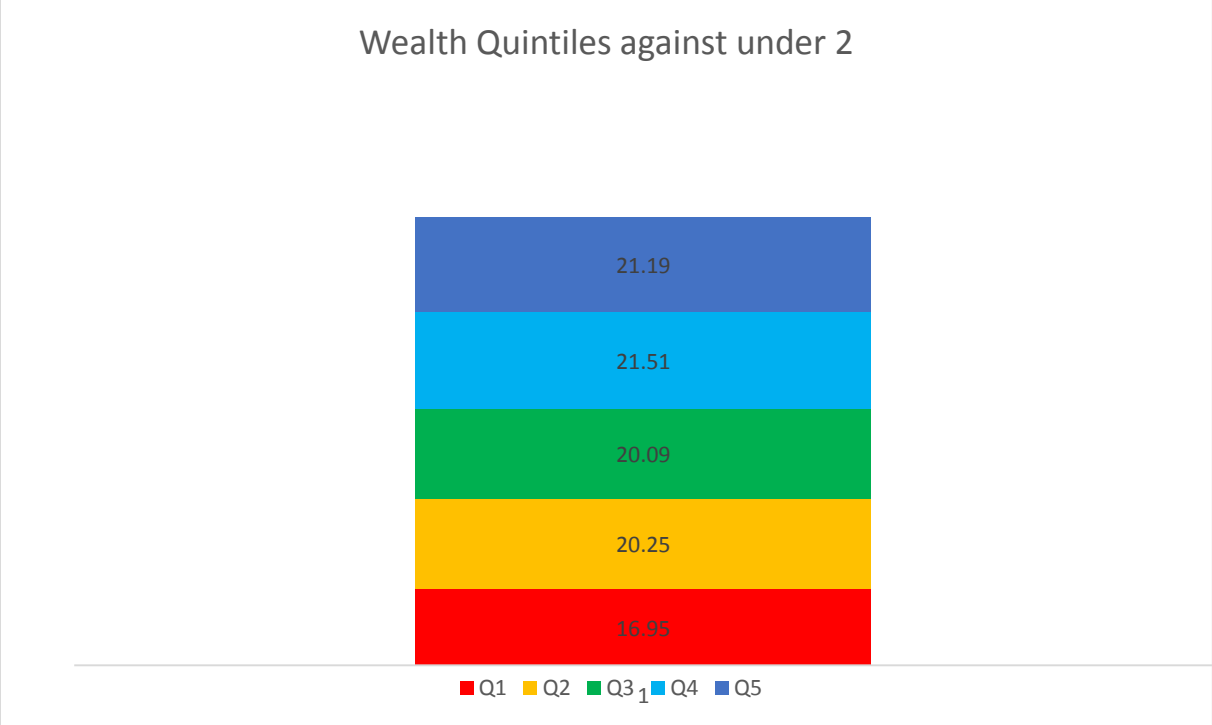


Figure 4: Wealth quintiles against under 2

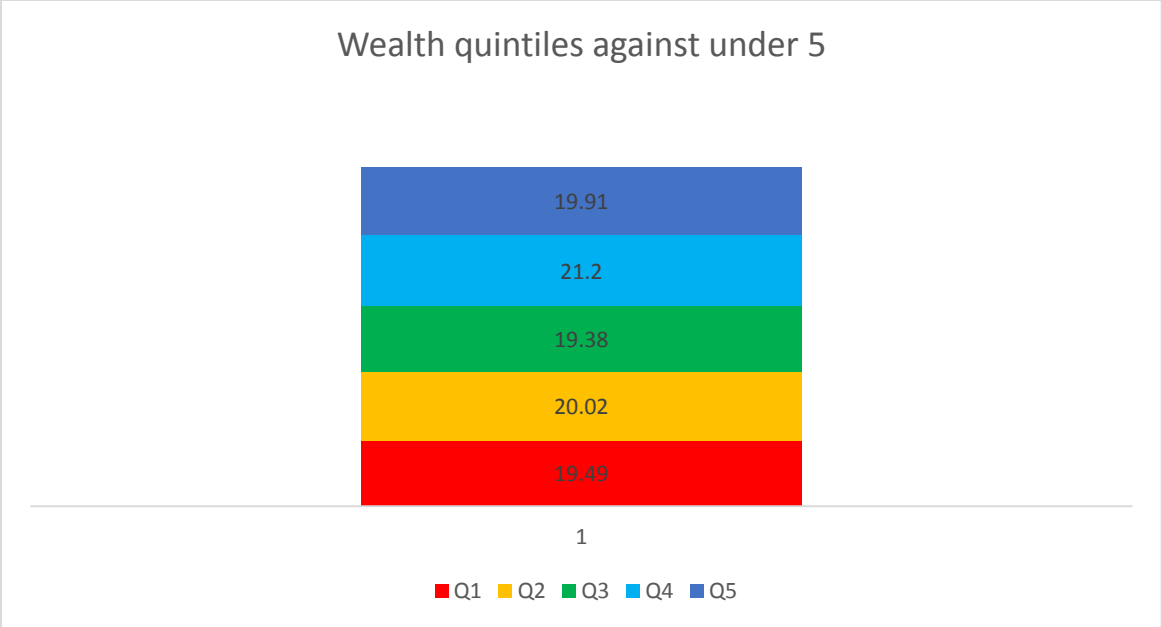


Figure 5: Wealth quintiles against under 5

The proportion of households with under 2 and 5 is fairly evenly distributed amongst the wealth quintiles with an average of 20% in each quintile.

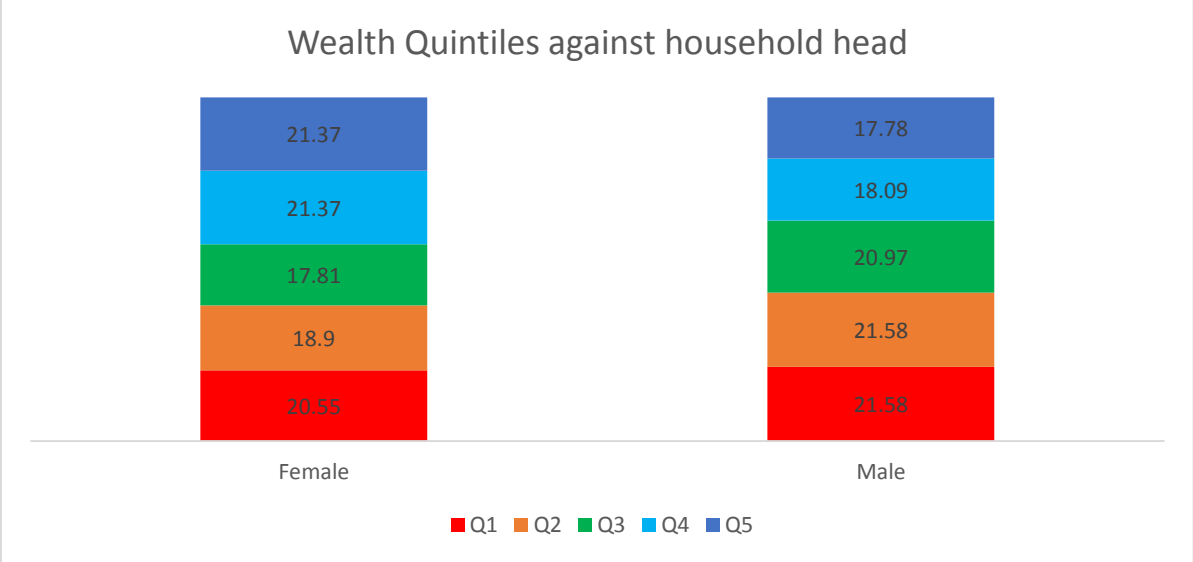


Figure 6: Wealth quintiles against head of household

The proportion of female household heads is relatively the same across the wealth quintiles and also no much difference with male household heads in the study area. However the South Sudan Household survey indicated that poverty is higher among female headed households, compared to

male headed households. 57 percent of the populations living in female headed households are poor compared to 48 percent in male headed households.

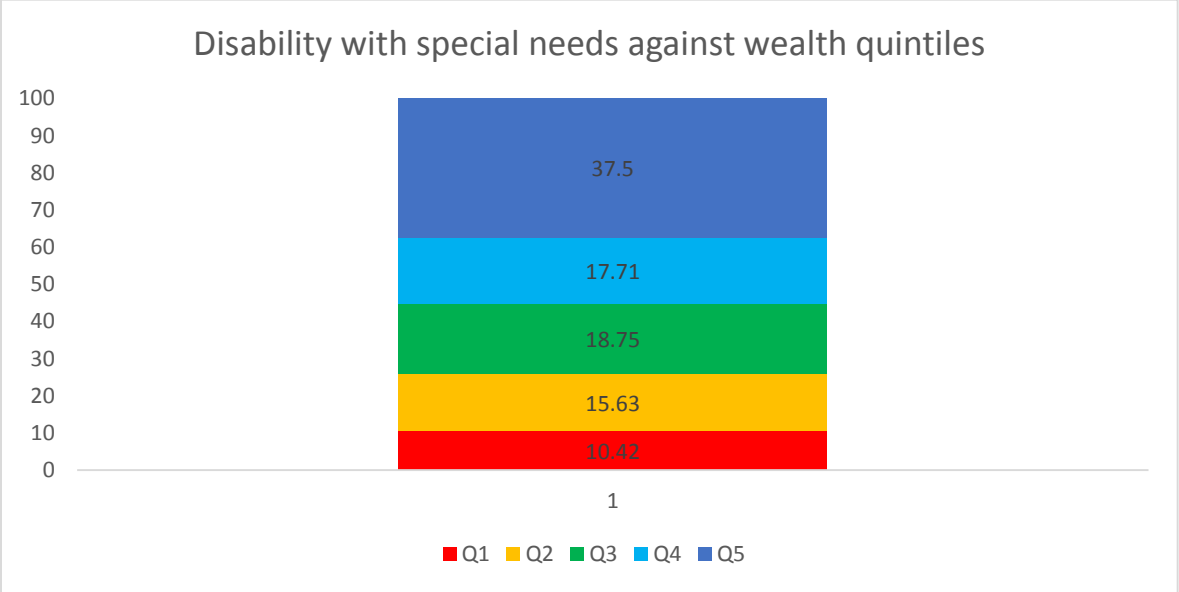


Figure 7: Household with disability/special needs against wealth quintiles

The survey revealed that the richest have the highest percentage of people with disability and accordingly it is assumed they will be able to cater for their needs as compared to poor households.

3.3 Outcome indicator 1: Access to sanitary facilities

3.3.1 Overall access to sanitary facilities

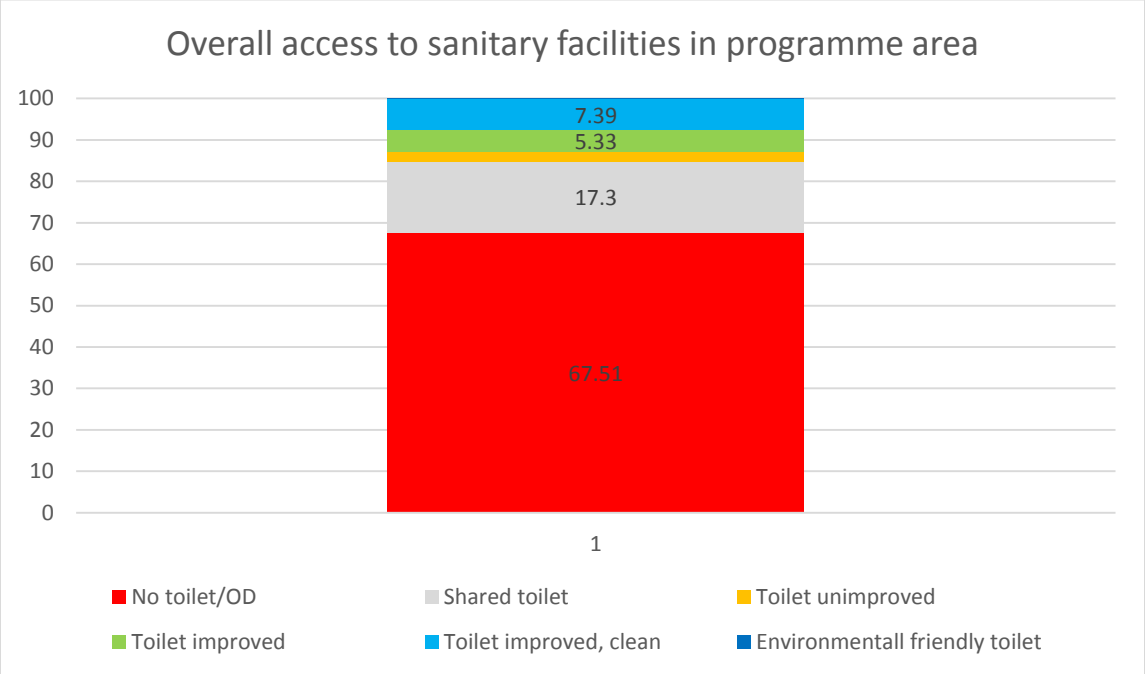


Figure 8: Overall access to sanitary facilities

Figure 8 above shows that majority (67.51 %) of the households practice OD whilst 7.39 % have improved clean toilet and 17.3 % share a toilet facility. The results of this survey are closer to the data reported by National Household survey of 2010 which stated that 7.4 percent of household population use improved sanitary facilities, compared to 64 percent who use open air spaces to dispose of human wastes.

3.3.2 ACCESS TO SANITARY FACILITIES PER COUNTY AND SUB-COUNTY

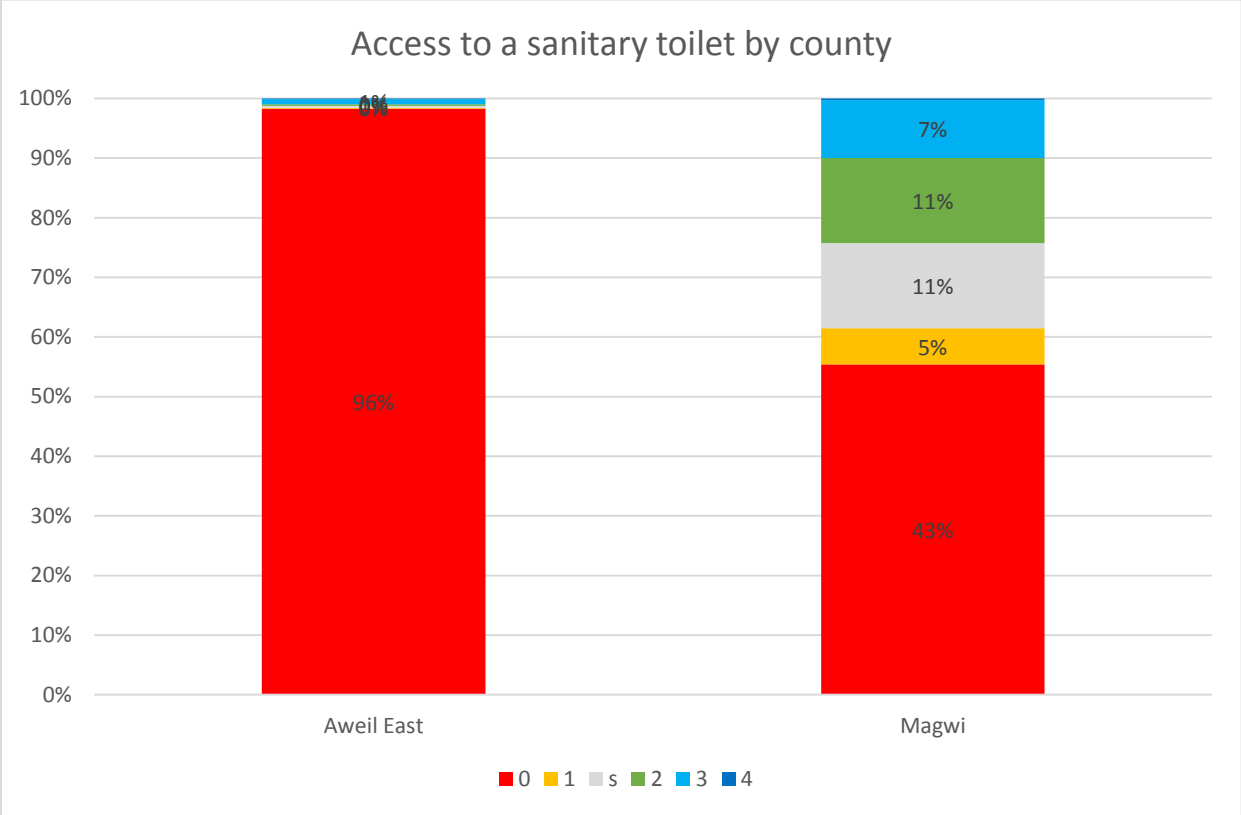


Figure 9: Access to sanitary facilities per county

Figure 9 above shows that majority (96%) of households in Aweil East have no toilet facilities and practice OD, whilst in Magwi the proportion of household that shared toilets (11%) was higher than in Aweil East. Proportion of access to latrines that are environmentally friendly is 18% for Magwi and very low for Aweil East. This observation is related to the different cultures of the two counties in which households in Magwi have embraced sanitation and hygiene as compared to Aweil East which still has strong taboos against using latrines.

3.3.3 ACCESS TO SANITARY FACILITIES AGAINST WEALTH QUINTILES

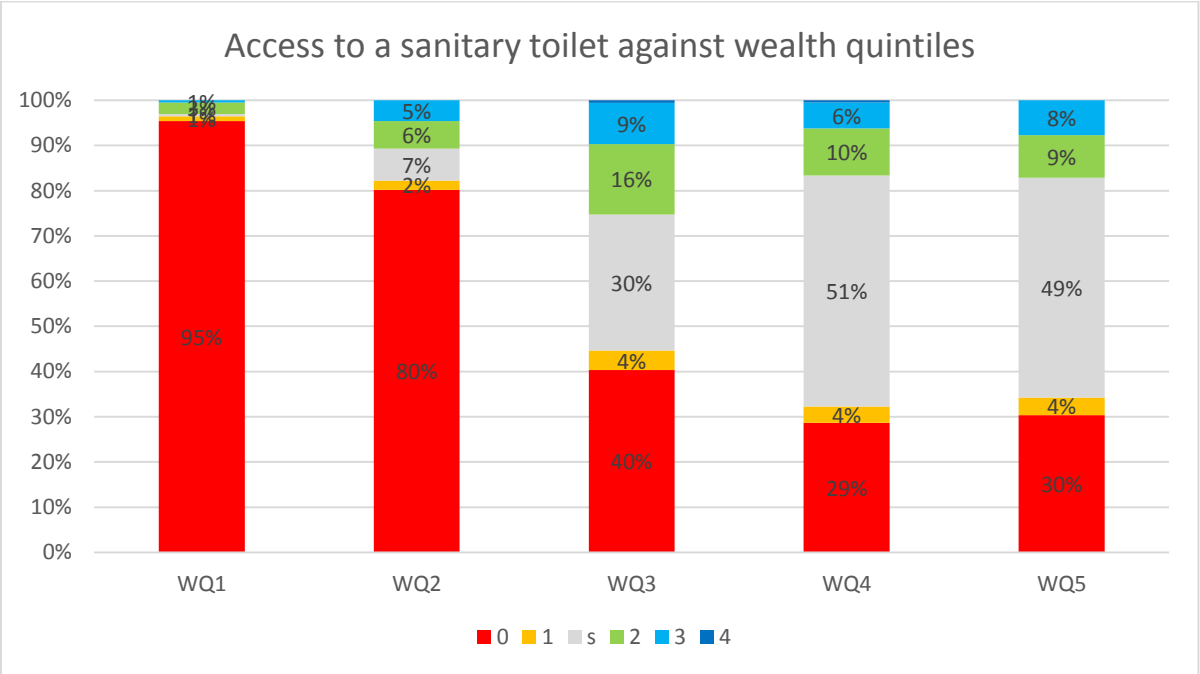


Figure 10: Access to sanitary facilities against wealth quintiles

The survey revealed that the poorest and the poorer are the majority (95% and 80% respectively) with no access to a sanitary facility whilst the richer and richest had majority of unimproved toilet. The findings suggest that poor households have no access to a sanitary facility may be due to limited resources and also the knowledge on the importance of having a latrine. Overall the lack of environmentally safe latrines cuts across the wealth quintiles demonstrates the need to promote sanitation and hygiene as alluded to in the household survey of 2010.

3.3.4 ACCESS TO SANITARY FACILITIES AGAINST GENDER OF THE HEAD OF HOUSEHOLD

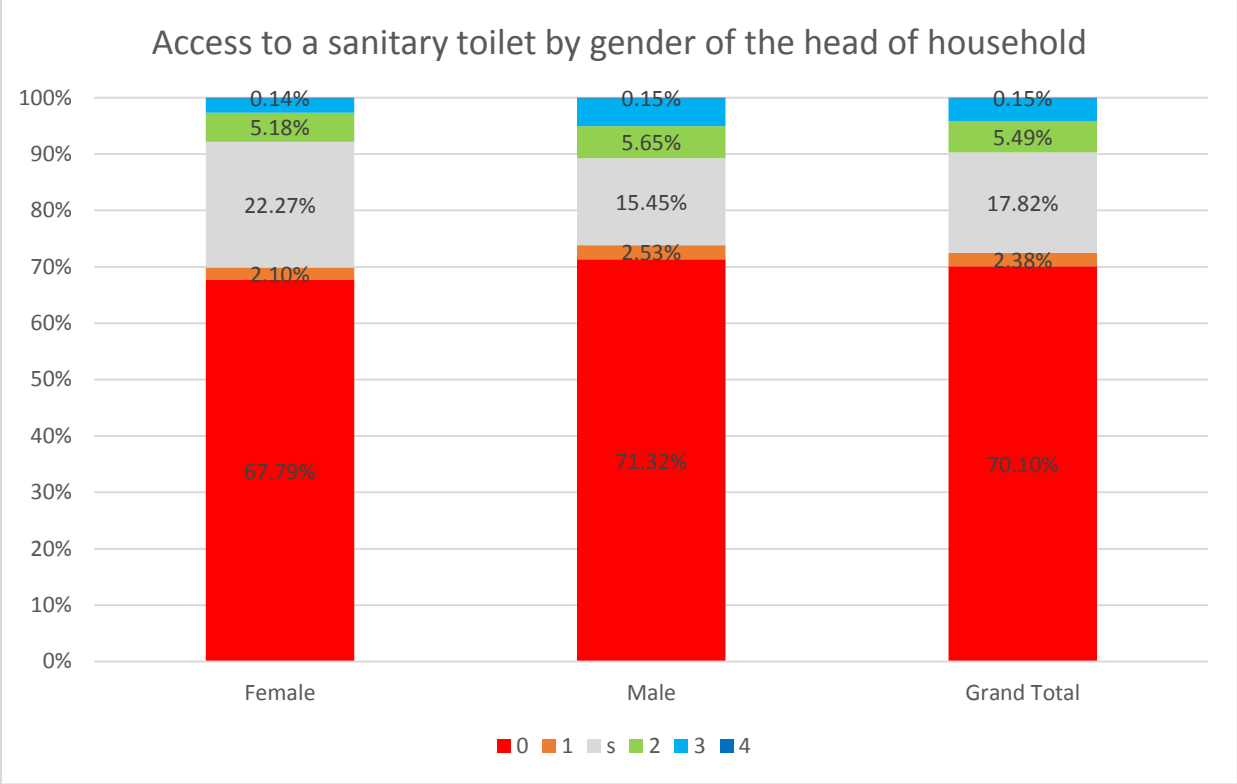


Figure 11: Access to sanitary facilities against gender of head of household

The distribution of access to sanitary facility against head of households in the figure 11 above shows that open defecation practice is slightly higher in male headed households (71.32%) than female headed households (67.79%). This is surprising enough as we expected the reverse as female headed households may experience challenges related to incomes and also the ability to construct toilets which is physical in nature. The proportion of access to shared toilet facility is 22.27% for females and 15.45% for males headed households.

Types of toilets found in the programme area

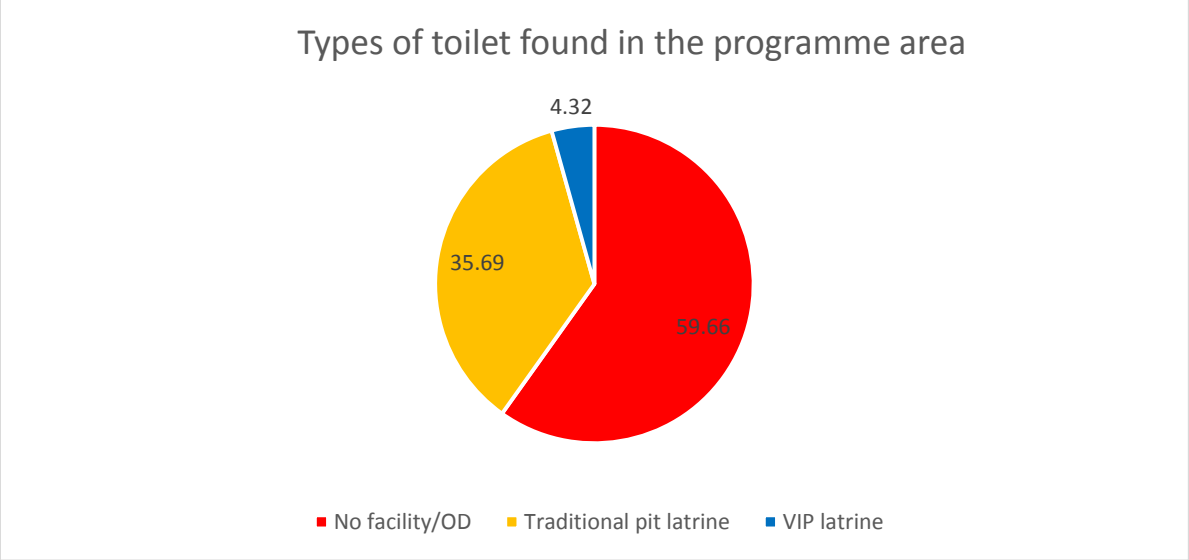


Figure 12: Type of latrine facilities in the programme area

The survey revealed that most (59.66%) households have no toilet facility and hence practice OD, whilst 35.69% use traditional pit latrine which consist of unlined underground structure (direct pit) and a superstructure constructed from locally available materials and few use VIP latrines (4.32%) as shown in figure 12 above. This observation reinforces the fact that most of the latrines are unimproved and their structural quality is compromised. On the other hand this could also be influenced by the soil types found in the areas of which majority (59.41%) are silt/clay followed by sandy soils (35.89%). Few areas (4.7%) had gravel/hard soils, hence this makes construction more expensive as lining of pits will be required for stronger and sustainable structure in sandy soils. In Magwi the soils are more stable as compared to Aweil and in addition the communities have been exposed to CLTS more than those in Aweil East County.

3.3.5 Discussion on the findings access to a sanitary toilet

Access to sanitary facility in the two counties is low with 70% of the household practicing OD with the highest percentage in Aweil East County. This observation could be attributed to soil condition in Magwi which are more stable as compared to Aweil and in addition the communities have been exposed to CLTS more than those in Aweil East.

In addition males are the majority in practicing OD and poor households having no access to sanitary facilities. The reason being that in most areas in South Sudan particularly with the Dinka

men, they are not supposed to be seen by women or by in- laws when going for defecation to latrines, hence they resort to travelling a distance away from their homes in order to defecate.

Majority of toilet structures are traditional pit latrines that are not environmentally friendly as most superstructures are made of mud and woods and the underground structures are unlined direct pits which make latrines susceptible to collapse during rainy seasons. Also woods don't last longer as white ants and termite eat on them. This is compounded by the predominant sand/slit soil types that increase the investment required for a household to be resilient to the harsh climatic conditions such as floods. In this regard the programme is to vigorously promote sustainable sanitation options that are affordable and appropriate to improve coverage and use as majority of the structures are made from local materials and the quality is somehow compromised as they appear to be temporary in nature.

3.4 Outcome indicator 2: Hygienic use and maintenance of sanitation facilities

3.4.1 Overall hygienic use and maintenance of sanitation facilities

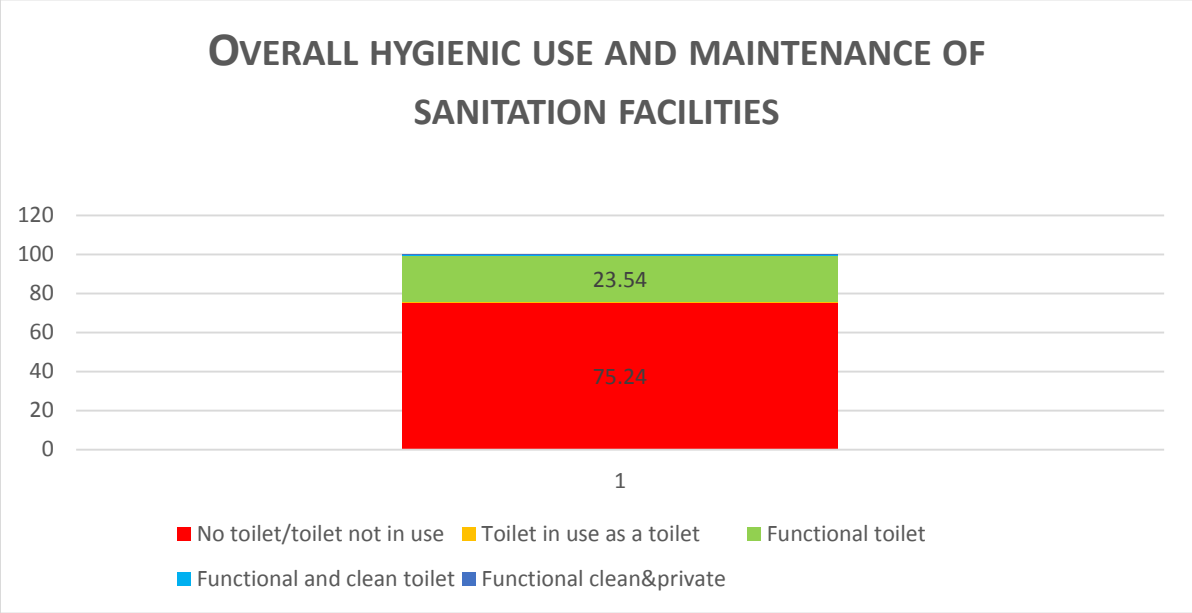


Figure 13: Overall hygiene use and maintenance of sanitation facilities

The results demonstrate that majority (75.24%) of households have no toilets and hence the issue of maintenance is limited to 23.54% who have functional toilets. Only 0.15% and 0.44% have functional and clean and functional, clean and private toilet respectively. Having a toilet and also making it clean is observed to be a major challenges in these communities as majority (85.36%) of the toilets have faecal smears on pan, walls and slabs, hence sustained hygiene promotion is required to improve access (construction of toilets) and secondly the maintenance of such facilities.

3.4.2 HYGIENIC USE AND MAINTENANCE OF SANITATION FACILITIES PER COUNTY AND SUB-COUNTY

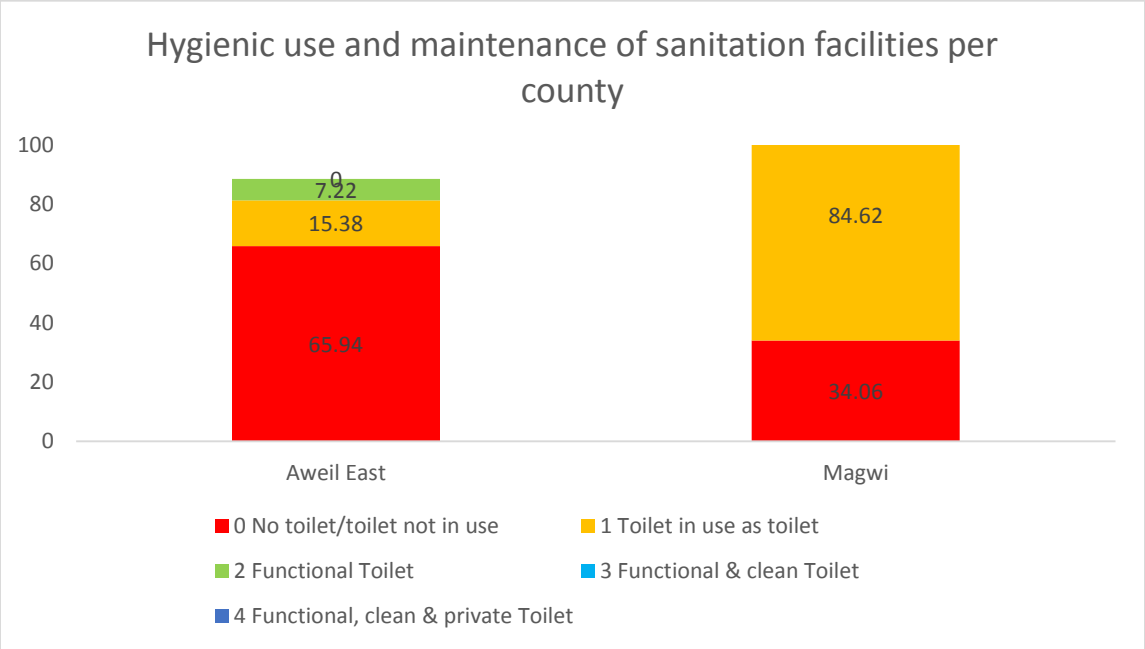


Figure 14: Hygienic use and maintenance of sanitation facilities per county

Majority of households do not use a toilet with the majority in Aweil East County. Very few household have toilets that are functional and clean, though in Magwi (84.62%) have a form of toilet in use.

3.4.3 HYGIENIC USE AND MAINTENANCE OF SANITATION FACILITIES AGAINST WEALTH QUINTILES

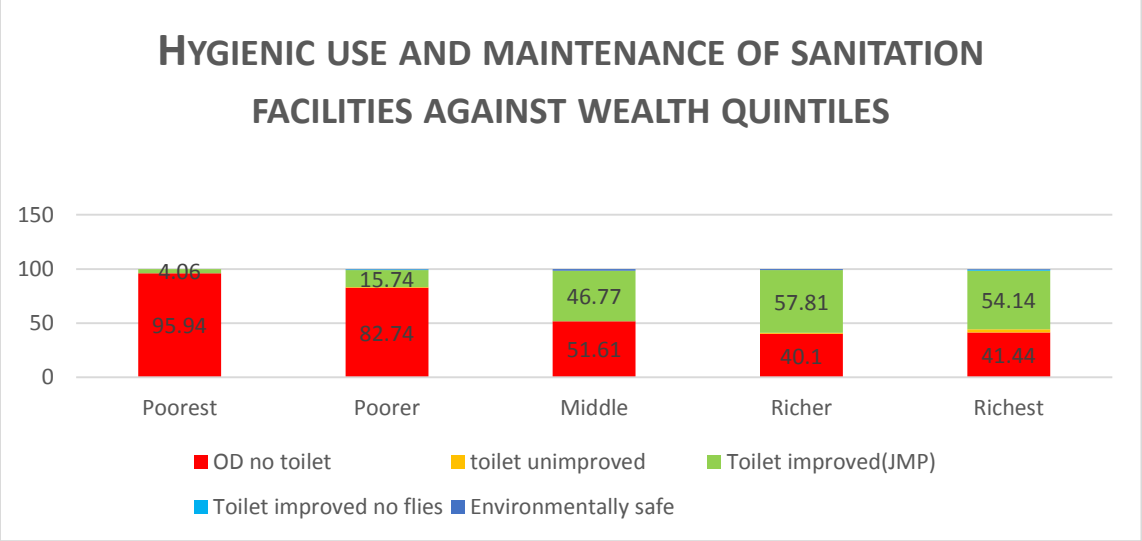


Figure 15: Hygienic use and maintenance of sanitation facilities against wealth quintiles

The findings reveal that the poor quintiles 4 and 5 have no toilets and hence the issue of maintenance is non-existent in the knowledge. The richer households who are expected to be having more improved and environmentally safe toilets did not have and hence indicating that here is limited knowledge on hygienic use of toilets. This observation is linked to the earlier identifies barriers of culture which the programme has to develop appropriate behavioural communication strategies to address this challenge.

3.4.4 HYGIENIC USE AND MAINTENANCE OF SANITATION FACILITIES AGAINST GENDER OF THE HEAD OF HOUSEHOLD

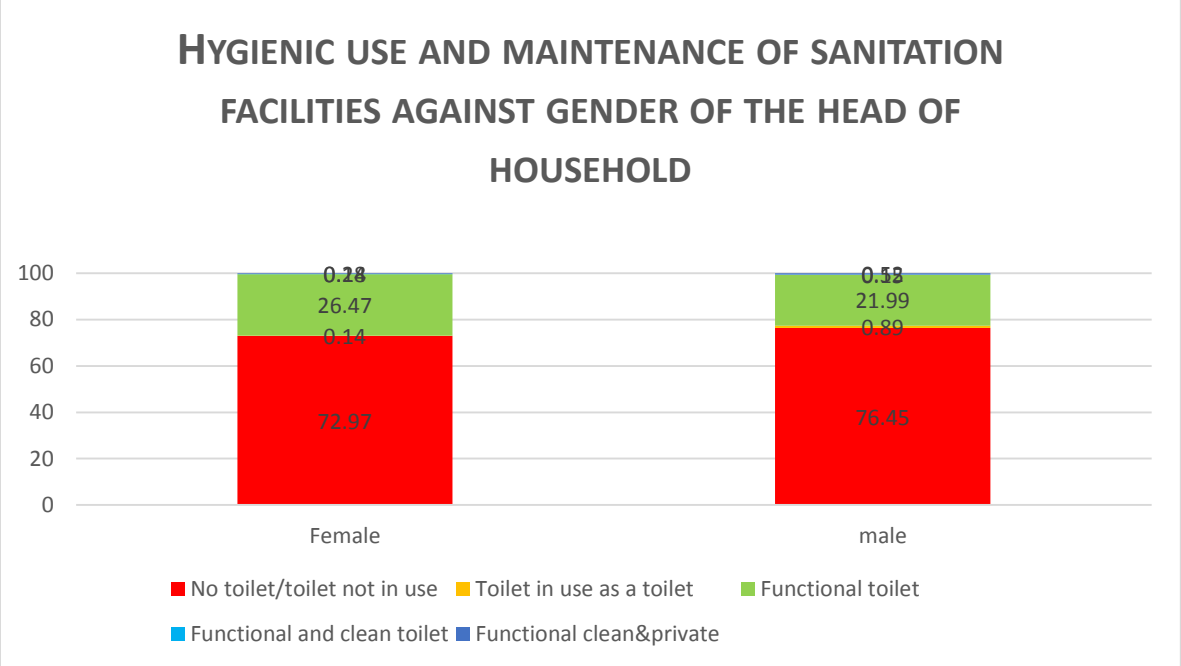


Figure 16: Hygienic use and maintenance of sanitation facilities against gender of household head

The survey indicated that slightly more male-headed households (76.45%) do not have access and hygienic use of a toilet, whilst less female-headed households (72.97%) have access to functional clean and private toilets. These findings to some extend confirm the cultural beliefs which view those men do not go to the toilets. On the other hand the findings indicate more females play significant roles in hygiene and maintenance of sanitary facilities. These results then demonstrate that ability and affordability to have functional toilet requires resources and hence households headed by females have limited capacity to construct their own latrines due to many factors among them being limited access to resources by women as the dictate of culture.

3.4.5 DISCUSSION ON THE FINDINGS FOR HYGIENIC USE AND MAINTENANCE OF SANITATION FACILITIES

The survey revealed that there is rampant OD with 75.24% having no toilets, the majority being in Aweil East constituting 65.94% whilst Magwi had 34.06%. In relation to toilets in use Magwi had the majority 84.62%, whilst on the contrary Aweil East had a sizeable number of functional toilets (7.22%) as compared to Magwi. It's however surprising that in Magwi where there are more households with toilets in use, one would expect to have more functional, clean toilets but this was

not the case. This shows that more hygiene promotion campaigns are required to build up on the households that have recognized that a toilet is important so that they reinforce the importance of hygiene and improve maintenance.

The quality of the toilets varied from household to another and their endurance to environmental conditions is limited as most superstructures were made from grass, bamboo and poles. Majority of the toilets (86.88%) do not provide privacy. Hence there is need to come up with alternative or improve on the quality of the traditional pit latrines if there are to be sustainable and resilient to harsh environmental conditions.

Generally hygienic use and maintenance is a challenge in these communities which is mostly attributed to many factors among them being the strong cultural norms which do not value sanitary facilities as well as the knowledge. In addition the rampant OD makes it impossible to use and maintain facilities which are there.

3.5 Outcome indicator 3: Access to hand washing with soap (HWWS)

3.5.1 Knowledge of critical moments of HWWS

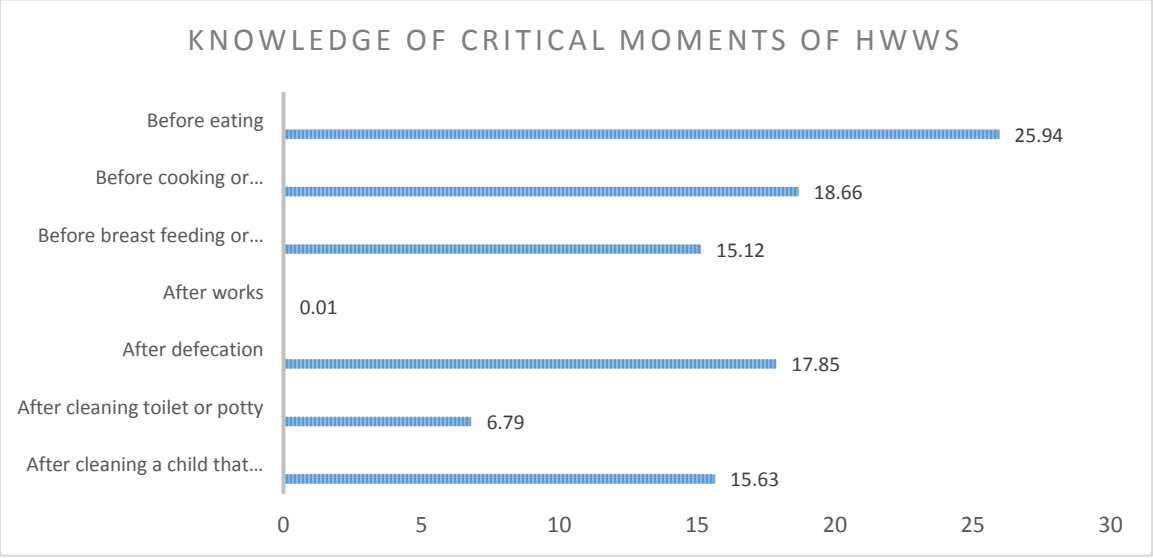


Figure 17: Knowledge of critical moments of HWWS

Knowledge on washing hands at critical is very limited among the households in the programme areas as the most common behaviour on hand washing is before eating (25.94%) whilst washing hands after defecation is low (17.85%). Considering that 52.56% and 83.49% of households have

children under 2 and 5 respectively and that hand washing before breast feeding child (15.12%) and after cleaning a child that has defecated (15.63%) is low. This has a bearing on the children contracting WASH related diseases and hence contributing to the high mortality of the under 5 years, as reported in the 2010 Household survey as 105 per 1000 live births..

3.5.2 PRESENCE OF A HAND WASHING STATION WITH SOAP FOR AFTER DEFECATION

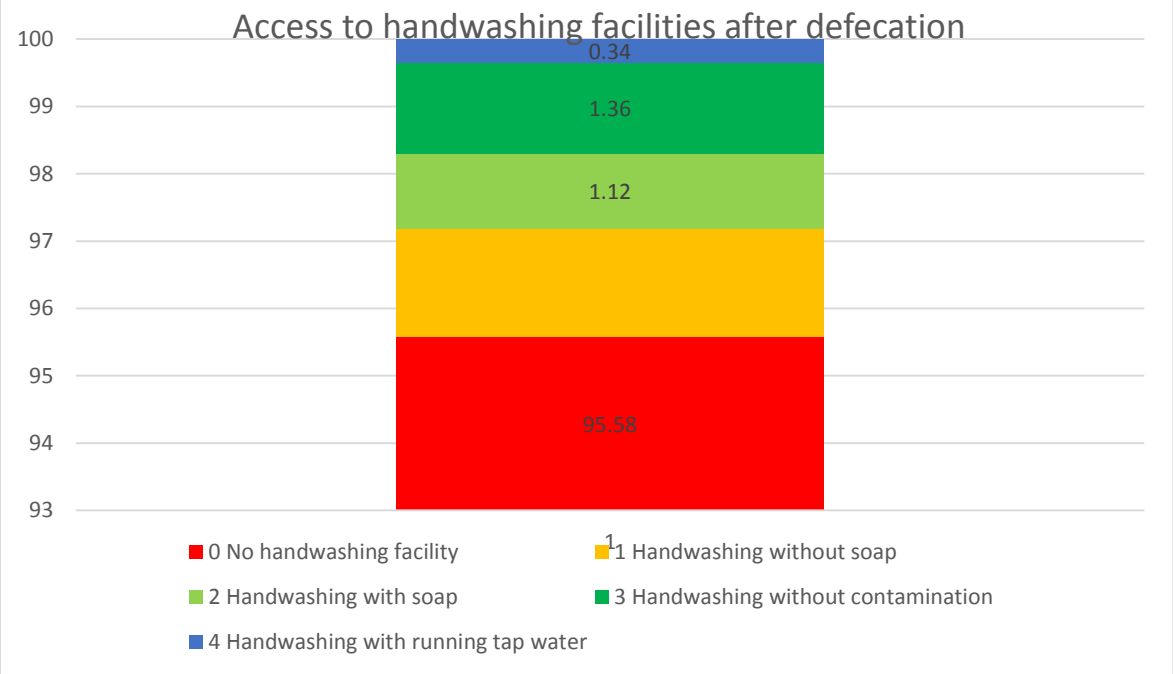


Figure 18: Presence of hand washing station with soap after defecation

The survey revealed that there is no hand washing stations (95.58%) with soap in most households implying that this practice is basically absent in these communities. Hand washing is critical for disease prevention and its absence indicates a challenge in prevention of WASH related diseases.

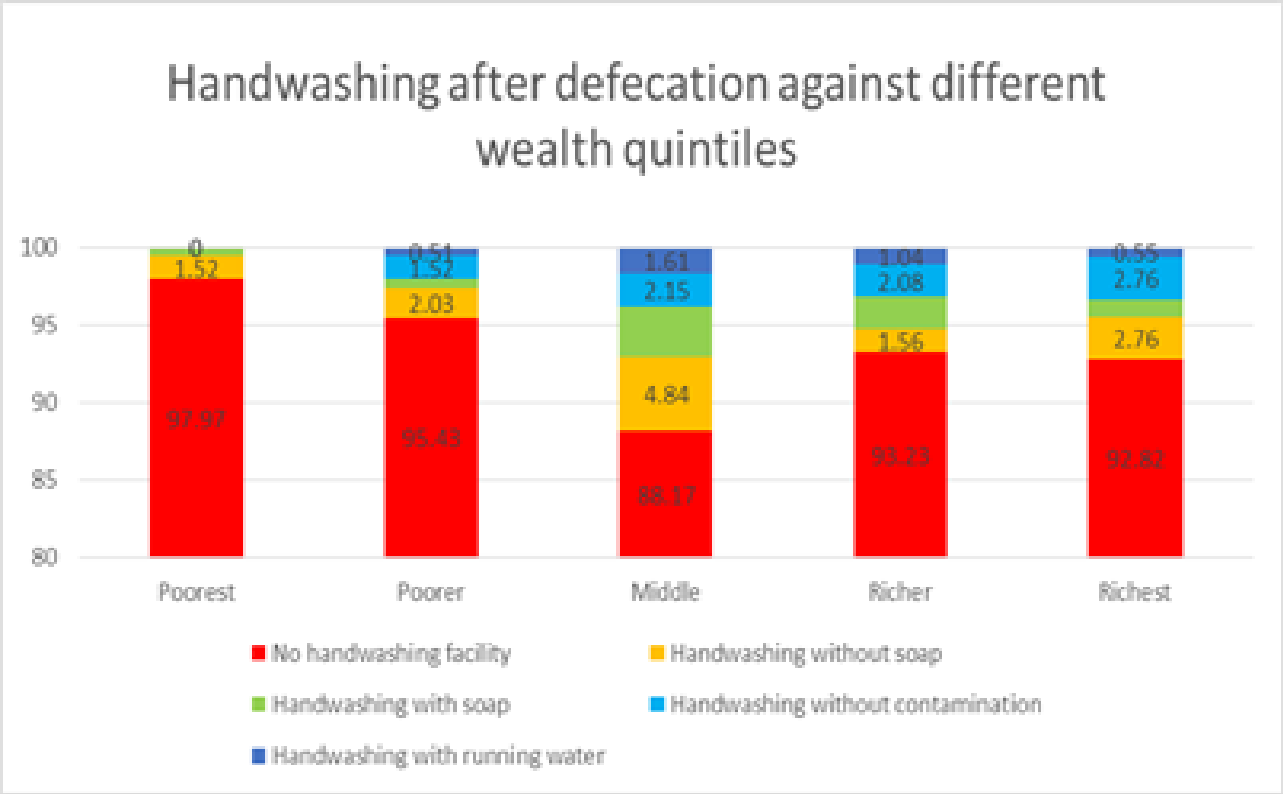


Figure 19: Hand washing after defecation against different wealth quintiles

The results demonstrate that hand washing after defecation does not strongly correlate with wealth. In addition it is not a common hygienic behaviour across all the wealth quintiles as majority have no hand washing stations implying it's rare that households wash their hands even those with under 2 and 5 years. Generally the practice of hand washing is very limited and is only observed mostly before eating and sometimes without soaps.

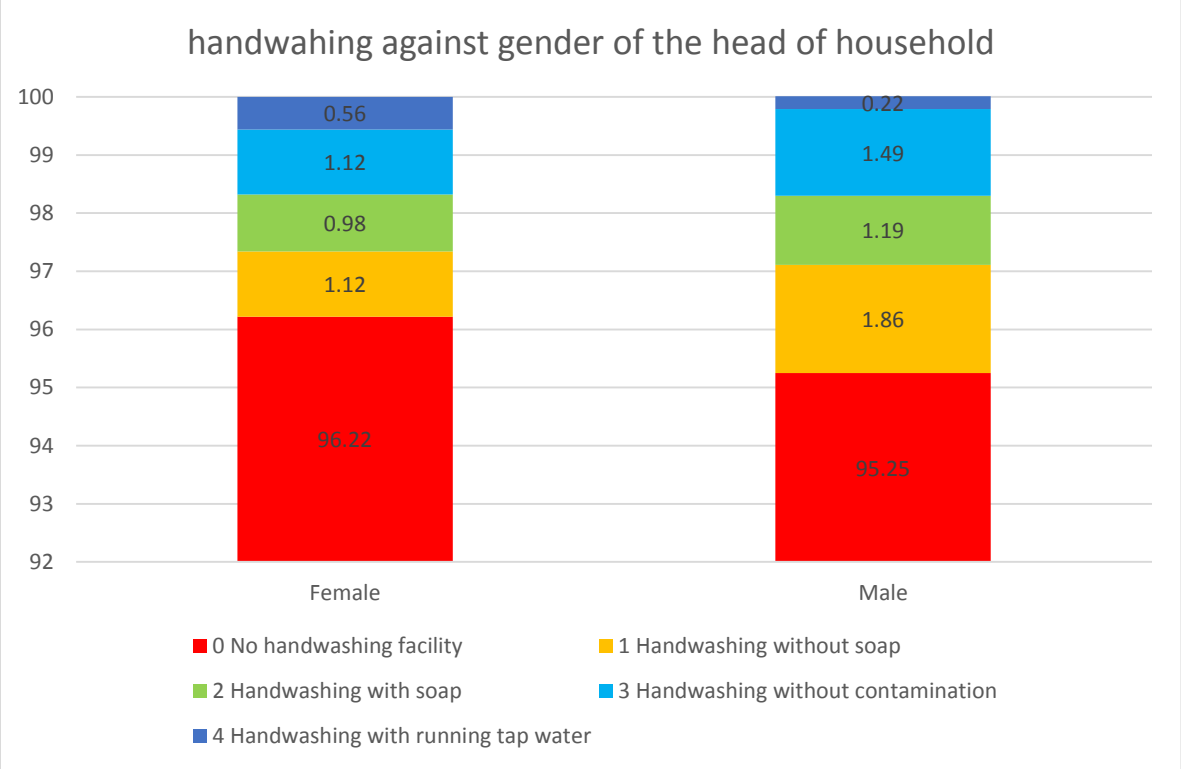


Figure 20: Hand washing against gender of the head of household

The findings revealed that there is no much difference regarding the practice of hand washing among the male and female household head. Overall hand washing is not common behaviour in both with very few households is practicing hand-washing that is without contamination.

Discussion of findings in relation to hand washing with soap after defecation

Hand washing with soap after defecation does not exist as majority of households do not have hand washing stations with soap. It's only an insignificant percentage (0.34%) that washes their hands with soap after defecation. It is worth to note that there is no significant correlation with wealth or gender of the head of household, though slight proportion of hand washing with soap is observed among wealthier households. Lack of significant correlation is probably due to the fact that the figures are so low. In general the practice of washing hands with soap after defecation is very limited and hence the programme has to intensify promotion of HWWS.

3.5.3 PRESENCE OF A HAND WASHING STATION WITH SOAP BEFORE COOKING AND FOOD PREPARATION

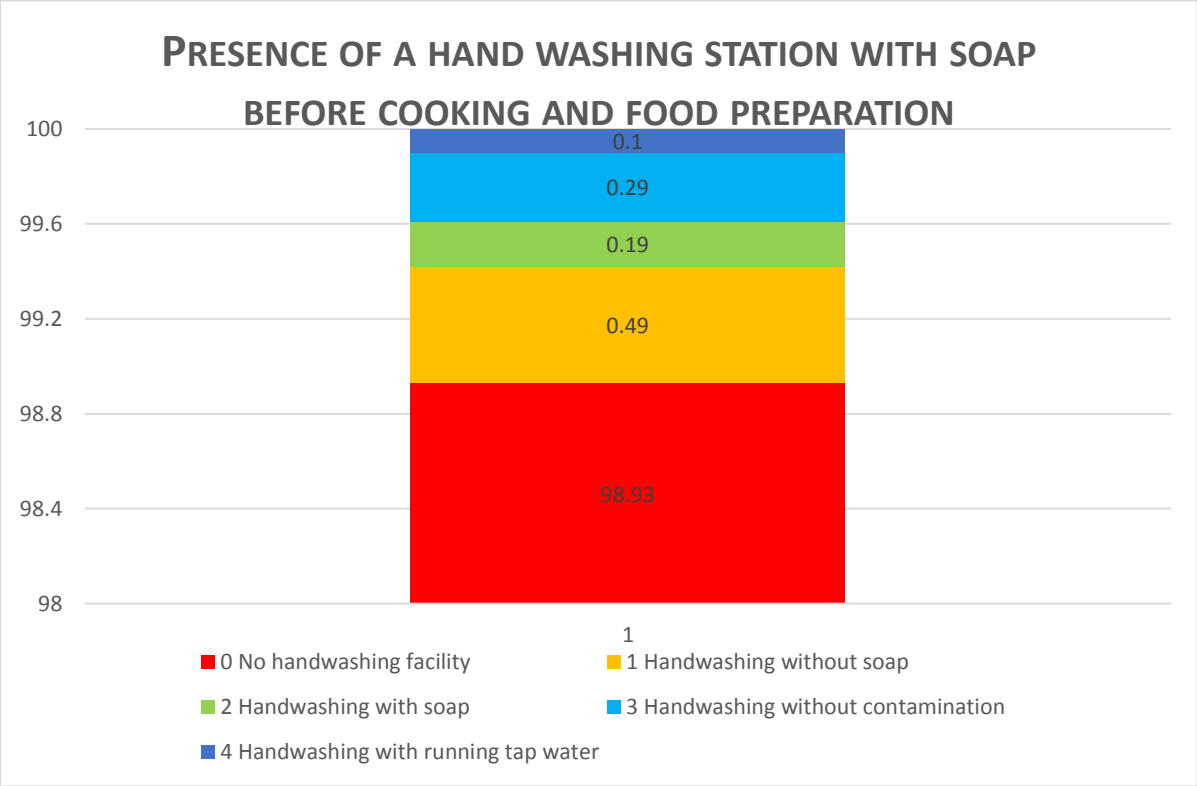


Figure 21: Presence of hand washing station with soap before cooking and food preparation

Similarly as with hand washing with soap after defecation, the practice to wash hands before cooking and preparing food is also very limited with majority of households (98.93%) having no stations or facilities.

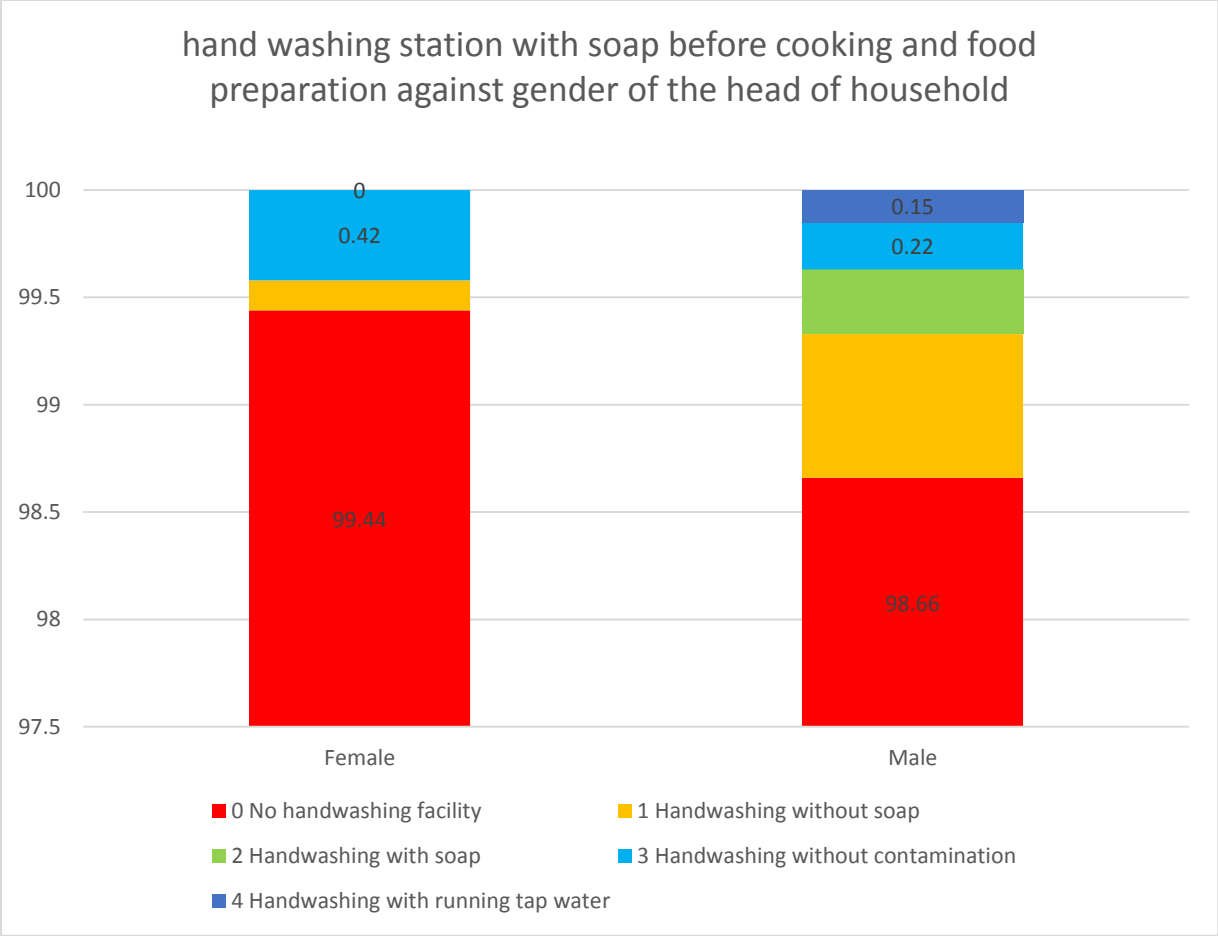


Figure 22: Hand washing station with soap before cooking and food preparation against gender of household head

Figure 22 above shows that both households headed by males and females have no access to hand washing facilities. Generally hand washing with soaps is poor household level due to different personal behaviours. This observation demonstrates lack of knowledge on hygienic practices when handling food.

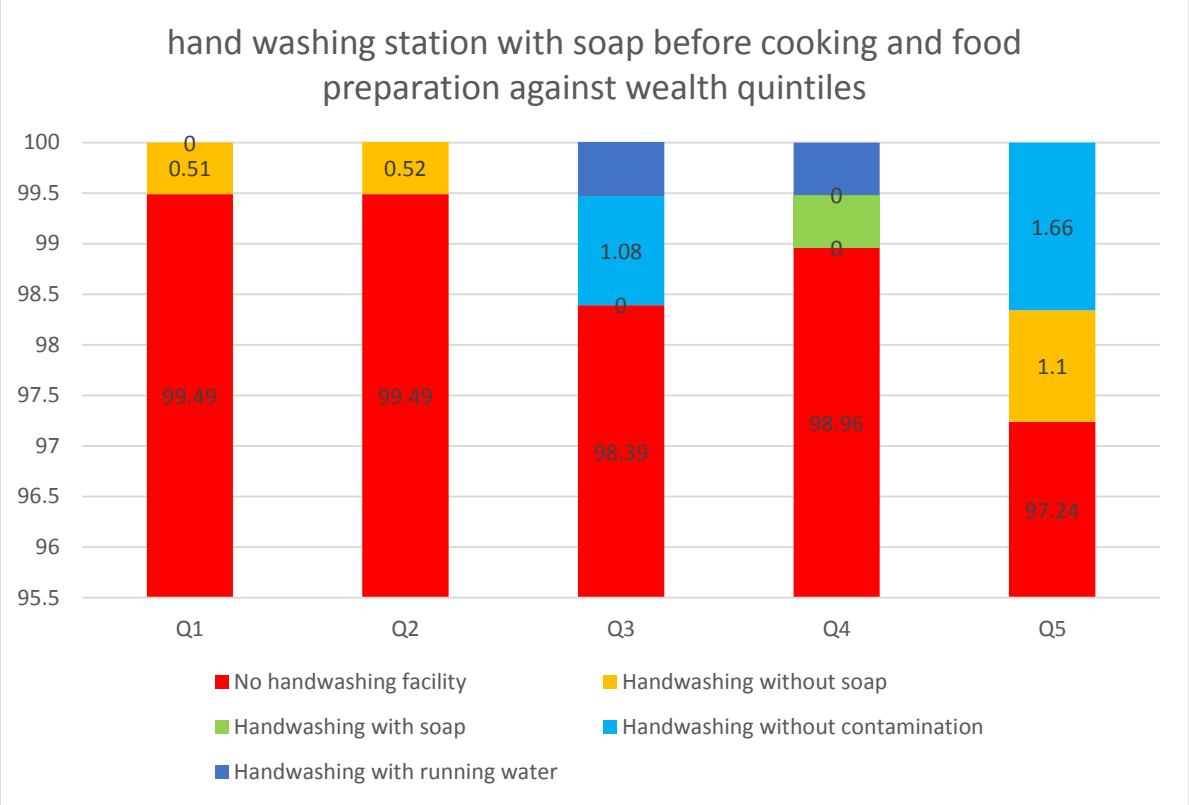


Figure 23: Hand washing station with soap before cooking and food preparation against wealth quintiles

Figure 23, demonstrates that hand washing in food preparation is also low across the wealth quintiles as earlier noted on hand washing after defecation. However some wealthier households though very low (1.66%) have stations for hand washing without contamination and with running water as compared to the poorer households.

Discussion of findings in relation to hand washing before cooking and food preparation

Hand washing with soap before cooking and food preparation is somewhat better than hand washing after defecation. It is correlated with wealth, and it appears to be a sort of demonstration of wealth to have a hand washing station. It will be important to do further formative research to understand why people have a hand washing station in this case. This might help to find entry points for change.

3.5.4 Discussion on the findings for access to hand washing with soap (HWWS)

Access to hand washing with soap is very low across the two counties. An insignificant percentage of households (0.19%) in both counties practise hand washing with soap before cooking and handling food. The practise is mostly observed in wealthier households as shown in figure 20. This

indicates that there is a strong correlation between wealth and hand washing station as having a hand washing station for washing before eating is regarded a status symbol. It is however, noted that there is no strong correlation between having knowledge of hand washing with soap and practising the behaviour since many households with knowledge of hand washing do not have hand washing stations. Since hand washing is vital in breaking the cycle of faecal-oral transmitted diseases, project intervention strategy should be more on addressing household hygienic risk behaviours and practices by promoting strategies focusing on behavioural change communication as majority lack knowledge of hand washing at critical times**.**

4 RESULTS AND FINDINGS ON SUSTAINABILITY INDICATORS

4.1 SUSTAINABILITY INDICATOR 1: CAPACITY OF LOCAL GOVERNMENTS OR LINE AGENCIES TO STEER SANITATION DEMAND CREATION AT SCALE IN THEIR AREA

In South Sudan, the responsibility for realising the human right to water and sanitation lies with the local government, that is the Ministry of Electricity, Dams, Irrigation and Water Resources.

In Magwi and Aweil East Counties, it is specifically the Directorate of Water and Sanitation (DWS) which is in charge of water and sanitation, and which is expected to take the lead in increasing sanitation coverage in their area. These interviews have been done with the WASH steering committees.

4.1.1 CAPACITY OF LOCAL GOVERNMENTS OR LINE AGENCIES TO STEER SANITATION DEMAND CREATION AT SCALE IN MAGWI COUNTY

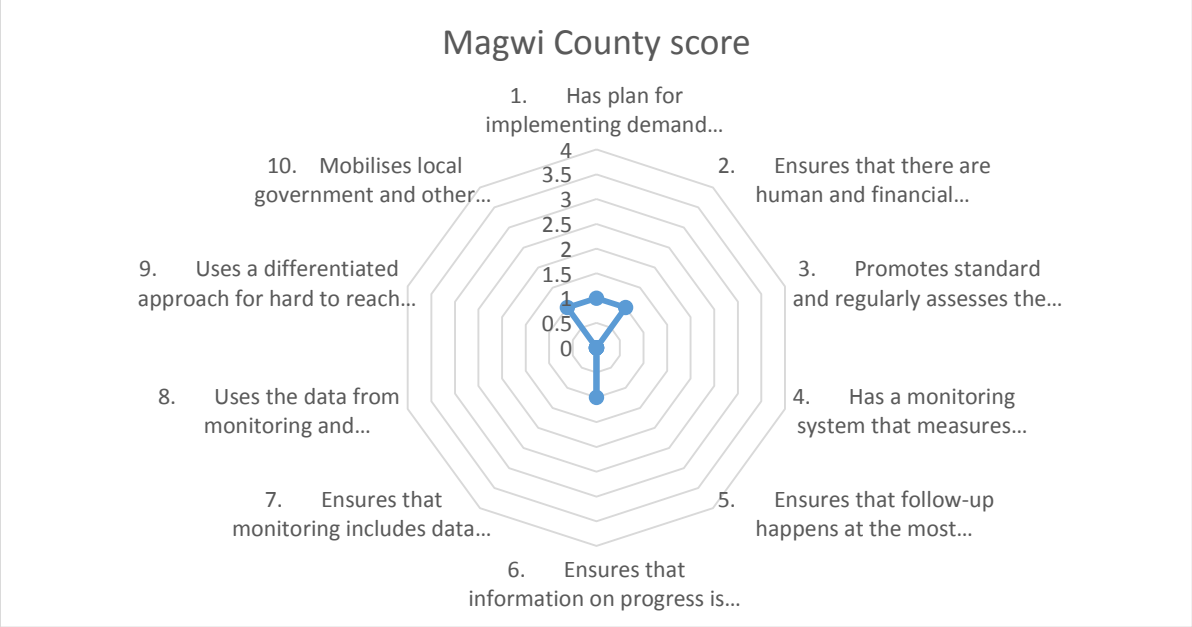


Figure 24: Magwi County score on capacity of local Government or line agencies to steer sanitation demand

The focus group consisting of representatives from WASH department, Education, Health, Gender and partners who together with the WASH steering committee in Magwi, revealed that the county had no specific plans for sanitation demand creation as sanitation and hygiene were embedded in water development activities. The only plans which the county had were of partners such as SNV and others that focus on implementing CLTS in some parts of the county. However the county had a strategic and operational plan which was developed with support from SNV and other WASH partners. The County WASH Department is under staffed with only two officers, Assistant Commissioner WASH and Water Inspector and these are the responsible people to undertake and support WASH activities in the county. The department is under resourced and depends on partners to conduct follow up and monitoring as there is no budget allocated to the activities. The budget that comes to the County is mainly for office operations and is not enough.

Information of sanitation is rarely shared by the County, unless partners make it a point to call for coordination, in which SNV has been supporting. Enforcement of standard approaches is left to the partners as most of the cases the county has no capacity and staff to perform this task. In relation to

local leadership mobilization, the county has been very effective as they are able to engage and introduce partners to work in most of the areas. In relation to the above observation, the scoring for Magwi was less than 2.

4.1.2 CAPACITY OF LOCAL GOVERNMENTS OR LINE AGENCIES TO STEER SANITATION DEMAND CREATION AT SCALE IN AWEIL EAST COUNTY

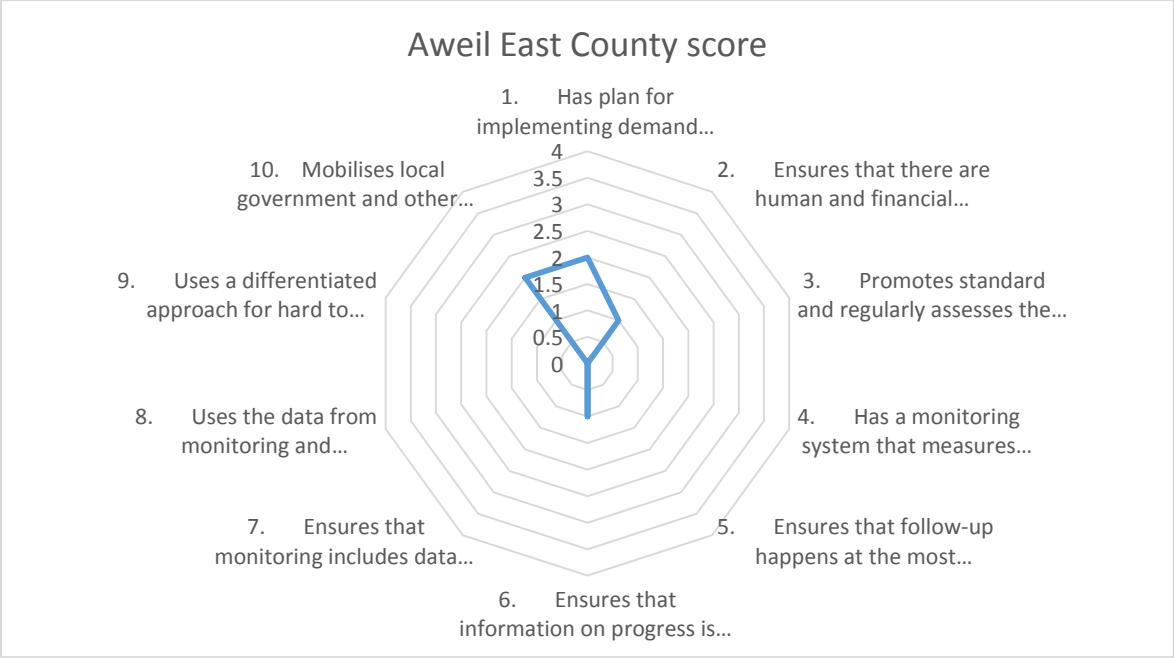


Figure 25: Aweil County score on capacity of local Government or line agencies to steer sanitation demand

Aweil East County has a strategic and operational plan which was developed with help of partners. The operational plans are only dependent on partners' activities with no budget allocation for their activities. Similarly in Magwi, the county is understaffed with 3 officers at county level, Assistant WASH commissioner, Water Inspector and Database officer. One of the challenges noted was the lack of standardization of approaches to CLTS in the county as partners used different ways. In some cases partners would provide hand outs such as digging tools, slabs, plastic and still call it CLTS. Monitoring of partners is still a challenge as the county has no resources and staff to undertake this and it is entirely on the partners to organize monitoring and then involve the county officials. Information management and sharing at county level is still a challenge and is mostly left to partners though currently the county has put in place mechanism to ensure that partners share their reports on a monthly basis. In terms of reaching the difficult places the county lamented the

lack of resources, such as cars, motorbikes and also the bad roads which make it inaccessible especially during the rainy season.

4.1.3 DISCUSSION ON THE FINDINGS FOR SUSTAINABILITY INDICATOR 1

Table 2: County Scores for sustainability indicator 1

Detail	score county Magwi	score county Aweil East
1. Has plan for implementing demand creation activities covering the entire district (even if in phases)	1	1
2. Ensures that there are human and financial resources to implement demand creation activities in line with its plans (in-house or other)	1	1
3. Promotes standard and regularly assesses the performance of organisations engaged in demand creation	0	0
4. Has a monitoring system that measures progress on demand creation targets and results at village and sub-district level	0	0
5. Ensures that follow-up happens at the most appropriate times of the year	0	0
6. Ensures that information on progress is shared, analysed and discussed with relevant sub-district and district level stakeholders	1	0
7. Ensures that monitoring includes data that assesses inclusion of all groups within the villages, including people with a disability	0	0
8. Uses the data from monitoring and experiences to adjust or improve implementation when relevant	0	0
9. Uses a differentiated approach for hard to reach villages and those lagging behind	0	0
10. Mobilises local government and other local leadership around sanitation	1	2
	0.4	**0.6**

The two counties both have strategic plans which provide guidance in terms of development in the counties. However focus on sanitation demand has not been clearly articulated as compared to water supply. On the other hand information management at local level is one of the weakest links to provide guidance in relation to allocation of resources and projects. In most cases it is partners that have to undertake their own assessments to guide their project implementation due to lack of accurate data at the county level. Monitoring systems particularly on sanitation and hygiene are limited as their current systems focus mainly on water supply. The counties has also shown their

strength regarding mobilization of local leadership and communities but this has been met with some challenges as in most cases, relief takes precedence and hence communities always expect hand outs and subsidies . Generally, capacity to steer sanitation demand is limited in all the counties but Aweil East is better off compared to Magwi and hence more attention to Magwi shall be required during project implementation. The difference in the two counties is the staffing levels in the WASH department, in which Aweil East has more staff at county and also at payam levels.

4.2 Sustainability Indicator 6: Improved sector alignment at local level

4.2.1 Sector alignment in Magwi county

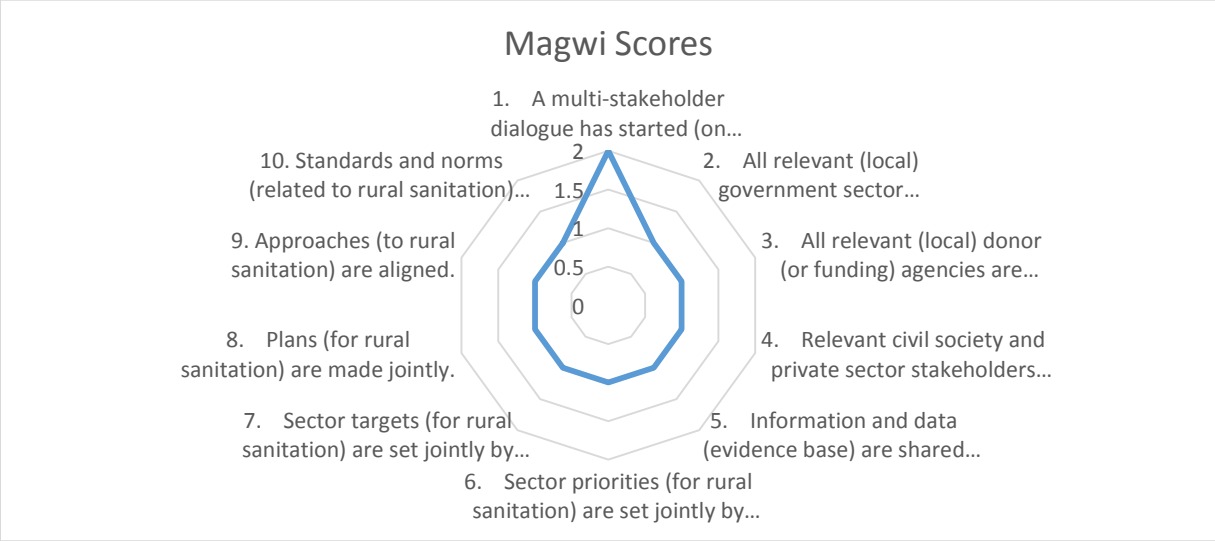


Figure 26: Sector alignment in Magwi County

In Magwi a multi-stakeholders dialogue has started and in place but the weakest link is that it is not consistent and it is dependent on partners. The county has no budget to support this platform and in addition only a few partners with interest and sometimes other line ministries do not attend. From the focus group it was noted that there is no private sector involvement, and approaches to sanitation and sector priorities are not aligned. However the county has guidelines on sanitation which were developed at national level but these are not shared and are still on the shelves. In Magwi there are efforts to streamline sector alignment and hence the project will contribute to this goal.

4.2.2 Sector alignment in Aweil East county

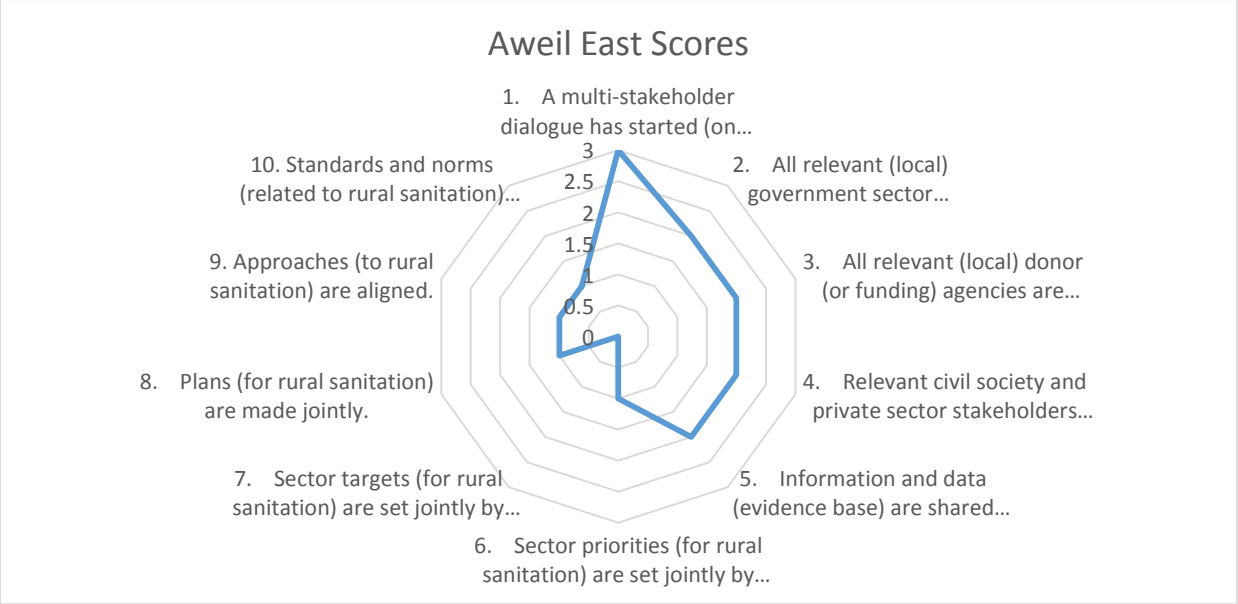


Figure 27: Sector Alignment in Aweil East County

In Aweil East a multi-stakeholders' dialogue has started and in place and regular meetings have been done with support of partners, particularly to address the issues of poor sanitation in the county. The weakest was the alignment of approaches to sanitation particularly CLTS as partners used different methods such as providing subsidies in some cases. The county is now strengthening its approaches as it is determined to address the poor sanitary conditions in the county. The county has now a database officer who is tasked to collect information which are used for planning and coordination of WASH activities.

4.2.3 Discussion on the findings for sustainability indicator 6

In all the two counties sector alignment and coordination were identified as key challenges to improve planning as the relevant partners and local government agencies rarely met at county level. However it was noted that at state level there was improved coordination through the WASH cluster together with State Ministry of Water, Cooperatives and Rural Development (SMWCRD) and this has not filtered down to the county level. It was reported that most of the planning and setting of targets was partner specific as they develop their own targets in relation to donor requirements which they will only share with counties to start implementation. In addition information is mostly

with partners and is sometimes shared on request. In relation to standards and norms, the counties and including the national ministry has no harmonized definition and standards that could be enforced. The counties acknowledged that the Government of South Sudan adopted CLTS as one of the strategies to improve access to sanitation in the country. The challenge is that there is limited capacity on CLTS approaches in the counties staff and hence monitoring performance of partners' intervention is a challenge as partners are the ones with capacity to implement CLTS. Regarding sector priorities, the counties acknowledged that the focus was more on humanitarian assistance due to the long history of war and also disasters and hence most partners who implement programmes are relief agencies with few developmental partners. This observation was reported to have contributed to limited focus on development and setting up developmental priorities. However the counties are determined to address the poor sanitation and there is political commitment through counties' commissioners.

4.3 Sustainability indicator 10. progress in FSM- emptying and collection

4.3.1 Overall findings on safety of pit emptying and collection

The baseline survey indicates that in all the counties, practice of pit empting and collection is nonexistent with only few households reported to have emptied their latrines. The reason being that majority of households practice OD and those with latrines, the pre-dominant type is traditional pit latrines.

The survey revealed that only 8 respondents indicated that their pits had ever been emptied and of these, 5 indicated that emptying was done less than 12 months ago whilst 3 indicated it was done 1 to 3 years ago. In relation to disposal of the sludge, 3 dumped contents into water bodies or drains, whereas 4 disposed the contents in a pit on the compound. Only 1 of the pits was covered afterwards.

4.3.2 Other data on environmental safety

In programme areas, soils types are dominantly clay/silt (59%) followed by sandy soils (36%). In terms of environmental risks, clay/silt soil poses low risk as compared to sand soil which pose medium to high risk of seepage of wastewater into groundwater.

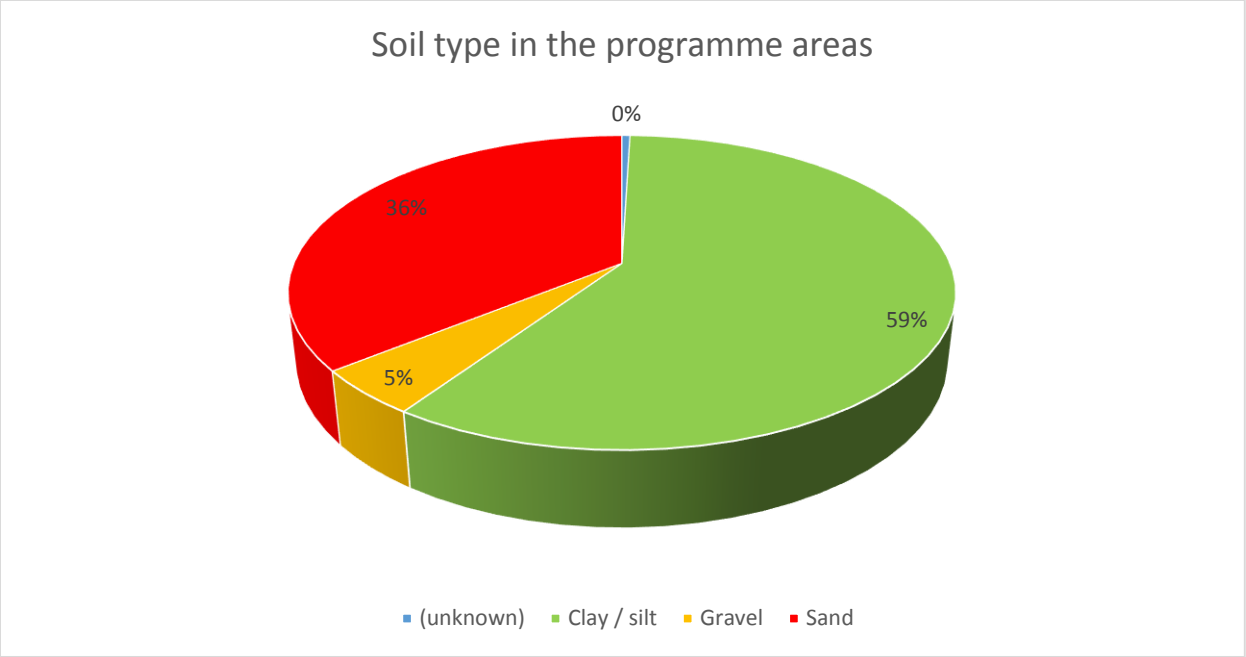


Figure 28: Soil type in programme area.

In the household latrines surveyed, very few latrines had pits that leak wastewater and when the toilets were constructed no ground water was seeping into the pit as shown in table …

	Environmental issues with latrines in the counties				
	No toilet	**Do not know**	**No**	**Yes**	
Does the pit leak waste water at any time of the year?	83	0	16	**1.2**	
When the pit was dug, was any ground water seeping in?	83	0	16	**0.6**	
Can ground water get in or out of the pit?	83	0	17	**1**	

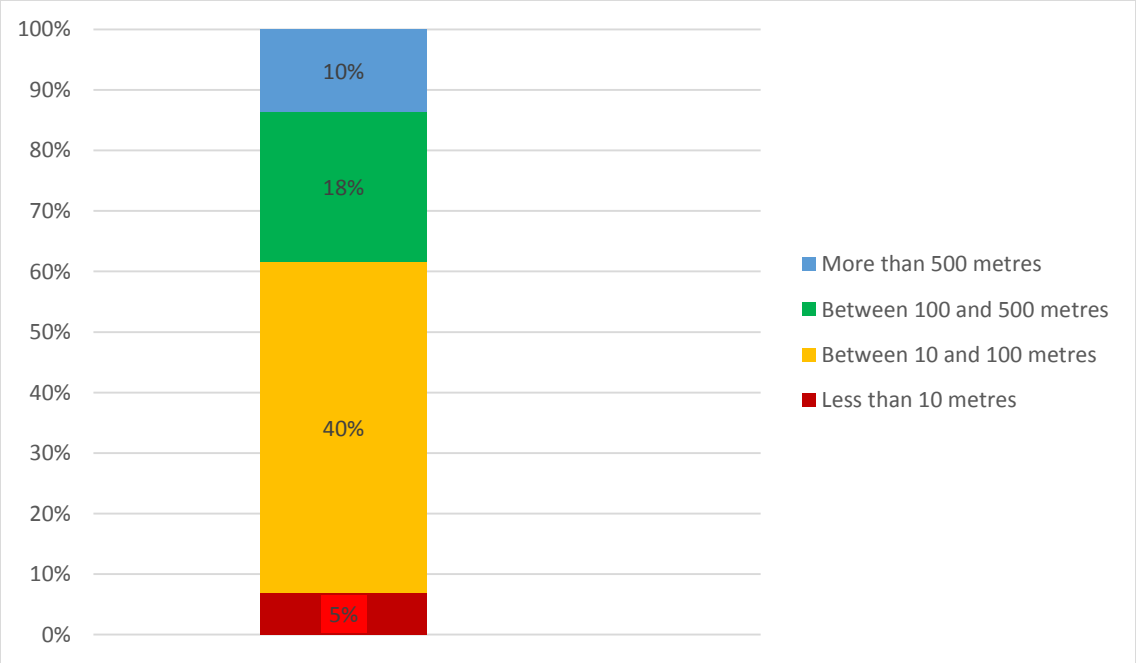


Figure 29: Horizontal distance from the nearest water source

Forty percent (40%) of the toilets are at a horizontal distance of between 10- 100 meters from the nearest water sources, whilst 3% are uphill of the water sources. Hence only 3% of toilets could be considered potentially contaminating to water sources because of the presence of toilets uphill of the water source within less than 100m of the source. In addition most of the latrines pits are 3-4 meters deep.

Distance and location of the toilet to water source

Level	At the same level		Downhill	Uphill	total toilets
Less than 10 metres	17	5%	1%	0%	20
Between 10 and 100 metres	149	40%	2%	3%	170
Between 100 and 500 metres	68	18%	3%	10%	117
More than 500 metres	39	10%	3%	4%	65
Grand Total	273	73%	9%	17%	372

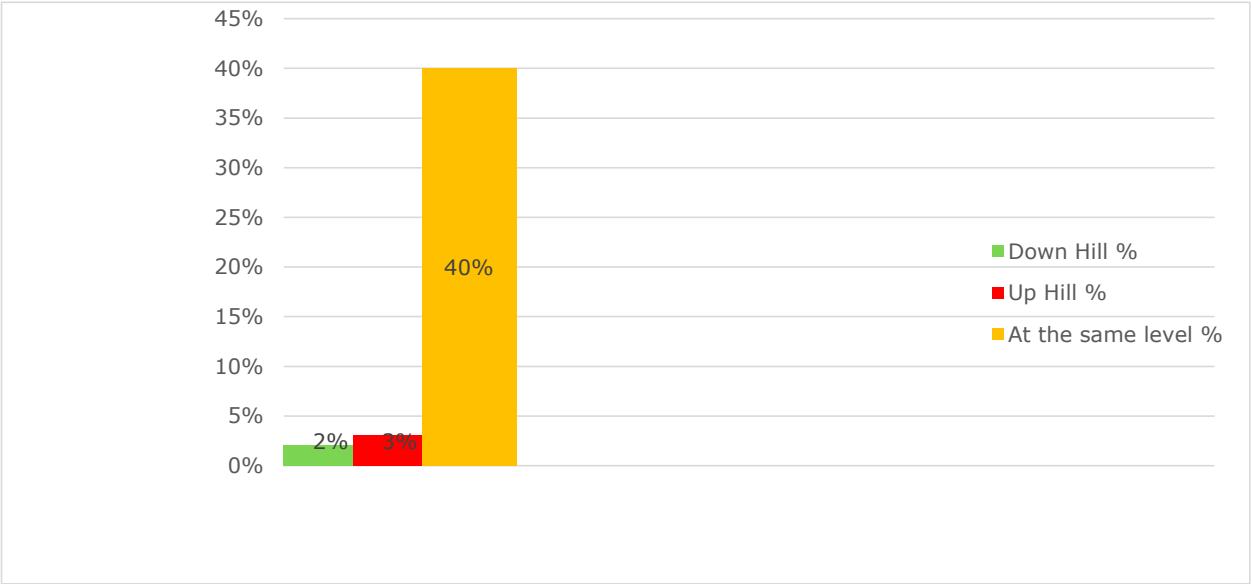


Figure 30: Toilets uphill or downhill from water sources

According to the above table, 3% of the toilets could be causing contamination to safe drinking water points; due to the presence of uphill distance between the toilets and the water points is less than 100m away from the water sources as shown above.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS AND RECOMMENDATIONS ON INDIVIDUAL DISTRICTS

Magwi County:

The proportion of households practicing OD in Magwi stands at 43%, whilst use of improved clean latrines is at 7%. Eleven percent (11%) of households shares toilets. Surprisingly there are very few environmentally friendly latrines in Magwi despite that the county is better in wealth ranking and soil qualities/types; hence there is need for sustained promotion for households to improve their sanitary facilities. Knowledge, attitude and practice (KAP) on hand washing at critical moments is also low and the most affected segments of the communities are the poorer households though it cuts across all the wealth quintiles.

Capacity to steer local government for improved sanitation is low as there is no clear plan to address or scale up sanitation at county level and hence the need to foster sector priorities, approaches and coordination mechanisms.

Aweil East County:

The proportion of households practicing OD is high (96%) and hence use of hygienic and friendly latrines is very low. The quality of the toilets in Aweil East vary from household to another and the endurance of most toilets to environmental conditions is limited and sustainability component of these toilets is compromised as most underground structures are unlined (direct pits) coupled with the loose soil condition of the area. Most superstructures of the toilets are made of grass, bamboo and poles, with limited provision of privacy. Hence there is need to come up with alternative or improve on the quality of the traditional pit latrines if there are to be sustainable and resilient to harsh environmental conditions. Similar to Magwi, capacity to steer local government for improved sanitation and hygiene is low and county needs to come up with a clear plan to upscale and address access to sanitation as it is the lowest amongst the two counties as well as the poorest.

5.2 Overall conclusions and recommendations

- The proportion of households practicing open defecation (OD) is high across the two counties. The highest being in Aweil East. In addition poorest households constituted the bulk of those without access to own sanitation facilities while wealthiest households were more likely to have used own resources to finance latrine construction, though very few had such facilities in the programme areas.
- Data reveals that the levels of hand washing with soap is very low in all the counties moreover, places for hand washing with water and soap are more likely to be observed in the wealthiest households. Knowledge of hand washing before eating was the most common behaviour across the two counties though the level is low.
- Wealth underpins access to improved sanitation and hygiene and the ability to practice improved hygienic behaviours. The findings indicate a relationship between wealth, and use of improved sanitation as households in the poorer quintiles tend not to practice the recommended run to waste with either soap or ash during five critical times.
- Capacity of local government to steer sanitation demand creation and sector aligned is very low in all the counties.

Cognisance of these findings, the following recommendations are proposed:

- In the context that one of the key project objectives is to improve access to sanitation and attainment of Open Defecation Free (ODF) communities in the project areas, project intervention strategy should be more on behavioural change communication strategies and messages that aim at elimination of OD and changing of the mind-set of the communities.
- Programme needs to adopt innovative approaches that motivate poor households to prioritize sanitation. Focus should also be on addressing household hygiene risk behaviours and practices by promoting strategies focusing on behavioural change communications.
- Programme to strengthen capacities of local governments to steer sanitation demand creation and sector alignment through capacity building of coordination mechanisms at county level.

6 ANNEXES

6.1 HOUSEHOLD BASELINE SURVEY QUESTIONNAIRE

1. HH1: Cluster number
2. HH5: Date of interview
3. HH7: County
15. County
16. HH6 :Village
17. HH8A: Groundwater table in this village (metres)
18. HH9: What is the dominant soil-type in this village?
19. HH11. Name of respondent
20. HH12: Gender of respondent
21. GPS location
22. Can I take your Picture
23. Photo

HM: Household members

24. HM1: Name of head of household
25. HM1A: Gender of the Household head
26. HM2: Number of women aged 50 years and older
27. HM3: Number of men aged 50 years and older
28. HM4: Number of women aged 15 - 49 years
29. HM5: Number of men aged 15 - 49 years
30. HM6: Number of girls aged 6 -14 years
31. HM7: Number of boys aged 6 – 14 years
32. HM8: Number of girls aged 3 – 5 years
33. HM9: Number of boys aged 3 – 5 years
34. HM10: Number of girls aged 0 – 2 years
35. HM11: Number of boys aged 0 – 2 years
36. HM12: Total number of household members
37. HM13-1. Because of a health problem or old age, does anybody in your household have difficulty seeing? (No difficulty)
38. HM13-2. Because of a health problem or old age, does anybody in your household have difficulty seeing? (Some Difficulty)
39. HM13-3. Because of a health problem or old age, does anybody in your household have difficulty seeing? (A lot of difficulty)
40. HM13-4. Because of a health problem or old age, does anybody in your household have difficulty seeing? (Unable to do it)
41. HM14- 1. Because of a health problem or old age, does anybody in your household have difficulty walking or climbing steps? (No difficulty)
42. HM14-2. Because of a health problem or old age, does anybody in your household have difficulty walking or climbing steps? (Some difficulty)
43. HM14- 3. Because of a health problem or old age, does anybody in your household have difficulty walking or climbing steps? A lot of difficulty
44. HM14- 4.Because of a health problem or old age, does anybody in your household have difficulty walking or climbing steps? (Unable to do it)
45. HM15-1. Because of a health problem or old age, does anybody in your household have difficulty with self-care such as washing or dressing? (No difficulty)
46. HM15-2. Because of a health problem or old age, does anybody in your household have difficulty with self-care such as washing or dressing? (Some difficulty)

47. HM15-3. Because of a health problem or old age, does anybody in your household have difficulty with self-care such as washing or dressing? (A lot of difficulty)

48. HM15-4. Because of a health problem or old age, does anybody in your household have difficulty with self-care such as washing or dressing? (unable to do it)

49. Total number of people in this household with special needs

W: Household characteristics / wealth index (South Sudan)
50. URB/RUR: OBSERVATION Question

51. W01. What is the main source of drinking water for members of your household?

Only answer if you responded Piped water to Q51
52. Piped water

Only answer if you responded Dug well to Q51
53. Dug well

Only answer if you responded Water from spring to Q51
54. Water from spring

55. W02. What kind of toilet facility do members of your household usually use?

56. W03. Do you share the toilet facility with other households?

57. W04. Does your household have?

58. W19. What type of fuel does your household mainly use for cooking?

59. W20. Ask and OBSERVE

Only answer if you responded Rudimentary floor to Q59
60. Rudimentary floor

Only answer if you responded Finished floor (Parquet or polished) to Q59
61. Finished floor (Parquet or polished)

62. W21. Ask and OBSERVE

Only answer if you responded Natural roofing to Q62
63. Natural roofing

Only answer if you responded Rudimentary roofing to Q62
64. Rudimentary roofing

Only answer if you responded Finished roofing to Q62
65. Finished roofing

66. W22. Ask and OBSERVE

Only answer if you responded Natural walls to Q66
67. Natural walls

Only answer if you responded Rudimentary walls to Q66

68. Rudimentary walls

Only answer if you responded Finished walls to Q66
69. Finished walls

70. W23. How many rooms in your household are used for sleeping?

71. W24. Does any member of your household own?
72. W30. Does any member of your household own any agricultural land?

73. W31. How many hectares of your agricultural land do members of this household own?

74. W32. Does your household own any livestock, herds, other farm animals or poultry?

75. W33. How many Buffalo does your household own?

76. W34. How many milk cow or bulls does your household own?

77. W35. How many Horses, Donkey, or mules does your household own?

78. W36. How many Goats does your household own?

79. W37. How many Sheep does your household own?

80. W38. How many Chicken does your household own?

81. W39. How many Ducks does your household own?

82. W40. How many Pigs does your household own?

83. W41. How many Yaks does your household own?

84. W42. Does any member of your household have a Bank account/cooperative/ or other savings account?
85. W43. How many people live in your household

86. W43. Do you own your house or any other house either alone or jointly with someone else?

Sanitation
87. SAN1. Do the members of your household use a toilet?

Only answer if you responded Use Toilet to Q87
88. SAN2. ASK and OBSERVE Question

Only answer if you responded Use Toilet to Q87
89. SAN2A. Ask and OBSERVE Question

90. Can I take a picture of your toilet? (OUTSIDE FRONT)

91. Can I take a picture of your toilet? (OUTSIDE BACK)

92. Can I take a picture of your toilet? (INSIDE)

Only answer if you responded Use Toilet to Q87
93. SAN3. Can rats reach the faeces in any way?

Only answer if you responded Use Toilet to Q87
94. SAN4. How many households use the toilet?

Only answer if you responded Use Toilet to Q87
95. SAN5 .OBSERVE- Does the toilet pan or slab allow flies to go in and out of the pit?

Only answer if you responded Use Toilet to Q87
96. SAN5A. Is the toilet slab washable and/or cleanable?

Only answer if you responded Yes to Q87
97. SAN6 Is the tank/pit above the ground?

98. SAN7. How deep is the pit below the surface? (meters)

Only answer if you responded No|Partly to Q97
99. SAN8. Can (ground) water get in or out of the pit? (‘water tight’)

Only answer if you responded No|Partly to Q97
100. SAN9. When the pit was dug, was any ground water seeping in?

Only answer if you responded No|Partly to Q97
101. SAN10. Does the pit or toilet leak waste water at any time of the year? (CONSIDER RAINY SEASON TOO)

102. SAN11. What is the distance to the nearest water source?

Only answer if you responded No|Partly to Q97
103. SAN12. ASK and OBSERVE Question

104. SAN13. Has the pit ever been emptied?

Only answer if you responded Yes to Q104
105. SAN14. What was it emptied into?

Only answer if you responded Yes to Q104
106. SAN15. Who actually empties the pit?

Only answer if you responded Yes to Q104
107. SAN16. The empty the pit, did someone need to enter the pit.

Only answer if you responded Yes to Q104
108. SAN17. What was it emptied into?

Use of Sanitation
109. USAN1. Is the toilet in use, as a toilet?

Only answer if you responded Yes to Q109
110. USAN2. Is the toilet functioning as intended?

Only answer if you responded Yes to Q109
111. USAN3. Are the walls and the door of the toilet in place?

Only answer if you responded Yes to Q109
112. USAN4. Is the toilet free from faecal smears on pan, wall and floor?

Only answer if you responded Yes to Q109
113. USAN5. Is the toilet pan free from used cleansing materials (paper, stones, sticks)?

Only answer if you responded Yes to Q109
114. USAN6. What do you use for anal cleansing?

Only answer if you responded Yes to Q109
115. USAN7. Do you flush the toilet?

Only answer if you responded Yes, pour flush|Yes, full/ handle flush to Q115
116. USAN8. Is water available in the toilet? (for anal cleaning and flushing)

Only answer if you responded Yes to Q109
117. USAN9. How do you dispose of stools of children under the age of 3 years old?

Only answer if you responded Yes to Q109
118. USAN10. Does the toilet provide privacy?

Only answer if you responded Yes to Q109
119. USAN11. Is everyone in the household presently able to use the toilet easily and conveniently, unassisted?

Only answer if you responded No to Q119
120. If no, why

Only answer if you responded Yes to Q109
121. USAN11A. How many people in your household are unable to use the toilet because of special needs?

122. Specify how many people

123. USAN11B. In this household, are people with this special needs assisted in any way, to make use of the toilet

124. If yes, Specify

125. USAN12. Does anybody in the household have any problems using your toilet?

126. USAN13. Do you have any problems cleaning and maintaining your toilet?

127. USAN14. What is the main problem with the design?

Hand washing

128. HW1. Please mention all the occasions when it is important to wash your hands?

129. HW2. Is there a place for hand washing within 10 meters from the toilet?

130. Can you show it to me please? (Picture Question)

Only answer if you responded Yes to Q129

131. HW3. Is there water available at the specific place for hand washing, now?

Only answer if you responded Yes to Q129

132. WH4. ASK and OBSERVE Question

133. Can you show it to me please? (Picture Question)

Only answer if you responded Yes to Q129

134. HW5. Does the hand washing station prevent contamination of the water by hands?

Only answer if you responded Water is available to Q131

135. HW6. Is there running water from a tap?

136. HW7. Is there a place for hand washing within 10 steps from where food is prepared?

137. Can you show it to me please? (Picture Question)

Only answer if you responded Yes to Q136

138. HW8. Is there water available at the specific place for hand washing, now?

Only answer if you responded Water is available to Q138

139. HW9. Is there soap or a soap substitute available at the specific place for hand washing, now?

140. Can you show it to me please? (Picture Question)

Only answer if you responded Water is available to Q138

141. HW10. Does the hand washing station prevent contamination of the water by hands?

Only answer if you responded Water is available to Q131

142. HW11. Is there running water from a tap?

143. HW12. Have you seen / heard any promotion on good hand washing practice in the last 12 months? Through which source or media?

Only answer if you responded Yes, in a workshop|Yes, on the radio|Yes, on TV|Yes, in the newspaper|Yes from a health visitor / community worker|Yes, through a brochure to Q143

144. HW13. Which organisation organised it?

Country-specific questions

145. Do you have a bath shelter

Observations

146. Interviewer's Observations

147. Field Editor's Observations

148. Supervisor's Observations