

CARE INTERNATIONAL SWITZERLAND IN SUDAN

# Baseline Survey Report

Conducted in

East and South Darfur

Focused on

Health, Nutrition and WASH



Global Affairs  
Canada

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December 2019

## Executive summary

The humanitarian situation in Sudan has continued to deteriorate since 2018, where the number of people in need of humanitarian assistance steadily rose from an estimated 700,000 to a total of 5.5M individuals. Across Sudan, 3.8 million people are urgently in need of WASH assistance, 5.2 million people are in urgent need of access to basic primary health care services, and a total of 2.8 million children and Pregnant and Lactating Women (PLW) suffering from acute malnutrition. Darfur remains an epicenter of large-scale protracted displacement.

There have been limited baseline assessments conducted in CARE's project areas due to the recent political uncertainties, insecurity, staff capacity and funding constraints. This baseline assessment was conducted internally by staff of CARE International Switzerland in Sudan with support from an RRT member deployed for a few days in country. The RRT worked with M&E team in Khartoum to plan and train volunteers and CARE staff on baseline survey. The volunteers under the supervision of CARE staff undertook data collection and cleaning; and the RRT member performed the analysis and the report writing.

The assessment interviewed 277 sampling units and each unit represented a household using a household questionnaires tool. Of the respondents interviewed 71% were women and 29% men. The age groups interviewed included adolescent (1%), adults aged 18-49 years (83%) and the elderly aged 50+ years (16%).

The study established key baseline figures for the ongoing GAC project against which progress will be measured at the end of the project as summarized in section 3.4.1 below.

The assessment found that 53% of people (46% m, 56% f) have good knowledge on positive nutrition practices. The survey found out that of the women interviewed, 62% were aware and had good knowledge of exclusive breastfeeding but noticed that 12% of the interviewed women did not have any idea or awareness on exclusive breastfeeding.

The survey further established that the disease incidence averaged at 44% across the study area. Malaria (75%), Fever (74%), difficulty breathing (41%), loose stool (35%), intestinal worms (21%) and stool with blood (18%) accounted for the incidence in the study area.

Furthermore, the assessment found out that 66% of the respondents still use unsafe drinking water sources; 34% of the respondents having access to adequate sanitation but still about 28% of respondents confirmed that at least one member of their HH practiced open defecation.

Hand washing practices were found to be a common practice with 65% of the respondents being able to mention at least 3 critical times to perform hand washing. However, only 9% of targeted people were found to use adequate hygiene practices. The study further found that 21% of the respondents said women were actively involved as members of WASH committees within their communities. More about the findings of the survey are detailed in section 3 under the subheading 'findings'.

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# 1. Introduction

## 1.1. Background

In 2018, it was estimated that the total number of people in need of humanitarian assistance in Sudan increased from 700,000 to a total of 5.5M<sup>1</sup> individuals compared to 2017. Across Sudan, 3.8 million people are urgently in need of WASH assistance, 5.2 million people are in urgent need of access to basic primary health care services, and a total of 2.8 million children and Pregnant and Lactating Women (PLW) suffering from acute malnutrition. Darfur remains an epicenter of large-scale protracted displacement. Moreover, there has also been a dramatic deterioration in the economic situation in Sudan in the past year, with a rate of inflation reaching 68% and the ongoing fuel crisis and bread shortage that have compounded the humanitarian needs of the already vulnerable population. Households are unable to cover their basic needs due to increased food prices as well as other basic commodities. According to the IPC analysis from July 2018, food insecurity levels across Sudan are high with the number of people in IPC phases 3 and 4 projected at 6 million, noting an increase from 5.6M<sup>2</sup> in April 2018. The limited availability and access to food means that food security is likely to worsen, with vulnerable households being the most affected which poses serious protection concerns such as increased child labour, unsafe migration, recruitment and sexual exploitation or early child marriage.

CARE therefore aims to provide lifesaving and integrated WASH, Health and Nutrition Services to 174,504 individuals (87,077 males and 87,427 females) in East Darfur and South Darfur through the GAC-funded 2019-2021 project (“the GAC project”). Through this project CARE will target refugees in camp and out of camp settings, out of camp IDPs and host communities by increasing access to safe water supply, sanitation facilities and hygiene supplies, improving access to basic curative and preventive primary health care, and increased access to nutrition assistance for children under five and pregnant and lactating women (PLWs). The two-year project period will contribute to saving lives by reducing wasting and stunting levels caused by Moderate Acute Malnutrition (MAM) and Severe Acute Malnutrition (SAM). It will ensure that WASH services, including safe drinking water, adequate sanitation, and hygiene necessities are accessible to pregnant and lactating women and children under five years of age, and that the community platforms created are supported to continue operations and maintenance of the infrastructure after the project ends. It will also improve access to quality healthcare through the rehabilitation and maintenance of static and mobile health clinics, immunization and health campaigns, referrals, comprehensive mother, and child services that altogether will contribute to minimum initial service package (MISP). The response in both states will be coordinated with local government and humanitarian structures, and all activities will meet the needs of the most vulnerable populations, especially women and girls.

## 1.2. Objectives of the Baseline survey

The main objectives of this baseline survey were the following.

1. To train staff and partners and increase their capacity to perform baseline and end-line surveys.
2. To establish key indicators for the GAC project against which the project progress will be measured.

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<sup>1</sup> HRP, 2018: Humanitarian Response Plan

<sup>2</sup> FEWSNET, 2018: Famine Early Warning System Networks.

### 1.3. The Baseline survey process

The baseline survey process started with desk reviews and training of the enumerators, which was followed by data collection by mid-December 2019. CARE International Switzerland in Sudan (CIS-Sudan) internally conducted this baseline survey with the help of CARE's Rapid Response Team member deployed for a couple of days to support the country office. The country's M&E team with support from the M&E experts at CARE Canada's HQ developed the survey tools, which mainly comprised of the household survey questionnaires. The latter was purposely considered due to the nature of the data required and the prevailing project needs at the time. The team worked out details of the baseline survey methodology (section 2) and subsequent translation of the survey tool into the local language (Arabic) for easy of understanding for the enumerators. Prior to data collection, the RRT member trained the enumerators who mainly comprised of volunteers (12) and CIS-Sudan staff (2). CIS-Sudan then deployed the volunteers to the field for data collection under the supervision of the CARE staff. The RRT member then analyzed the data and wrote the baseline report while soliciting comments/input from the country office and the HQ.

### 1.4. The organization of the report

This section of the report briefly highlights an overview of the overall structure of the baseline report. Section one (1) gives a preview of introductory background information and the objectives of the survey. Section two (2) describes methodology detailing the overall approach employed in the baseline survey. Key survey findings are discussed and summarized in section three (3). Finally, the last section (four 4) summarizes the conclusion on the report and provides recommendations based on the key findings of the survey.

## 2. Methodology

### 2.1. Survey design

The baseline survey employed quantitative survey approach and in particular used household survey questionnaires. The method was purposely selected in order to help collect quantitative data needed to set appropriate indicator targets. Triangulation of information was limited to the pre-and existing project reports with the intention of complementing and generating meaningful data for the ongoing project. Note that for the administration of this baseline survey (data collection and analysis) CIS-Sudan opted to utilize an online data collection platform – KoboCollect.

### 2.2. Desk reviews

For purposes of triangulation, identifying key deliverables and parameters for the baseline survey, desk review was among the methods employed for the survey. It involved reviews of project information and important project documents, relevant past reports and important secondary data that were made available and others that were accessible online.

### 2.3. Sampling techniques

Simple probabilistic and non-probabilistic sampling techniques were used to calculate and select samples. Accordingly, first stage sampling units were the programmatic states from which two States of East and South Darfur were selected. The second state sampling units included programmatic localities, from which five localities namely Asalaya, Abukarinka, Bahr Al Arab (East Darfur), Alsalam and Kass (South Darfur) were

purposively selected, as per the specific needs of the projects. The beneficiary size, beneficiary type (refugees, IDPs, host community, beneficiary category (e.g. female-headed, pregnant & lactating women, child-headed households, etc.) were among the factors considered for selecting the localities and villages for the baseline survey. A total of 10 villages were purposely selected for the survey considering the above factors. The selected villages include: Al salam, Abu Matarig, Al sunta, Jad el seed, Abrum, Al bitery, Kailek, Amar Jaded, Nama, and Al Mawashy. Respondents for the baseline survey in these villages were both purposely selected and simply randomly sampled.

## 2.4. Sample frame and sample size

The sampling frame for the baseline survey included all potential beneficiaries from the two States of East and South Darfur catchment areas. The sampling frame also included host communities as the project also intends to benefit them. The sampling frame encompassed all the five localities and ten villages in East and South Darfur States. It also included all beneficiary type (e.g. Refugees in and out of the camp, IDPs out of the camp and vulnerable host communities) and all beneficiary category of vulnerable groups (e.g. Women headed households, households with pregnant and lactating women, households with children under five years of age, households with special needs people and households with the elderly people).

To determine the sample size, the following simplified proportion formula was used for the calculation.

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n = Sample size required  
 N = Target population size  
 e = Precision level

Accordingly, with critical assumptions made for the sample size design that included 94% confidence level with a 6% margin of error, 277 sampling units (households) were determined as being representative enough for the baseline survey considering the catchment area.

## 2.5. Selection of respondents

Both purposive and simple randomized sampling methods were used in the survey dictated by the nature of the category of the beneficiary considered. To fairly decide on the selection of respondents, participants (enumerators) were asked to rank beneficiary category on the scale of 0 – 5, with the scale of 0, being very essence of difficulty of finding a respondent and the scale of 5, being very essence of the ease to finding a respondent for the survey. This exercise provided a guide to the field sampling procedure that is summarized in the following table.

Target HH type	Most Ranked Scale	Proposed Sampling Procedure
HH with special needs	0 = very difficult	Purposive sampling. - Ask local leaders for support to identify HH - Ask women leaders/group for support to identify HH - Snowballing sampling (one HH introduces the next).
HH with adolescent girls & boys	1 = fairly difficult	Purposive sampling. - Ask local leaders for support to identify HH - Ask women leaders/group for support to identify HH

		- <u>Snowballing sampling</u> (one HH introduces the next).
HH with needy elderly	2 = difficult	Purposive sampling. - Ask local leaders for support to identify HH - Ask women leaders/group for support to identify HH - <u>Snowballing sampling</u> (one HH introduces the next).
Female headed HH	3 = easy	Simple random sampling. - Starting from one key project feature (e.g. PHC, water point), sample 1HH after every 5HHs.
HH with preg. & lact. women	3 = easy	Simple random sampling. - Starting from one key project feature (e.g. PHC, water point), sample 1HH after every 5HHs.
HH with children <5	4 = fairly easy	Simple random sampling. - Starting from one key project feature (e.g. PHC, water point), sample 1HH after every 5HHs.

## 2.6. Data collection: Organization method and Tool

The data collection was carried out between 12<sup>th</sup> to 22<sup>nd</sup> of December 2019. Volunteer enumerators supervised and guided by CARE's staff – i.e. two supervisors, one in each State, collected all the 277 required data. Prior to field data collection, all the field teams (data collectors) were trained on the basics of baseline survey and were extensively exposed to the questionnaires for this baseline survey. This was followed by field pretesting exercises to familiarize the enumerators with the eventual field work. In the field, the supervisors took full charge of the administration of the questionnaires and the eventual product of data collection in the field. The supervisors guided and supported the enumerators and were there to help resolve minor field difficulties. Although other methods (e.g. desk reviews, observations) may have been used in the survey, household survey questionnaire was the key tool used for collecting primary data for this baseline survey.

Soon after the fieldwork was completed, the field supervisors supported by their respective State WASH PM and the program M&E/quality team at Khartoum level where appropriate, cleaned the data that the supervisors uploaded to the Kobo server. The country team carefully looked through each data entry submitted to the server and thereby editing any discrepancies that may have been detected. In this way, the team ensured all data were cleaned – readying the data for analysis.

## 2.7. Data analysis and reporting

The data were analyzed using Excel Pivot Tables, an advanced data analysis tool within MS Excel. The analyzed data was crosschecked for consistency and presented in form of tables, graphs, charts and figures where appropriate. For ease of understanding, important sections and/or elements of the analyzed data were explained in brief narratives. The process information was triangulated with information gathered through desk reviews and project information. After all the above, a draft baseline report was produced. The draft report was subjected to careful review by CIS-Sudan team and the CARE Canada HQ M&E staff.

## 2.8. Ethical consideration

Ethical practices were carefully explained and discussed with data collection team during pre- data collection training. It involved proper introduction of data collector, explaining the purpose of the baseline survey, how the information would be used, the participant's voluntary participation and freedom to exit/refuse participation at any stage without consequences. All this was done with the aim

of obtaining informed consent of each participant before proceeding with data collection. During the field data collection, the survey team led by their supervisors, met local chiefs/leaders of each locality/village for introduction and to seek their consent for the baseline survey. In every engagement and/or meeting with the local leaders and participants, the survey teams respected cultural norms and practices. As the survey used household questionnaires, the survey team ensured that household member interviewed selected a place where s/he was comfortable with, and family norms were respected. Finally, at the end of the questions/discussion, the data collectors thanked the respondents for their time, willingness and effort to provide data for the baseline survey.

## 2.9. Limitation

This survey did not happen without limitations. The following were both the expected and experienced limitations during the baseline survey. Firstly, the language barrier: the survey questions were administered in English and yet localities/communities where the survey was carried out predominately speak Arabic. Besides, enumerators had limited understanding and/or comprehension of English language and that might have affected interpretation of the survey questions. Therefore, it is likely that cross-translation errors could have compromised the quality of the data collected. Secondly, in some instances, systematic random sampling were not consistently followed. This was due to the nature and pattern of the settlement in some of the villages and in some cases the need to undertake purpose sampling as dictated by the beneficiary category. Thirdly, cultural perceptions on regarding men interviewing females alone and cultural perceptions regarding young enumerators interviewing older people questions of sexual nature. In both cases fear to ask sensitive questions may have affected the quality of the interview and data collected. Fourthly and finally, the risk of not answering all the survey questions due to unavoidable factors beyond the control of enumerators or the lack of clear understanding of the survey questions by the enumerators.

## 3. Findings

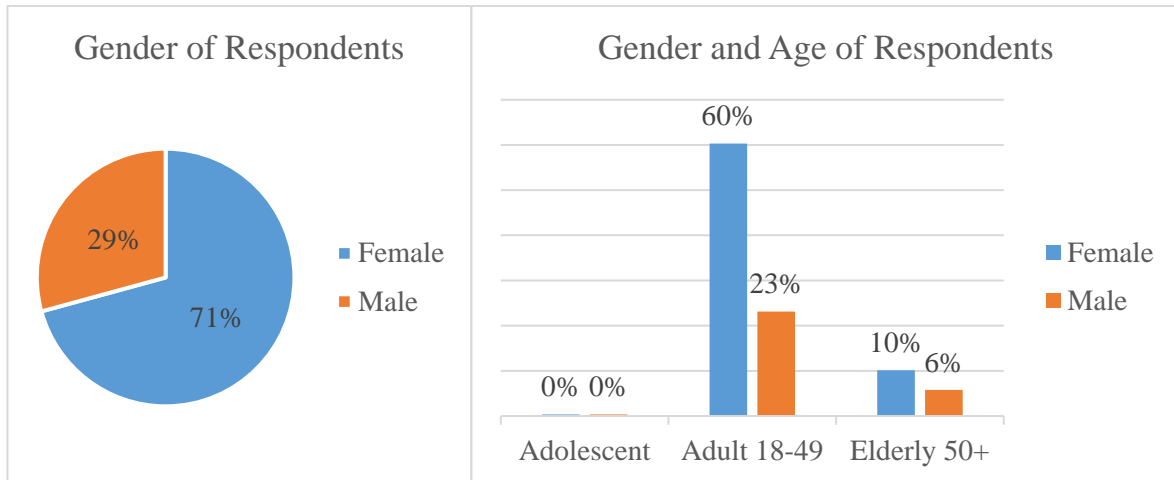
### 3.1. Demographic characteristics

The baseline survey was carried out in two States, six localities, eleven villages and one settlement camp. Fifty two per cent (52%) of the overall respondents were interviewed in South Darfur state with 48% in East Darfur state. As seen in the table below, only 4% of the overall respondents were those in settlement camp with majority of the assessed being respondents in ‘near camp’ host communities.

	Abrum	Abu matarig	Abu matarig	Al bitery	Al mawashv	Alsalam	Alsalam camp in Kass	Alsunta	Amar Jaded	Jad elseed	Kailek	Nama	Grand Total
East Darfur	0%	19%	0%	0%	0%	0%	0%	18%	0%	10%	0%	0%	48%
South Darfur	5%	0%	0%	5%	4%	25%	4%	0%	5%	0%	3%	2%	52%
Grand Total	5%	19%	0%	5%	4%	25%	4%	18%	5%	10%	3%	2%	100%

Majority (71%) of the respondents were women of different age groups; of which, 60% are women aged between 18-49 years of age. Male respondents constituted only 29% in the survey. It is as well noteworthy to mention that the elderly interviewed represented 10% and 6% women and men respectively. Very few adolescent age groups were interviewed representing less than 1%. Of all the respondents, interviewed 48% of them were female-headed householders. This is an important information for the project, as the GAC project is aimed at addressing specific needs of women and girls as vulnerable target group.

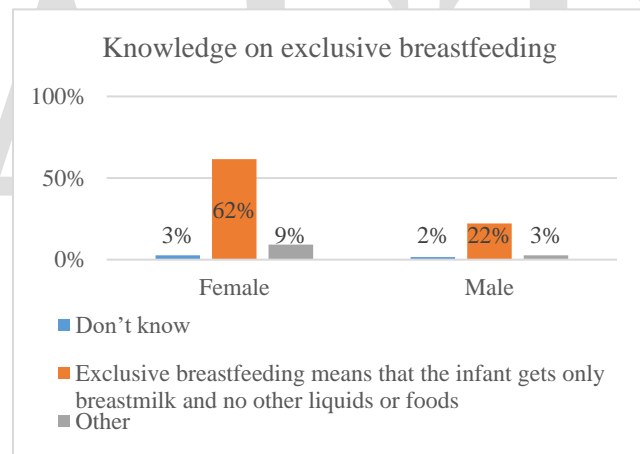




### 3.2. Knowledge and Practice of Health and Nutrition

#### 3.2.1. Exclusive breast feeding

The baseline sought to understand the awareness and knowledge on breastfeeding of infants and children. The questions asked were designed to gauge levels of awareness and knowledge pertinent to breastfeeding. The survey found out that of the women interviewed, 62% had been well aware and had good knowledge of what exclusive breastfeeding entails; however, it should be noted that 12% of women did not have idea or awareness on exclusive breastfeeding. It is good to note that 22% of men interviewed were aware and had knowledge of what exclusive breastfeeding is. This is important to know as men could be targeted for inclusion in campaigns and/or messaging to promote exclusive breastfeeding in the project area.



#### 3.2.2. Feeding of children under five years

To understand the practices related to feeding of children under the age of five (<5), the survey asked questions on dietary diversity. The results were calculated based on the Household Dietary Diversity Score (HDDS). The survey found that up to 33% of the people had good nutritional/child feeding practices as seen from dietary diversity that they provided for their children under five years old.

#### 3.2.3. Decision making on child feeding and nutrition

Two questions were asked to provide insight into decision making level for child feeding and nutrition practices. Of the 71% of the women interviewed, the survey established that 51% and 56% make own decision regarding when to give a baby breastmilk after birth and when to introduce solid food to a child respectively. The survey also found out that men and other members of the household (e.g. older members of the household) still have a strong influence on child feeding program in a household. Therefore, CARE's program should aim to reach this group of beneficiaries with child nutrition activities.

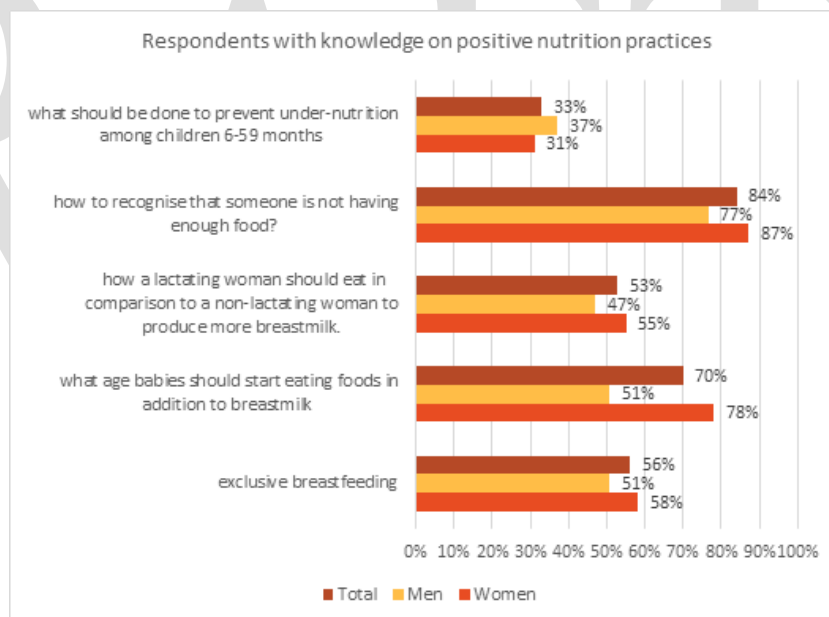
	In your household, who usually decides whether to give the baby something other than breast milk during the first 3 days after birth? = (Myself)		In your household, who usually decides when to first introduce soft or solid food to your child? = (Myself)	
Female	141	51%	155	56%
Male	46	17%	49	18%

### 3.2.4. Decision making on healthcare services, sex and birth control methods

A decision related to healthcare services affects people individually. The impact can be further reaching for those considered vulnerable and marginalized by the society and/or family. To understand decision-making levels with the communities in program areas in Darfur, the survey considered two questions the results of each is tabulated below. The study found that 75% of people (52% women, 23% men) make own decision regarding healthcare services. Similarly, of the 71% of the women interviewed, the study found that 64% make own decision for use of contraception; while the 10% 'do not know', 25% said their partner decides and 1% said other family member takes the decision. The 'Other family member' was not clearly identified but analyzed details suggests older members of the household or the elderly.

### 3.2.5. Knowledge on positive nutrition practices

The baseline study asked respondents about a number of nutrition practices to understand the level of knowledge that people already had. The baseline showed that **53% of people (46% m, 56% f) have good knowledge on positive nutrition practices**. This was calculated as an average of respondents' knowledge across 4 key areas of knowledge: 1) how to prevent under nutrition for children 6-59 months; 2) appropriate age for babies to start eating; 3) how a lactating woman should feed; 4) exclusive breastfeeding.



There was little variation between the knowledge of men and women apart from on the question of what age babies should start eating solid food, which only 51% of men answered correctly compared to 78% of women. This may indicate that men are less involved in feeding babies. Indeed 79% of women report that they make the decision on when to first introduce soft or solid food to their child.

### 3.2.6. Incidence of diseases

Incidences of diseases can have an impact on health and nutrition of an individual but much more to those with low immunity (e.g. children under five, chronically ill, etc.). The survey asked several questions including those tabulated below in order to assess an overall indicator for disease incidence. By way of an average calculation,

the survey showed the incidence of disease to be 44% across the entire survey area. As can be seen from the table below, 75% of the respondents confirmed having malaria during the last 4 weeks of the survey followed by Fever (74%), difficulty breathing or respiratory-related (41%), loose stool (35%), intestinal worms (21%) and stool with blood (18%). This information should guide the project team to better plan and deliver activities that can help improve health and nutritional outcomes. It can be observed that women are obviously more exposed to disease incidences owing to their role within the household of caring for infants/children and the rest of the family. It is clear that the project should aim at addressing the impacts of disease incidence on health and nutrition through careful consideration of the roles and needs of women.

	Difficulty breathing		Fever		Malaria		Loose stool in a day		Stool with blood		Intestinal worms	
Women	82	30%	144	52%	153	55%	78	28%	43	16%	48	17%
Men	32	12%	61	22%	56	20%	20	7%	7	3%	10	4%
Total	114	41%	205	74%	209	75%	98	35%	50	18%	58	21%

### 3.3. Knowledge and Practice of WASH

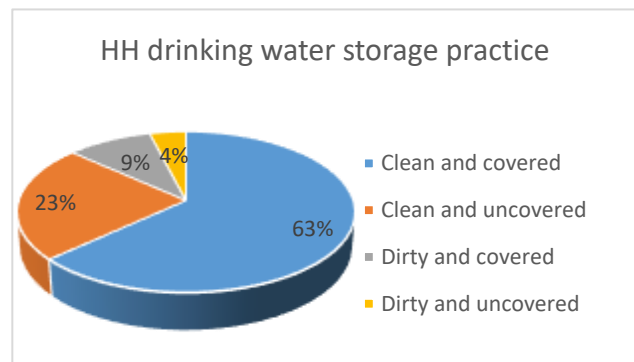
#### 3.3.1. Primary source of drinking water

According to WHO water quality standards, drinking water source should be one or a combination of the following: 1) protected well/spring, 2) piped water connection and 3) deep well/boreholes with hand pump. For this baseline study, only the above sources that are WHO recommended were considered to obtain baseline data for safe drinking water. The baseline showed that majority (66% - 42% f, 24% m) of the people still use unsafe drinking water sources. Those using recommended safe drinking water sources constituted only 34% (28% f, 6% m). A high proportion (55%) of the assessed respondents use ‘cart with small tank or drum’ ostensibly through water vendors. Those using surface water sources constituted 9% of the interviewed respondents. This information is important for the program as it will help the team adapt WASH activities include targeted hygiene promotion messaging and where applicable, distribution of household water treatment products (e.g. PUR).

	Piped water tap /tap stand into settlement	Tube wells /boreholes/hand pump	Protected dug well	Cart with small tank or drum	Surface water	Tanker truck	Unprotected well
Female	19%	7%	2%	33%	7%	1%	1%
Male	4%	2%	0%	22%	2%	0%	0%

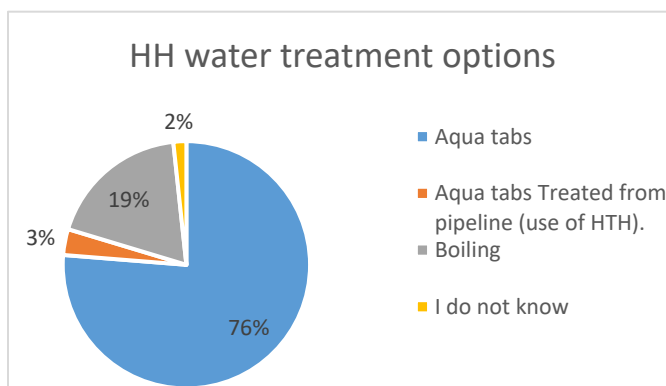
#### 3.3.2. Water storage

Safe and hygienic storage of drinking water in a household is one of the parameters considered to gauge adequate hygiene practices as this can help prevent transmission of communicable disease of fecal-oral type such as diarrhea. The baseline survey used an observational method to establish household practice in storing drinking water. Therefore, the study showed that 63% of the respondents practiced hygienic storage (clean and covered) of drinking water in a household.



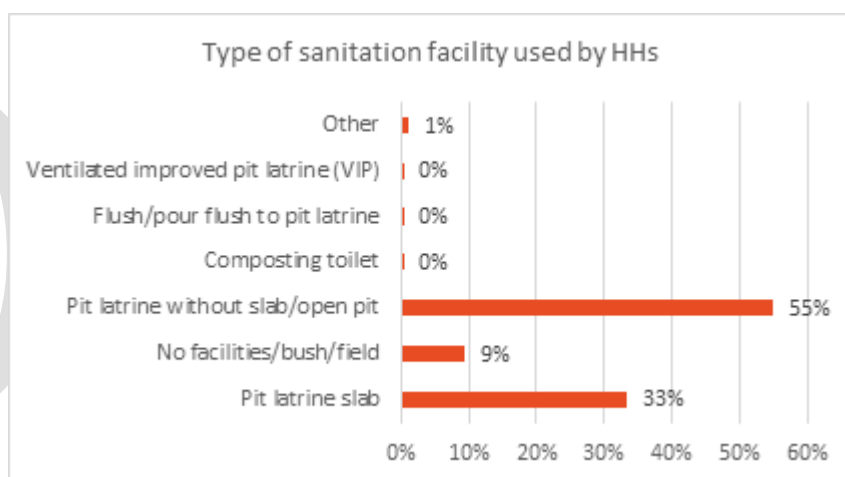
### 3.3.3. Household Water treatment

In the absence of potable water supply, household water treatment becomes the preferred option for providing safe drinking water for a household. The baseline study explored which water treatment option the household used by the time of the survey. Most respondents (76%) were found to use chlorine tablets – aqua tabs for treating their water, 19% were found to boil drinking water; while 3% were those found to use treated water from piped supply.



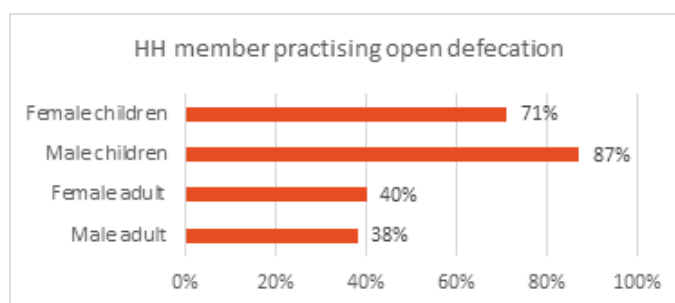
### 3.3.4. Common latrine type

The baseline showed that 34% of the respondents have access to adequate sanitation, including either 1) a pit latrine with slab, 2) a VIP latrine, 3) a Flush/pour flush or 4) a composting toilet. 55% of respondents are using pit latrines without slab / open pit. Only 9% reported that they do not have any sanitation facilities.



### 3.3.5. Open defecation

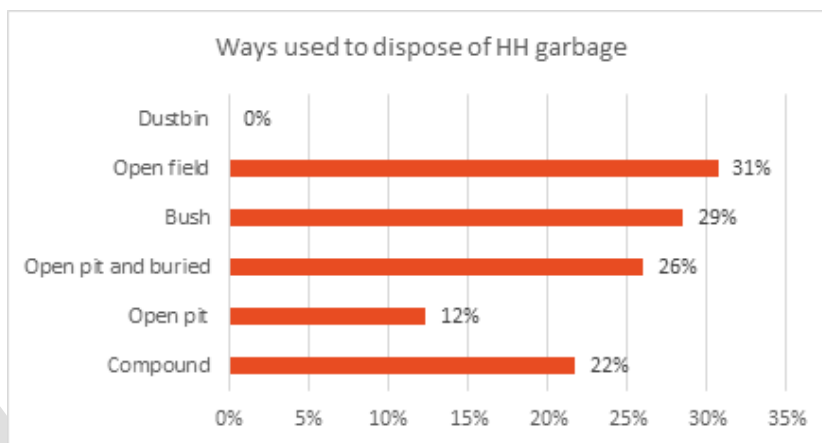
In the baseline study, 28% of respondents confirmed that at least one member of their HH practiced open defecation. In these HHs it appeared that male children were most likely to practice open defecation (reported by 87% of respondents), followed by female children (reported by 71%). Only 40% and 38% of the HHs reporting that open defecation was practised, reported that female and male adults respectively were the HH members doing so.



Furthermore, based on the 11 villages sampled the baseline tells us that in only 3 villages people did not report open defecation by members of their HH. Respondents reported open defecation occurring in the following villages: Abrug, Abumatarig, Alsalam, Alsunta, Amar Jaded, Jad Elseed, Kailek and Nama.

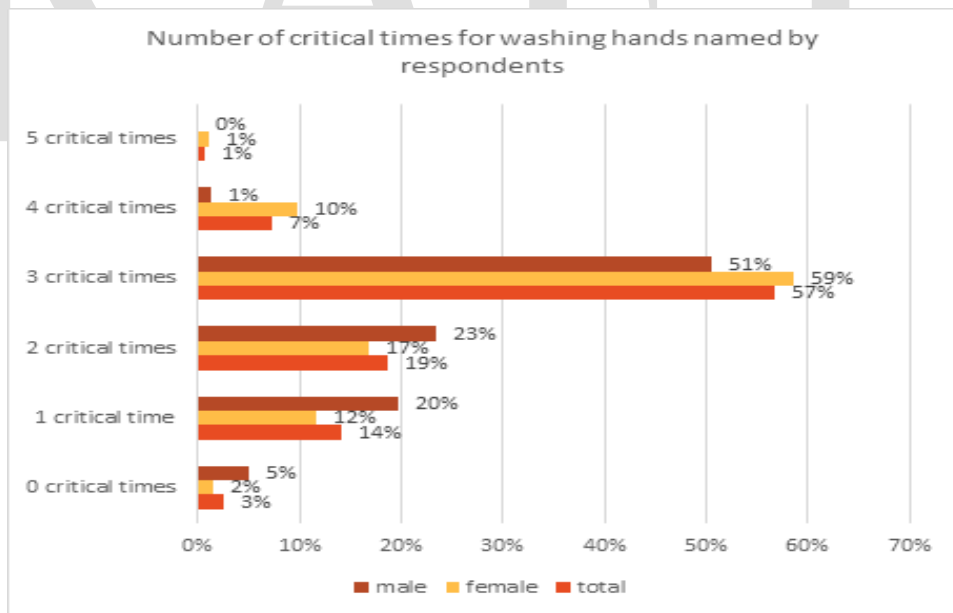
### 3.3.6. Garbage disposal

The chart below shows the different ways that respondents reported disposing of HH garbage. Note that respondents could provide more than one response to this question and they were only counted as meeting the requirement for having adequate hygiene practices if they did not use other unhygienic methods as well.



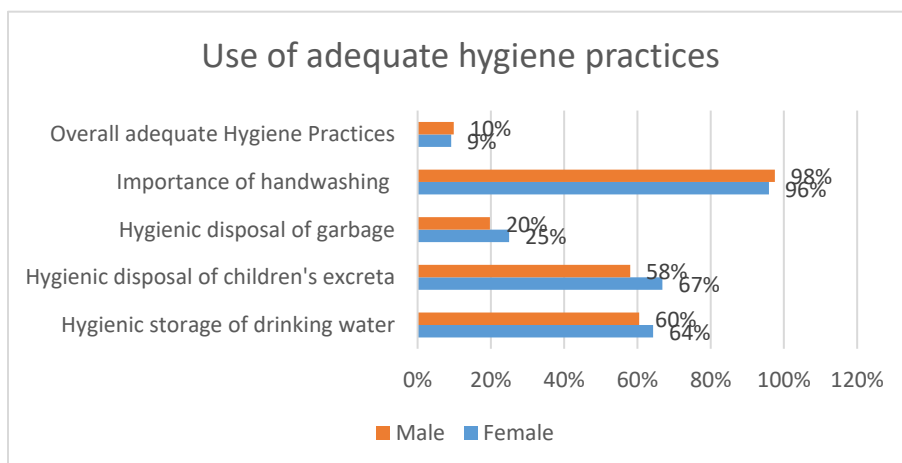
### 3.3.7. Knowledge of critical times for handwashing

The baseline showed that **65% (70% f, 52% m) of the target population know at least 3 out of 5 of the critical times to wash hands**. Respondents were asked to name at least 3 critical times and their responses were counted as correct if they aligned with the following: 1) Before eating; 2) After defecation; 3) Before feeding children; 4) After handling a child's stool/changing a nappy/cleaning a child's bottom; 5) Before cooking/meal preparation. The chart below shows that there were very few respondents who could name more than 3 critical times, and very few who could not name any.



### 3.3.8. Hygiene practices

The baseline showed that only **9% of targeted people (10% m, 9% f) were using adequate hygiene practices**. The indicator for adequate hygiene practices was calculated based on positive responses on all four parameters, namely 1) condition of drinking water storage (clean and covered), 2) safe disposal of children's faeces (in latrine or buried), 3) proper solid waste disposal (open pit, open pit and buried or garbage bin), and 4) understanding the importance of handwashing. Only respondents who correctly practised all four parameters were assessed as having adequate hygiene practices. While there was very strong understanding of the importance of handwashing (96%), a lower proportion were practising safe storage of drinking water (63%) and hygienic disposal of children's excreta (64%). Alarming only 25% of respondents practised hygienic disposal of garbage.

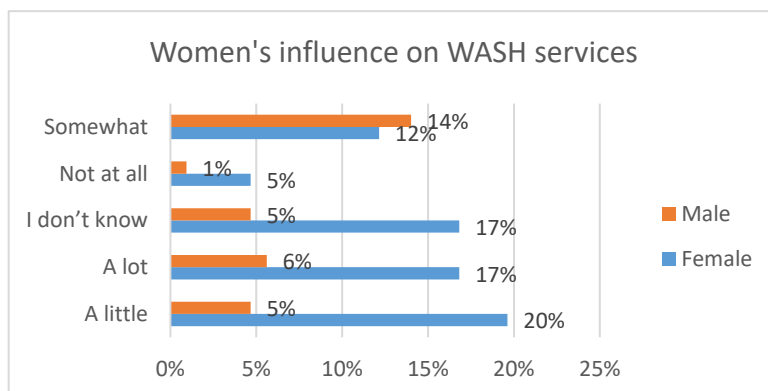


### 3.3.9. WASH committees

The establishment of a functional WASH committee in a WASH project is an important activity towards sustainable community WASH services. In this baseline survey, specific questions were asked regarding the availability of WASH committee in an area and about whether or not women are part of that committee. Of the respondents interviewed, 39% (n.107) answered yes to the question of the availability of WASH committees in their area. However, the study showed that only 21% (n.57) of the committee members are women.

### 3.3.10. Women and decision-making in WASH services

The survey asked a specific question to determine the level of influence in decision-making that women have on WASH services. The following reasons influenced the need to understand the level of women's involvement in decision-making. (1) Women do much of the household chores and therefore are directly impacted by poor decisions on WASH services; (2) in a conservative community like in Darfur, women are often left out in important decisions for services that may result from gender and power dynamics; and (3) services are often decided by prominent men within the communities. The baseline study found that 49% of the women respondents feel that women can influence decision-making. This considered three possible responses namely 'A lot', 'A little' and 'Somewhat'. It is interesting to note that 24% of men respondents think that women are able to influence decision-making for WASH services in their communities.



### 3.4. Project indicators

#### 3.4.1. Key project indicators and narrative

	<b>Indicators</b>	<b>Baseline</b>	<b>Target</b>	<b>Brief Indicator Narrative</b>
Ultimate Outcome	1. Proportion of women aged 15-49 who make their own informed decisions regarding WASH, nutrition and health	71% WASH 44% Nutrition 37% Health	50%	The baseline value for this indicator was worked out as an average from a range of all supportive questions that directly address decision-making for services. The indicator considered affirmative response to decision-making questions and questions related to sources of information for services that directly affect women aged 18-49 years.
	2. Incidence of diseases that have an impact on nutrition (Malaria, diarrhea, ARI, etc.)	44%	20% decrease	This baseline value was similarly calculated based on an average of all questions that looked incidences of disease that might affect public health including good nutritional practices.
Intermediate Outcome	3. % of targeted people (m/f) using adequate hygiene practices	9% (9%f, 10%m)	60%	The baseline indicator for adequate hygiene practices was calculated based positive responses on four parameters namely 1) condition of drinking water storage, 2) safe disposal of children faeces, 3) proper solid waste disposal, and 4) importance of handwashing. An average was calculated for all related questions based on the four parameters.
	4. # of communities reporting ODF	0	5	<u>To be measured in the end line survey phase.</u> At least 3% of the surveyed communities (villages in this case) indicated ODF based on the question on defecation in the bush.
	5. % of target population (m/f) who have adopted adequate nutritional practices	n/a	75% (75% m, 75% f)	<del>A decision taken to measure this at</del> <u>To be measured in</u> the end line survey phase <del>instead.</del>
Immediate Outcome	6. # of people (m/f) who accessed safe drinking water	0	86,108 (m42,967, f 43,141)	<u>To be measured in the end line survey phase.</u> 27% (62,489) of the surveyed population have access to safe drinking water based on two parameter namely protected water source and HH water treatment. The figure (62,489) was calculated using the overall sample population of 231,442 which was used to determine sample size.
	7. # of people (m/f) who accessed adequate sanitation	0	2,250 (m 1,119, f 1,131)	<u>To be measured in the end line survey phase.</u> Parameters for improved sanitation include: (1) pit latrine with slab, (2) VIP latrine, (3) Flush/pour flush, and (4) composting toilet. It is advisable to keep the baseline figure at zero assuming that CARE will provide sanitation services to move. Based on the

				above parameters up to 34% of the respondents have access to adequate sanitation.
	8. % of the target population who know at least 3 out of 5 of the critical times to wash hands	65% (70%f, 52%m)	75% (75% m, f 75%)	To determine this baseline value, all the respondents who gave a least 3 out 5 correct answers for 'critical times to wash hands' were calculated using Excel pivot tables. This applied to all 277-sample units across all gender and age groups of the respondents.
	9. % of people (m/f) with improved knowledge on positive nutrition practices	53% (56%f, 46%m)	60% (m 40%, f 60%)	The baseline value for this indicator was determined by calculating an average of positive responses to knowledge-related questions. The questions used for get this indicator included: knowledge on exclusive breastfeeding; appropriate age for babies to start eating; how lactating woman should feed; how to recognise under-nutrition and how to prevent under-nutrition.

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## 4. Conclusion and Recommendations

The survey provided an in-depth understanding of the baseline information and data through which key project indicators were established.

Overall, people have good knowledge and practice of positive nutrition practices. Women particularly have a good awareness and understanding of exclusive breastfeeding of infants/children under five. Sadly, some women (12%) do not have any idea of exclusive breastfeeding.

Disease incidence for some of the communicable diseases (e.g. malaria, diarrhea) were commonplace in the study area with potential impact on the health and nutrition outcomes. Some of the cause could be address through WASH response and other through health. The current project could be modified to address some of the causes of these diseases if not already planned.

Access to clean and safe drinking water is still poor in the study area with up to 66% of the people still using unsafe drinking surface water sources with majority (55%) of this collecting their drinking water from 'cart with small tank or drum' potentially through water vendors. This means that the project needs to identify and work with water vendors to address issues of or those associated with water chlorination, if not being implemented already.

Sanitation access is as well fairly low at only 34% but open defecation is being practiced widely at 28%. The program focus should be to reduce on open defecation that has direct impact to health and nutrition outcomes.

Awareness and handwashing practice is good amongst the surveyed population with 65% of the respondents being able to mention at least 3 critical times for hand washing. This should be promoted further. The focus should shift to monitoring actual hand washing practice rather than knowledge.

The adequacy of proper hygiene practices is very low as only 9% practice all relevant aspects that constitute adequate hygiene practices. For hygienic practices to be labelled adequate four criteria have to be met namely (1)hygienic storage drinking water, (2) hygienic disposal of excreta (esp. children's), (3) safe disposal of garbage, and (4) handwashing with soap or ash. The team should consider having these parameters included in their monitoring framework in preparation for the end-line survey.

The assessment found that women are still under-represented in WASH committee membership as only few of them (21%) were found to be involved as members of the community WASH committees. The project team should make deliberate efforts with feasible means to increase women representation in WASH committees.