FEASIBILITY STUDY OF A HEALTH CARE PROJECT

Implementing Partners**:** **ARDF** … | ... **IHO** …|… **WART**

Northern Bar el Ghazal Counties

Aweil Centre | Aweil East | Aweil North

SOUTH SUDAN

September 2023

TABLE OF CONTENTS

List of Tables

List of Figures

PART I: INTRODUCTION

1.1 Executive summary

Northern Bar el Ghazal (NBeG) is one of the four states that make up the Greater Bahr el Ghazal (GBeG) region. The other states include: Western Bahr el Ghazal, Warrap and Lakes states. In November 2022, 0.65 million people in NBeG (70% of the state's population) were classified as People in Need (PiN[1]). For instance, in January 2023, the price of 3.5 kilograms of white sorghum – a diet staple throughout the region – rose by 230% compared to the price in the previous year, in Aweil Centre markets. Moreover, aid cuts to the health facilities across the region adversely affected the availability of doctors and medicines. In March 2023, active measles outbreaks were recorded in most parts of the state and reports indicated that a Hepatitis E outbreak was also spreading[2]. As a result, food rationing strategies were the most commonly reported consumption strategies across the state in March 2023[3]. In September 2022, the Health Pooled Fund (HPF) South Sudan, a multi-donor programme led by the UK government, that was providing funding to eight state hospitals to safeguard appropriate levels of timely payment of health workers' salaries, and the provision of safe, effective, and quality medicines and supplies, announced a phased redirection of its funding. The funding changes have acted as a factor which may have impacted provision of healthcare programmes[4]. Similarly, the report[5] also indicated that sanitation and hygiene were below basic standards as well as the deeply rooted masculinity and gender norms. This state is also faced with civil war among the pastoralists communities within the Dinka communities as well as immigration across the border from Darfur/Kordofan in Sudan, which is experiencing civil war currently[6]. It is pre-empted that these phenomena may have had overlapping effects and intensified health-related vulnerability of affected populations in NBeG.

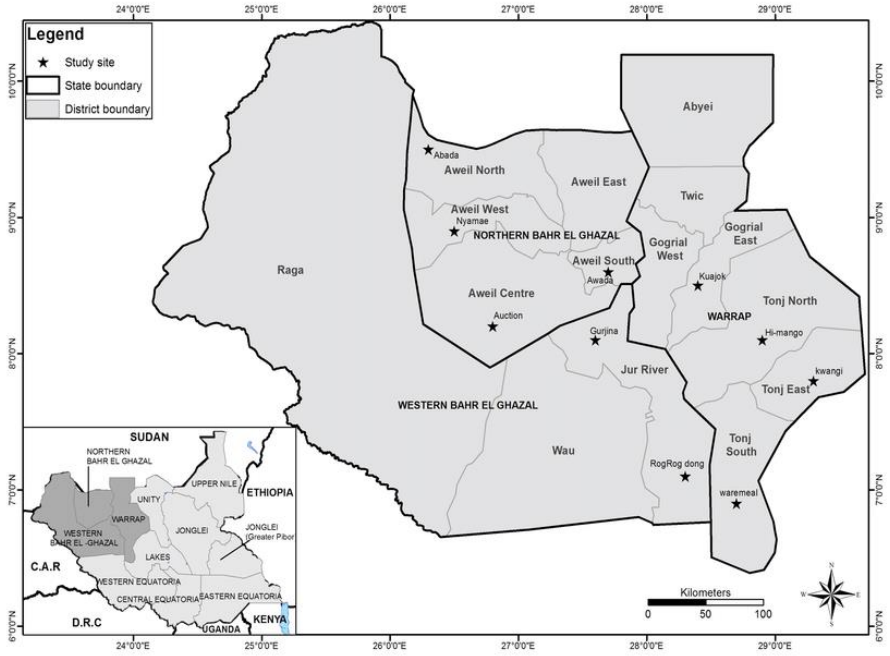


Figure 1: Map of the Greater Bahr el Ghazal

[1] Integrated Food Security Phase Classification (IPC) Phase 3.
[2] WHO. "Acute hepatitis E – South Sudan." May 2023.
[3] FEWS NET. "South Sudan Key Message Update: Food assistance will remain critical in preventing Emergency (IPC Phase 4) in several areas." March 2023.
[4] REACH. "South Sudan Service Provider Mapping: Rumbek East (November 2022)." M 2023
[5] *ibid*
[6] https://www.aljazeera.com/where/sudan/

1.2 Background

HELP e.V. and action medeor recognized intensified vulnerabilities in Northern Bar el Ghazal that require both the need for longer term investment in the fragile chronic crisis context of NBeG for transitional development action to support local resilience and capacities for peace. As such, Help and action medeor placed a call for the feasibility assessment of the following four key focus areas:

- **Health**: Promoting pharmaceutical education in South Sudan; health promotion; capacity building of health personnel; and developing health resilient structures;
- **WASH:** Enhancing accessibility to disability inclusive WASH facilities, including access to sustainable safe water;
- **Protection**: Prevention of gender based violence, with a particular focus on sexual related GBV and alignment of the project to the German's Feminist Development Policy[7];
- **Cross-cutting themes**: Clear demonstration of building sustainable peaceful & inclusive societies, clear demonstration of building resilience (building capacities for self-help), clear demonstration of linkages to enhancing income generation.

Help/AM engaged The Bridge Network to lead the feasibility study to unearth the status of health care, pharmaceutical services, WASH and protection (key focus on SGBV) as well as applying the Triple Nexus ideology to evaluate gender inclusion, conflict analysis, and resilience analysis in NBeG. The results of the feasibility study was very key in the development of the Concept Note: Theory of Change (ToC); Results Framework (RF); Log Frame (LF); and the intended project's indicators. The three implementing partners, listed below, are part of the consortium in the intended project and were very key in the design and implementation of the feasibility study; through brainstorm and data collection.

1) Local partners for **Health**: Impact Health Organization (**IHO**), and African Relief and Development Foundation (**ARDF**);
2) Local Partner for **Protection**: Women Agency for Resilience and Transformation (**WART**).

1.3 Objectives of the feasibility study

The intended project wants to build resilient health structures through sustainable capacity development of pharmaceutical and health structures in South Sudan. This is to be achieved through close cooperation with the Ministry of Health (MoH) and the pharmaceutical colleges in the country, and through the implementation of activities focussing on knowledge transfer, capacity development and improved basic equipment directly at rural health facilities and the surrounding communities. Additionally, the project will integrate components of WASH and GBV activities with the aim of increasing the availability of and access to sustainable GBV prevention and response, and inclusive WASH infrastructure to the targeted communities. The feasibility study objectives were therefore are as follows:

1) To assess the status of pharmaceutical training at national and local level in close coordination with the MoH and with a special focus on women;
2) To check the systemic strength of rural health care in three counties (of NBeG), including expertise of the health personnel (especially women), adequate equipment/construction of health centres, basic water and sanitation infrastructure for health centres and surrounding communities, and awareness raising of hygiene and disease prevention measures;
3) To investigate nature of the sexual and gender based violence while also testing the level of toxic masculinity and harmful gender norms;
4) To assesss the level of access to disability inclusive sustainable WASH services in the selected counties of NBeG (Aweil Centre, Aweil East and Aweil North).

[7] https://www.bmz.de/resource/blob/153806/bmz-strategy-feminist-development-policy.pdf

1.4 Approach and methodology to the feasibility study

All the consortium partners met and brainstormed on the understanding of the call, after which The Bridge Network proceeded to compile the inception report. The study used cross-sectional mixed methods design based on a triangulation methodological framework involving review of secondary data, quantitative and qualitative study designs while ensuring a participatory approach to guarantee meaningful participation of target respondents.

1.3.1 Household Assessment

1.3.1.1 Target population, sample and sampling procedures

The household assessment was based on multi-stage stratified cluster sampling. The first stage involved selecting Primary Sampling Units (PSU) (identification of Counties, Payams within the Regions, and Villages within the Districts). The second sampling stage involved selecting the Elementary Units (EU) (households) and the valid respondents, who were household key decision makers. The sample size was computed using Yamens (1967) computation at 95% confidence and a margin of error of ±8%, as shown:

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

$$n_{hshold} = \frac{100{,}338}{1 + 100{,}338\ (0.08^2)}$$

$$n_{hshold} = \mathbf{150}\ households$$

Once data has been collected from the respective PoCs, data weighting was performed to ensure that there is maximum representation of the data collected.

Table 1: Population size, household and sample distribution

County	# of Payams	Population Size (Est.[8])	# of HHs	Ratio	Target HH Sample	Achieved (Cleaned)
Aweil North County	5	129,127	25,812	25%	38	30
Aweil East County	8	309,921	60,227	57%	85	81
Aweil Centre County	9	73,806	14,299	18%	27	37
Total	**22**	**512,854**	**100,338**	**100%**	**150**	**148**

1.3.2 Data collection tools and validation

Household Feasibility Study questionnaire, approved by Action Medeor/Help technical team was used. The tool was scripted in Kobo Toolbox by the Bridge Network team. The tool predominantly looked into the demographics of the local community, water supply, hygiene, sanitation, SGBV, health care & pharmacy and observations. The Bridge Network further expanded the understanding of the data collection team by conducting a 1-day induction workshop (with 5 enumerators and 3 partner representatives) to simplify any technical aspects that enumerators didn't understand; and also to help them get used to mobile data collection using Kobo Collect. The household assessment tool was piloted to test for the formats, flow, phrasing of questions and checking the length.

1.3.3 Data collection procedures

Before fieldwork commenced, The Bridge Network sought Action Medeor/Help introduction letter, National Security permit(s), Regional & Local authorization to conduct the assessment within/around the NBeG state. During data collection, at the village level, the enumerators located the geographic

8

landmarks (health facilities/schools/religious institutions, etc.) and spun bottles or pens and then walked in the direction of the tip of the bottle face. Then the team selected the first household using 'random numbers.' The enumerators cut small pieces of paper, named them from one (1) to five (5), folded them in their hands, and shook them. If the enumerator picked say **'3'**, then they were required to skip three (3) households to select the first household, especially in crowded areas. The next households was subsequently selected by skipping five households. In areas where households are more than one km apart (especially in the rural area), the enumerators moved directly to the next household without skips.

1.3.4 Data Analysis procedures

Statistical Package for Social Sciences (SPSS) and MS Excel were used for data analysis. The analyzed data is presented as single-variable and multi-variable frequency tables, pie charts, and graphs as shown in the Annex. Further, and where applicable, exploration of the relationships between two or more variables through cross-tabulation was conducted. In this regard, data was disaggregated by different demographic variables where applicable. The analysis was triangulated with some of the datasets that had been collected by the Bridge Network around the same time in the same counties of operations as well as the secondary data. The list of the quatitative datasets for further trangulations included the following:

Table 2: List of the triangulation datasets from Bridge Network

Name of the Dataset	County/ies in NBeG covered	Year & Month
Health facility mapping of 47 PHCU[9]s & 5 PHCC[10]	14 in Aweil Centre, 17 in Aweil East and 17 in Aweil North	August, 2023
SGBV[11] KAP[12] Survey (Household survey)	Sample of 38 in Aweil Centre and 20 in Aweil East	April, 2023
Household WASH mapping	196 households mapped in Aweil East county	June 2023
Masculinity and toxic gender norms	154 households (42 in Aweil Centre, 78 in Aweil East and 34 in Aweil North)	January 2023

1.3.5 Ethics

Bridge Network ensured the following ethical considerations are strictly adhered to during data collection:

- All household-level, respondents given verbal consent to participate in the feasibility study. This was after the enumerators explained to them the purpose of the study, type of the research intervention, and voluntary participation and that no direct benefit was attached to the assessment. They were also be assured of their anonymity and confidentiality of their responses;
- Safe and secure storage of the data files in password-protected Bridge Network server with limited access to only designated technical staff;
- The reports and data findings to be only shared the project team purposely to build a baseline report and not for any other unintended use;
- When taking photos at the household level, the enumerators sought the consent from the respondents.

[9] PHCU - Primary Health Care Units, which are the first level of primary care and provide basic preventive, promotive and curative services and expected to serve a population of 15,000
[10] PHCC - Primary Health Care Centre. PHCCs, aimed at serving a population of 50,000, are the immediate reference facilities for the PHCUs, providing all the services provided by a PHCU but in theory additional services covering diagnostic laboratory, maternity and inpatient care
[11] SGBV - Sexual and Gender Based Violence
[12] KAP survey - Knowledge, Attitude and Practices (KAP) survey is a quantitative method (predefined questions formatted in standardized questionnaires) that provides access to quantitative and qualitative information.

1.4 Key Informant Interviews

The key informant interviews were utilized in collecting information amongst key informant groups, including but not limited to: Ministry of Health, Pharmaceutical Regulatory Authorities, Cluster Lead INGOs (Health, WASH and Protection), Pharmaceutical Schools, Local Leaders (County, Payam and Boma levels) in Aweil Centre, East and North. The key informant interviews assumed the approach outlined in the chart below:

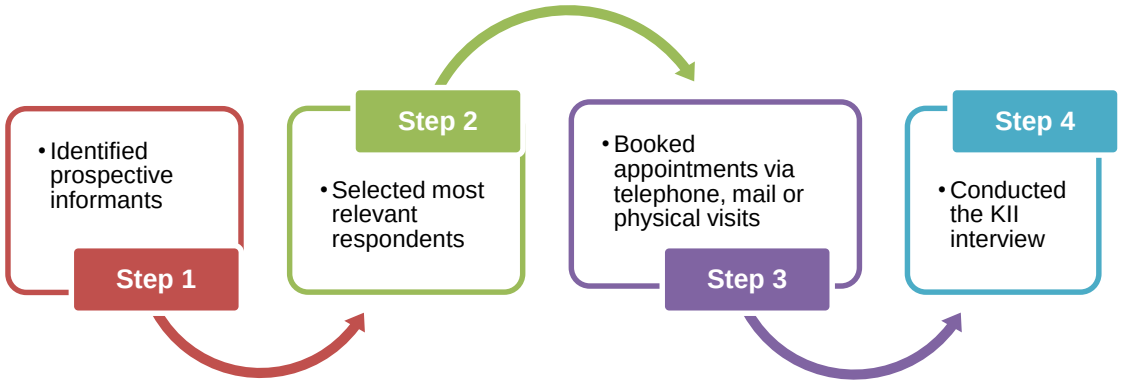


Figure 2: Key In-depth Interview approach

Before the beginning of any interview, all the respondents will be asked to sign a consent form detailing voluntary participation in the baseline assessment; anonymity of the respondents and confidentiality of their response. The sample size was purposively designed and broken down as shown in Table 3.

Table 3: Breakdown of KII sample

Respondent	Target	Achieved
MoH	2	2
WHO	1	Pending
Regulatory Authorities	1	Pending
INGOs (Key Cluster Leaders)	3	3
Pharmaceutical Schools	1	1
Local Leaders	4	4
Total	**12**	**10**

The respondents were also be asked to consent for audio-recordings, photos and videos and interviews will be conducted at their preferred times and venues. Data collection will be done using a KII Guide. All the KIIs will be transcribed in Ms Word/Excel and analyzed using thematic approach.

1.5 Focus Group Discussions

FGDs are open forum for discussion among individuals where respondents are asked questions using a guide of questions. Free discussions are encouraged where individuals are free to air their opinion. In this context, the focus group discussions were necessary to provide the communal view in matters health issues, WASH services, SGBV and CP Services. The respondents were pre-recruited with the help of a boma guide and invited to a central location for the interviews. Each FGD shall consist of 8 people.

Table 4: Sample breakdown for the focus group discussions

Respondent	Target	Achieved
Female Adults (Female Headed Households)	2	2
Male Adults (Male Headed Households)	1	1
Female Youth	2	2
Male Youth	1	1
Total	**6**	**6**

The respondents were asked to consent for the discussions, audio-recordings, pictures or videos and will be assured of their anonymity and confidentiality of their responses. They were also be informed that none of their responses could be declared wrong. As a result, they should express themselves freely and provide impactful views about health, WASH and SGBV the three NBEG counties. All the responses will be transcribed in Ms Word/Excel and analysed thematically to build on the quantitative data.

1.6 Facility Assessment and Observations

An assessment checklist was developed and approved by Action Medeor/Help. In each County, assessments shall be conducted on each of the core activities (WASH, Health, Pharmaceuticals, Schools) and the findings summarized in the assessment checklist. The assessment questionnaire was supported by a myriad of photos and GPS coordinates.

1.7 Value Addition to the Feasibility Study

Value	How this will be done
Gender Inclusion & Analysis	The programme gender analysis was informed by the Bridge Network gender lens strategy. The analysis was done by reviewing gender distribution in WASH management, Pharmaceutical/health institutions, protection institutions etc and voice of women/girls in general.
Conflict analysis	The psychosocial challenges faced by women, youth, returnees, and internally displaced persons (IDPs) have a significant impact on their WASH or institutional employment prospects. These challenges are intensified by factors such as displacement, violence, and latent insecurity. The restrictions on their freedom to operate and limited access to resources and funding. Therefore, conflict analysis is an important part of the Tripple Nexus when chosing the counties for the intended project in the NBeG state.
Resilience analysis	Resilience describes a process whereby people bounce back from adversity and go on with their lives. The feasibility study is mapping out all the risks revolving around the household livelihoods and livelihood strategies.

PART II: FEASIBILITY STUDY FINDINGS

This section presents the topline findings of the feasibility study

2.1 Health Sector in NBeG (Key focus on Aweil Centre, Aweil East & Aweil North)

The entire health infrastructure and its operation are based on international aid funds (Health Pool Fund, etc.). In September 2022, the Health Pooled Fund South Sudan, a multi-donor programme led by the UK government, that was providing funding to eight state hospitals to safeguard appropriate levels of timely payment of health workers' salaries, and the provision of safe, effective, and quality medicines and supplies, announced a phased redirection of its funding. The funding changes have acted as a key factor impacting the provision of healthcare programmes at Aweil Civil Hospital.

Photo courtesy of consortium partners (Bridge Network, ARDF, IHO and WART)

Figure 3: Photo taken when conducting KII on WASH, Health and Protection at the MOH and Aweil Civil Hospital (State Hospital[13])

The target areas have 122 health facilities (1 hospital, 17 PHCCs and 104 PHCUs). Aweil North County was reported to have forty-four (44) health facilities including thirty-eight (38) functional health facilities, among them thirty-three (33) PHCUs and five (5) PHCCs in 2022. This means that there were an estimated 2.58 PHCUs per 15,000 people and 1.48 PHCCs per 50,000 people according to the WHO, which ranks Aweil North as among the ten counties with the highest ratios of PHCUs/person in South Sudan. No hospitals were reported in Aweil North County.

Aweil East County was reported to have fifty-six (56) health facilities including fifty-one (54) functional health facilities, among them forty -four (47) PHCUs and seven (7) PHCCs in 2022. Although one (1) hospital was reported to be functional in 2021, there were no functional hospitals listed in 2022. This means that there were an estimated 1.70 PHCUs per 15,000 people and 1.01 PHCCs per 50,000 people according to the WHO.

Aweil Centre County was reported to have twenty-two (22) health facilities including nineteen (19) functional health facilities, among them fifteen (15) PHCUs, three (3) PHCCs and one (1) hospital in 2022. This means that there were an estimated 2.76 PHCUs per 15,000 people and 1.97 PHCCs per 50,000 people according to the WHO. The Aweil Civil Hospital was designated as moderately functional. In 2020, OCHA identified the need for healthcare services to be at "catastrophic" levels in Aweil Centre, which was among the nine counties with most severe health-related needs.

13

The health facilitie PHCUs are usually about 5 km radius in towns or 25 kilometers radius in rural areas of the NBeG. Every month, there are drug stock-outs but the next consignments normally takse time (even over one month). Most of the facilities have nurses, mid-wifes, boma health personel, community health workers and traditional birth attenders.

Table 5: Breakdown of health facilities

County	Health facility type	Cumulative number of health facilities	Functional health facilities	x facilities per y people	Required
Aweil North	Hospitals	0	0		1 Primary Health Care Units (PHCU) is supposed to serve 15,000 people whereas 1 Primary Health Care Centre (PHCC) is expected to serve 50,000 people[14] according to the Ministry of Health.
	PHCCs	6	5	1.48 PHCCs per 50,000 people	
	PHCUs	38	33	2.58 PHCUs per 15,000	
	S/Total	44	38		
Aweil East	Hospitals	0	0		
	PHCCs	7	7	1.01 PHCCs per 50,000 people	
	PHCUs	49	47	1.70 PHCUs per 15,000 people	
	S/Total	56	54		
Aweil Centre	Hospitals	1	1		
	PHCCs	4	3	1.97 PHCCs per 50,000 people	
	PHCUs	17	15	2.76 PHCUs per 15,000 people	
	S/Total	**22**	**19**		
Total	Hospitals	1	1		
	PHCCs	17	15		
	PHCUs	104	95		
	Total	**122**	**111**		

Source: Ministry of Health[15]

Key facts:

- Most of the facilities are not sunctional because they lack operational funds since no NGO is currently with them currently. The observations revealed that some facilities are in extreme dire need of humanitarian assistance to even raise a semi-structure;

Figure 4: Photo of Mayom Dong PHCU in Aweil North County [GPS: 9.4490032, 27.1298497]

[14] Government of South Sudan Ministry of Health. Health Sector Development Plan 2012-2016: one maternal death is too many. Government of South Sudan Ministry of Health; Juba, South Sudan: 2012.
[15] https://www.geospatialhealth.net/index.php/gh/article/view/510/540

- The mapping revealed that 23% of the PHCUs are grass thatched and lack basic facilities. The facility can only offer basic treatment (like provision of medicine);

Photo courtesy of feasibility study team

Figure 5: Photo of Malith Alekyai PHCU in Aweil East County [GPS: 9.4438545, 27.7105724]

- Since most of the PHCUs depend on humanitarian aid for survival, they are not resilient as they keep on closing and re-opening. Other than having frequent drug stock-outs, most of the PHCUs lack some of the crucial health services like OPD[16] services. During the feasibility study, it was observed that some facilities like Akuangkar PHCU receives services from ACF[17] through the two-days-per-week outreaches, where ACF provides nutrition support only like plumpynuts (PPN), CSB++[18] but it was observed that the quantity was not enough for the population in need;
- It also emerged that out of the 48 health facilities mapped, only **19%** had electricity. The electricity is also unreliable, posing a huge risks of power loss during medication;
- The PHCCs commonly offer OPD services mentioned by 92%, EPI[19] services mentioned by 69% and family planning mentioned by 54%.
- Only eight (**8**) health facilities out of the 48 mapped, **17%,** especially those in town centres have access to emergency transport (ambulance/boat) whenever needed;
- Since most PHCUs are in the rural areas, at a radius of 5kms to handle 15,000 people at the lowest levels, the next level is PHCC. These PHCCs are better developed than the PHCUs. For instance, PHCCs offer the following:
    - Administration of antibiotics;
    - Administration of uterolonics;
    - Management of eclaupsia and pre-eclaupsia;
    - Manual removal of retained placenta;
    - Neonatal resuscitation;
    - Assisted vaginal delivery.
- Drug stockout was found to be a common phenomena in the facilities (for both the PHCCs and the PHCUs). 77% of the facilities experience stockouts of common medicine that last for over a week especially for: Amoxyllin (tablets & suspension); Artesunate amodiaquine (adult, child, toddler, infant); Ciprofloxacin; Ferrus Sulphate; Follic Acid; Paracetamol; Oral Rehydration Salt (ORS) etc. The study also highlighted 47% of the health facilities experiencing stockouts in

[16] OPD – Outpatient Department
[17] ACF – Action Against Hunger
[18] CSB++ :Comparing Milk Fortified Corn-SoyBlend
[19] EPI - Early Psychosis Intervention (EPI)

contraceptives (condoms and oral contaceptives) as well as 46% of the facilities experiencing stockouts in vaccines (MMR/Measles vaccine and Pentavalent vaccine).

Photo courtesy of feasibility study team

Figure 6: Photo of Majok Akeen **PHCC** in Aweil East County [GPS: 9.4329602, 27.4764719]

Structure of Health System in South Sudan

Years of conflict and underinvestment have resulted in a minimally functional public health system in South Sudan. The Government's commitments to the population's health are clearly expressed in the Transitional Constitution, the Vision 2040, the National Health Policy 2016-2026 (HSP), the Basic Package of Health and Nutrition Services (BPHNS), and the Health Sector Strategic Plan (HSSP) 2017-2022. However, the technical and operational capacity of the health sector is currently unable to meet these commitments. The Government relies on the support of a wide range of regional and international partners to fund health services, including the HIV, TB and malaria programmes[20].

Public health services are delivered through a three-tiered, decentralised system from the central to the State, County, Payam and Boma levels. The Basic Package of Health and Nutrition Services (BPHNS) defines the services to be offered at each level:

- Community-based Boma[21] Health Teams (BHTs) that are part of the Borna Health Initiative (BHI),
- Primary health care units (PHCUs) and primary health care centres (PHCC),
- County and State hospitals,
- Tertiary hospitals.

he BHI is a unique feature of the design of the health system.44 BHTs, comprising three home health promoters (HHPs) are expected to serve approximately 5,000-6,000 people in communities and offer basic services such as health promotion, treatment of selected conditions and community surveillance. The BHI is beginning to be rolled-out across the country, largely where partners are operating[22].

[20] https://www.severemalaria.org/south-sudan-healthcare-system
[21] Boma - A boma, which consists of several villages, is the lowest-level administrative division, below payams, in South Sudan. A payam is the second-lowest administrative division, below counties, in South Sudan. Payams are required to have a minimum population of 25000.
[22] *ibid*

2.2 Pharmaceutical Sector in NBeG (Key focus on Aweil Centre, Aweil East & Aweil North)

As per the Pharmaceutical Policy of South Sudan (April 2022), there are about 330 pharmacists in the country with less than 50 employed in the public sector. The policy stipulates the need for a strategic approach to pharmaceutical training and HR management, including continuous capacity development. The training of health personnel and the strengthening of the pharmaceutical sector are also identified as core elements (Specific Objective) in the National Health Strategy (2016-2026) and the Basic Package of Health Services (revised 2018). The South Sudan Essential Medicines List 2017 (SSEHL 2017) was revised in 2017 in collaboration with WHO and other health actors. To make it effective, the framework conditions in the pharmaceutical sector must be improved. This requires training on supply chain management, availability of medicines, procurement, storage, rational use (prescribing, dosing and dispensing).

From the KII with the MoH, the drugs are dispensed from the Central Medical Stores at the National level to the state level, then county level (through the County Health Department) and then sent to the facilities. Way bills are signed at the points of distribution and at the facility on reception.

Based on the observations, the pharmaceuticals can be classified as 'wholesale only', 'retailers only' and 'retailers with clinics'. Developed pharmacies like Light House and Bhar Ghazal in Aweil Town, have private clinics that also offers Xray, Ultrasound and minor surgeries (suturing). The wholesale pharmacies are full and drugs are cheaper. Most of them are located within the 200m radius around Aweil Civil Hospital in Aweil Town. The retailers sell the drugs 3 times the price at the wholesale pharmacies. Most of these pharmacies have poor storage facilities and temperature regulators since NBeG is hot (~30^{0}C) but all the pharmacies only use temperature control fans.

Sample wholesale pharmacy in Aweil Town

Sample 'retail only' pharmacy in Aweil Town

Figure 7: Photo of showing differences in wholesale and retail pharmacies in Aweil Centre

The availability of medicines, vaccines, medical equipment and consumables as well as the rational use of medicines highly depends on pharmaceutical expertise at all levels of the health care system. The feasibility study pointed to critical shortage of qualified pharmaceutical personnel. Further assessment pointed out that there are only two institutions located in Aweil Town, that offer health sciences. That is: Aweil Health Science Institute (public) and Juba Institute of Health Sciences (private campus). Most of these institutions offer clinical medicine, nursing and mid-wifery. The institutions

provide mainly a three-year diploma-course, with one year attachment for clinical medicine and 6-months attachment for nursing and mid-wifery. Aweil Health Science Institute suffers capacity issues in terms of teachers as well as facilities (like laboratories). From our analysis, the curriculum is still theoretical and only depend on the knowledge gained during the attachment. As such, they produce low quality personnel with limited practical medical experience. This is a gap that can be filled through donor support in laboratory construction, facilitation of teachers .

Photo courtesy of feasibility study team

Figure 8: Photo of Aweil Health Science Institute (library, sign post and uniforms)

In most health facilities, non-pharmaceutical staff are responsible for ordering, storing, distributing and dispensing medicines and medical supplies, which greatly affects patient care and medicines availability. Moreover, the weak pharmaceutical legislation and enforcement mechanisms to regulate the pharmaceutical sector on all levels has led to chronic stock-outs of commodities at health facilities.

Photo courtesy of consortium partners (Bridge Network, ARDF, IHO and WART) when conducting KII

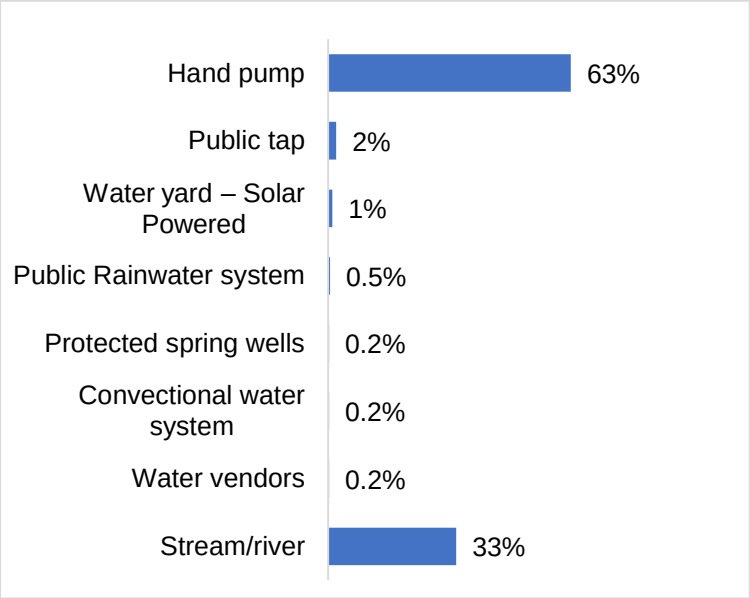
Figure 9: Photo of pharmacy in Aweil Civil Hospital showcasing the levels of stockouts

2.3 WASH in NBeG (Key focus on Aweil Centre, Aweil East & Aweil North)

This subsection assessed the feasibility of water, sanitation and hygiene in the selected counties of NBeG.

2.3.1 Water

The feasibility study found that 63% of the households source for water from hand pumps while 33% source from the rivers. Water sourced is usually used for drinking, domestic use and animals use. Most of the hand pumps were constructed by Tearfund and Concern International dating from the year 2011.



Note: Weighted and triangulated sample size = **341** (Sample size for feasibility study in September 2023 = **148** and sample size for WASH mapping in Aweil East in May 2023 = **196**). Data weighting is based on the distribution of the household numbers from the 2022 UN OCHA population estimates[23].

Figure 10: Photo of pharmacy in Aweil Civil Hospital showcasing the levels of stockouts

[23] https://reliefweb.int/report/south-sudan/humanitarian-situation-monitoring-greater-bahr-el-ghazal-november-2022-march-2023-south-sudan

The water pumps (boreholes) are preferred for water sourcing because of the shorter distance to access the pump and good quality of water commensurate to open water sources like rivers. 72% of households access the water from boreholes within a radius of 1 km and 72% accessible within 30 minutes. Therefore, the indicator '**percentage of households with access to basic drinking water services**' in NBeG can be estimated at **47.5%.**

Water collection in NBeG is commonly done by 64% adult females and 35% female children. The assessment found that 87% of the girls feel safe when collecting water from the water points. Asked for the common challenges the face when collecting water, 34% of women and girls collecting water from the streams for fear of sexual assault while those who collect water from hand pumps cited the following challenges: 64% mentioned long waiting time (due to high number of people fetching water especially during the dry season); 37% mentioned frequent breakdown; and 30% mentioned low water yield.

During the rainy season, the tendency shifts more towards collecting water from surface water sources (as revealed by 71% of the hoseholds). This is likely because the number of sources increases and the convenience and safety of collecting water closer to the household influences the decision-making of those collecting the water for the household. In order to highlight the risks posed by surface water collection despite the convenience these sources can offer, the project team could include a specific training to note the types of waterborne diseases which are often found in these sources and the benefits of continuing to collect from protected sources.

During dry seasons, 89% of the households in the selected counties of NBeG collect water from "protected" water sources (mostly the hand pumps). This could also explain why many hand pumps break down frequently during the dry seasons. It also emerged from the focus group discussions with the community members that there are isolated cases of conflicts at the water points.

"…*there are isolated cases of violence at the water points especially among the girls. This is common during dry seasons when many people depend on the few hand pumps available in the village. Sometimes, these conflicts escalate to boma level when not well managed*…" Female community member in the focus group discussion in Apada village, Aweil Centre County.

The focus group discussions with community members also revealed some pertinent stories about the shelf -lives of the boreholes. Such stories as:

- boreholes that are "dry" after a few months;
- boreholes that started pumping muddy water after a couple of years;
- gravel inside the casing;
- a pipe stuck in the well which has silted up.
- Another key issue highlighted was the design of the soakaway, surround and fencing to prevent livestock from creating a marsh, or pond at the borehole. Muddy ponds (e.g. Figure 11) are a case in point.

Figure 11: Photo of a non-functional hand pump (borehole) in Apada village, Aweil Centre

It is estimated that there are 1,271 functional boreholes in the three counties of NBeG. The average waiting time during dry seasons can always go upto 2 hours, which sometimes result into water conflicts. Water is traditionally fetched by females (65% adult females and 35% female children).

Table 6: Approximate water pump numbers.

County	Estimated total number	Estimated functional	Estimated population served by the boreholes	Estimated number of people per borehole
Aweil North	632	480	228,000	417
Aweil East	773	557	446,000	667
Aweil Centre	360	234	236,000	1784
Total	1765	1271	910,000	

Source: https://skat.ch/?sdm_process_download=1&download_id=9847, triangulated by the WASH cluster figures

During the construction of a hand pump, there are normally 7 water management committee members, who work on voluntary terms to ensure that the community take good care of the water points. They comprise of 4 men and 3 women with at least a woman in leadership (mostly the treasurer/secretary). When the borehole breaks down, the community members are usually charged 400 SSPs (0.4 dollars) to pay the hand pump mechanics who repair the hand pumps. The WASH cluster leader engaged in the study pointed out that hand pumps that have stayed for long break frequently (most often).

Not all communities are managing and maintaining hand pumps well. One of the reasons given for insufficient maintenance is the lack of appreciation in many communities of how important good-quality drinking water is. This is a need that can be addressed by consistent WASH trainings on the value of operations and maintainance of the water points.

It was also found out that hand pumps in social institutions like schools and health care, are well taken care of by these institutions. For instance, people who fetch water from these hand pumps are always charged 100 SSP (approx..0.1 USD) per month for operations and maintainance (OM).

Figure 12: Photo of women and girls fetching water from a community hand pump in Aweil Centre

2.3.2 Sanitation

Study participants were asked on whether their households own a latrine.The assessment found that 7.1% of the households had fully functional latrines, while 92.9% had no latrines at all. Those who stated that they did not own latrines mentioned lack of finance, area with collapsing soils and rocky areas as the main reasons. All the latrines were observed to be within the 50 meters radius.

Figure 13: Photo of latrines types in the selected counties of NBeG

Key facts about sanitation

- 89% open defaecation, with women finding it difficult to use the bush. The assessment was conducted during the dry season and most bushes do not have sufficient vegetation where the women can hide for privacy. Similarly, during rainy seasons, the environment is dirtified by the presence of faecal matter everywhere and some men also take advantages to rape women. During FGD, study participants expressed preference for open defecation because many people do not have access to latrines. Community members from Mulual Baai Payam in Aweil East County argued that even though the public latrines are functional, they are too dirty with feaces even at the door point because there is no one responsible for managing or cleaning them, which has resulted in the community avoiding public latrines for the bush while other users mentioning the fear of slabs breaking down.

"…People feel safe defecating in the bush because they fear that the slabs might break and they fall into the pit. Secondly, the community members here have no slabs thus they do not dig pit latrines..." Male respondent, Mulual Baai Payam in Aweil East County.

- When asked why they do not use locally available materials to construct latrines, the respondents mentioned that the locally available materials are periodically destroyed by ants. Other respondents added that there was an NGO that provided community members with plastic slabs but these plastic slabs shake when stepped on instilling the fear of using pit latrines.
- 28% of women and girls stated that they are NOT safe to use sanitation facilities with some facilities far off and homes that own latrines do not want sharing. Those that are not safe using the sanitation facilities cited risk of rape, shame and fear of being disrespectful to the cultural norms as the key factors. This is a tough situation for women and girls that need to be urgently addressed.
- Institutional public latrines are usually within the market places (few); schools and some health facilities. Out of the 12 latrines that were mapped within the market place, 10 were functional with standard concrete walls. While seven (7) out of the 10 had gender segregation, only four (4) had locks from inside; 3 out of the 10 had fairly clean environment around and within.
- Focus group discussions with the community pointed out that CTLS[24] was tried but it was not sustainable. This is because, between 2011 and 2012, OFDA[25] funded WASH project in Aweil Centre County, implemented by Tearfund. The projects are aimed at supporting the resettling of returnees and the internally displaced people in the state; and the main approach for sanitation improvement especially at household level has been community-led total sanitation (CLTS). The fulcrum of the CLTS approach was to ignite or trigger community action through collective community disgust and shame due to the fact that open defecation leads to ingestion of faeces by everyone in the village irrespective of status and age. Later, the floods experienced in the state caused displacements of communities to new areas, many completed latrines collapsed and this de-motivated many households. The WASH cluster lead interviewed is optimistic that CTLS is a powerful approach but only skeptical of how the process can be scaled up.
- Sanitation committees were available at the beginning but nolonger available. Just like the water management committees, the sanitation committees were also working on voluntary terms. As such, since they only depended on community good will for rewards, most of them shifted focus. The photos in Figure 14 indicates the state of sanitation facilities in the selected counties of NBeG.

Figure 14: Photo of a public sanitation facility in Aweil East County

[24] CLTS – Community Lead Total Sanitation Approach
[25] OFDA - Office of U.S. Foreign Disaster Assistance

2.3.3 Hygiene

The respondents were asked whether in their households they had suffered any water borne diseases in the last 30 days preceding the date of the survey. The assessment found 66% to have suffered from typhoid in the last 30 days. Similarly, there over 30% have also suffered from diarrhea and malaria.

The respondents were also asked whether a household member had received a hygiene related information in the last three months preceding the date of the survey. The assessment found out that 35% received hygiene communication. Some of the information received included:

- Keep the water safe/drink treated water
- Use latrines/bury faeces
- Wash hands at critical times
- Food hygiene (cover food)
- Dispose children faeces in latrine or bury
- Keep compound or surrounding clean

The information was communicated through the radio stations (mentioned by 82%) and community meetings (29%). The assessment further found that ACF, CEDS, World Vision and Concern International are the leaders in hygiene promotional activities. During the focus group discussions with women and girls, it emerged that girls are taught how to use reusable sanitary pads. However, there is no place in NBeG where such are produced. Disposable pads like Always are expensive for school going girls (costs approximately 1000 SSPs or 1 USD in the local markets). Culturally also, men are not allowed to discuss menstruation issues with their daughters and therefore, other than being given leave off school, the girls usually resort to unhygienic menstrual materials such as pieces of clothes/matresses; natural / traditional materials (mud, cow dung, ash, sand or leaves); soft tissue papers etc. Those who are luck, receive disposal sanitary pads from schools and/or NGOs.

2.4 Protection Sector in NBeG (Key focus on Aweil Centre, Aweil East & Aweil North)

In July 2023, authorities in South Sudan's Northern Bahr el Ghazal State have expressed concern over the alarming increase in Gender-Based Violence (GBV) cases. A total of 54 incidents were reported in June alone, indicating a disturbing trend of home and gender-based abuses within the state[26]. About 31% cases of teen pregnancies, 24% cases of physical violence, 23% cases of rape etc. (According to reports from Northern Bhar El Ghazal State Ministry of Child and Social Welfare - KII) and confirmed in the FGDs[27].

During a monthly rule of law forum held within July 2023, it was revealed that the victims included 21 women, 18 men, 12 girls, and three young boys, who were subjected to various forms of GBV across different locations within the state. According to reports from Radio Tamazuj, it was highlighted that a police officer, who serves at the police Special Protection Unit (SPU) in Aweil Town, emphasized the need for prompt action in addressing these social issues.

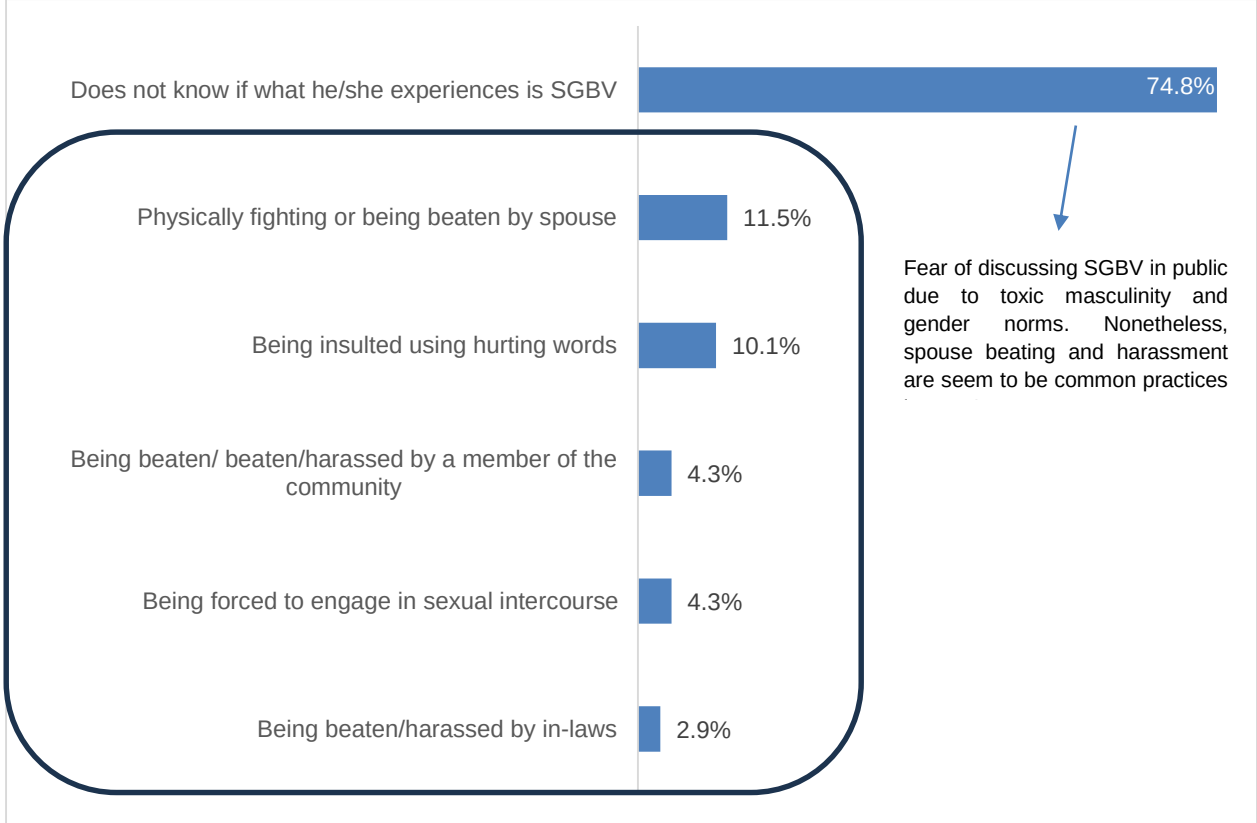
During the feasibility study, it came out that SGBV in the state or rather the entire South Sudan is normalized. The study found that 75% were not sure whether what they experience was SGBV. This rolls down to the community's understanding of SGBV. For instance, during segregated discussions with female interviewers, women highlighted forced marriage, sexual exploitation (defilement) and wife

[26] https://radiotamazuj.org/en/news/article/gbv-cases-on-the-rise-in-northern-bahr-el-ghazal#:~:text=Authorities%20in%20South%20Sudan's%20Northern,based%20abuses%20within%20the%20state

[27] FGDs – Focus Group Discussions

beating as common practices. This is because women do not have voices to air their opinions freely especially after disagreements with husbands. In the study areas, SGBV cases are managed at family levels and it is normalized that men can beat their women. However, the community condemns a woman who beats a husband; with tough disciplinary measures including divorce. Further, when there is teen pregnancy, the mothers are always beaten for the "…mistakes of the daughters…".

During the focus group discussions with women and girls, it was mentioned that the husbands are very irresponsible and are always in drinking points. When the husbands come back, they always beat their women if they are not comfortable with the meals or any issue arising.



Sample size: 150

In summary, the following are the key facts highlighted during the feasibility study

- Only 8% know places where rape survivors can go report their cases of abuse;
- Toxic masculinity that support male dominance over women and girls; abuse of power at household levels; and general lawlessness were mentioned as the key drivers to SGBV;
- There is limited GBV response capacity in the selected NBeG counties, where victims or witnesses are faced with the lack of facilities to attend to their needs;
- Shortage of quality basic health, psychosocial, safety, social service, legal and economic services for girls and women, including lack of capacity and expertise;
- Girls and women are blamed for the violence they are exposed to and related stigma, silence and lack of trust. This explains the reasons why girls and women fear to discuss SGBV in public;

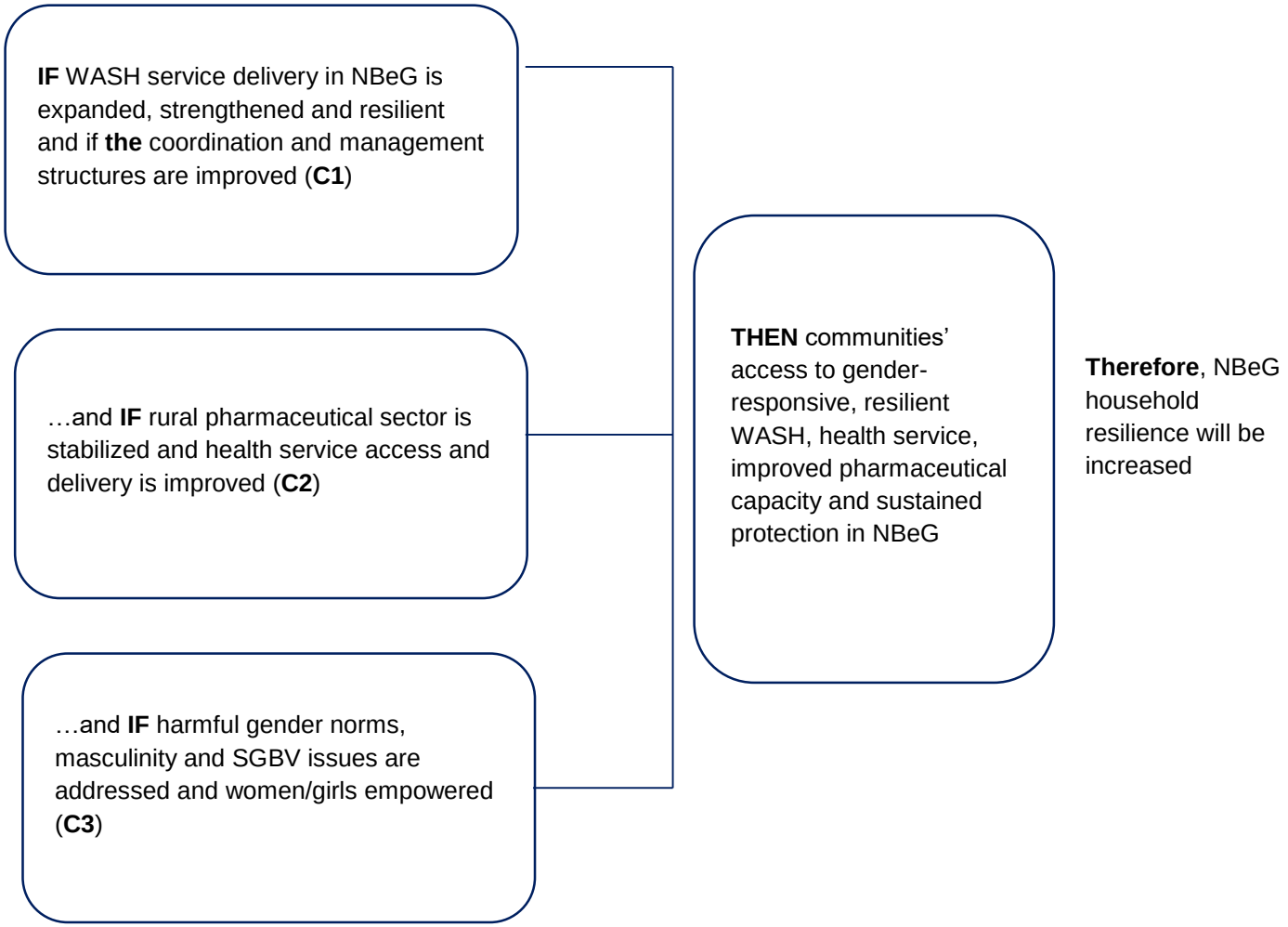
- Lack of and/or poor implementation of laws and policies that protect girls and women at the national and sub-national levels. ;
- Few agencies involved in specialized GBV programming in the visited NBeG counties and therefore limited capacity and expertise on the ground;
- Insufficient sector-specific and crosssector coordination. The ministry of health highlighted various referral pathways that involves the police and the health facilities while the health facilities mapped indicated no SGBV service for clinical management of rape.
- Lack of institutional buy-in or "will" among senior leaders to prioritize protection needs of girls and women. This was highlighted in the focus group discussions with women who said that local leaders do not care about the SGBV situation, also confirmed by the SGBV cluster leader that was engaged in the key informant interview.
- Appropriate human and financial resources are not allocated to addressing GBV before, during, and after crisis;
- Questioning that GBV is an issue, or lack of awareness that there is anything that can be done about it;

2.5 Conclusions and Recommendations

Assessment Area	Conclusions	Remmendations
Healthcare	• Health facilities in NBeG especially the PHCUs and to a greater extent the PHCCs are struggling with funding issues. There are serious cases of drug/vaccine/contraceptive stockouts and lack of utilities like electricity, beds and disability inclusive WASH facilities.	• Mobile clinics would be an alternative; • Partnership with the ministry of health to modernize the available health facilities; • Handling the issue of drug/vaccine/contraceptive stockouts by engaging the ministry of health to handle consignment supplies.
Pharmaceuticals	• The pharmaceutical sector is still underdeveloped with an inadequate legislation and enforcement mechanisms to regulate the pharmaceutical sector and ensure the safety and effectiveness of pharmaceuticals and medical devices; • Shortage of qualified pharmaceutical personnel at all levels; • Shortage of institutions offering pharmacy course. The few available only offer Nursing, Clinical Medicine, Nutrition and Mid-Wifery;	• Partnership with the MoH to ensure that the available legislations that regulate the sector are effected and adequately monitored; • Engage partnering organizations or experts to offer courses in pharmacy to the local health science institutions such as Aweil Health Science Institute in Aweil Town. This will help in boosting the capacity of the personnel at health institutions and pharmacists; • Supply of drug storage facilities and conditions to ensure that the drug

	• The available health science institutions lack essential facilities like laboratories; • Poor pharmaceutical storage facilities and conditions as many resort to temperature control fans;	ingredients are maintained amidst the changing climatic conditions (e.g. high temperatures).
WASH	• NBeG still has inadequate inclusive, gender-sensitive and sustainable WASH services. This is because, there is about 70% functionality rate of the hand pumps due frequent breakdown of hand pumps, 89% open defaecation and high prevalence of unhygienic menstrual materials such as pieces of clothes and traditional materials (mud, cow dung, ash, sand or leaves).	• Partnering with the county governments to develop strong WASH clusters; facilitated by effective joint sector reviews that is well funded and well staffed and draft bylaws that facilitate inclusive, resilient and gender-responsive WASH services; • Increase access to clean water; rehabilitation and repair of broken water points and organizing feasibly operational management structures to manage water, sanitation and hygiene facilities; • Conducting regular awareness sessions for hygiene messaging; • Training girls and women on how to make reusable sanitary pads to address issues linked to menstruation.
Protection (SGBV)	• There are deeply rooted toxic masculinity that support male dominance over women and girls; and allowing abuse of power at household levels; to provoke sexual and gender based violence; • While teen pregnancies, physical violence and rape are common cases reported to various referral points, it is difficult to know the actual prevalence of SGBV since gender norms have normalized SGBV and women fear speaking such in public.	• Offering multi-sectoral support to SGBV survivors such as Psycho-social, medical, legal, safety & security and livelihood services; • Craft adequate strategies to break the toxic masculinity and gender norms that are currently deep rooted in NBeG. The primary aim of such initiatives should be to increase knowledge, challenge attitudes and modify behaviour. For instance, in 2001, an Australian campaign named “Violence Against Women – It’s Against All Rules”, which targeted 21-29 years, involved sports celebrities delivering the message that violence towards women was unacceptable and that a ‘masculine man is not a violent man’. An evaluation of this program realized successful spectrum of prevention activities and effective strategies to guide working with men to end violence against women.

PART III: THEORY OF CHANGE



PART IV: LOG FRAME WITH SAMPLE INDICATORS

		Summary	Example indicators (two to three examples max.)	Example measures (two to three examples max.)
Impact level	**Project Objective**	To strengthen the resilience of the conflict-affected populations to improve health care, WASH, and Protection Services in the boarder Counties (Aweil North, Aweil Centre and Aweil East counties) of South Sudan to Sudan		
Outcome level	**Outcome/ Result 1**	Improved access to, and utilization of quality health care services, strengthened pharmaceutical management system of the targeted Counties, and enhanced accountability of the health care governance structures in the targeted counties as well as facilities to absorb, adapt to, and recover from health system shock and stress	1.1: % of the targeted population reported access to health care services	
			1.2: % of the supported health facilities reported improved system in pharmaceutical management 1.3: % of complaints and feedback reported by the community about the project and addressed timely	
	Outcome/ Result 2	Conflict-affected populations have increased access to safe and clean drinking Water, and improved Sanitation and Hygiene Services	2.1.% of the population that has access to a safe and reliable source of drinking water 2.2: % of the population that has access to improved sanitation facilities	
			2.3. % of people who practice handwashing with soap 2.4: Proportion of people who practice open defecation	
	Outcome/ Result 3	Improved prevention and response to sexual gender-based violence (SGBV) for refugees, returnees, and host communities in Northern Bahr El Ghazal, South Sudan.	3.1.% reduction in reported cases of SGBV in targeted areas. 3.2: Number of comprehensive legal and policy frameworks established	
			3.3.Number of new cases of GBV reported 3.4 Number of survivor centered support services provided to those affected by GBV	
Output level	**Output 1.1**	1.1.1.Mobile Medical units established to provide hard-to-reach communities with health care services 1.1.2 The capacity of healthcare providers in the provision of healthcare services increased 1.1.3.System for pharmaceutical supplies management in the supported counties improved	1.1.1: Number of mobile medical units established	A1.1.1: Establish 12 Mobile Medical Units (6 in Aweil East, 3 in Aweil North and 3 in Aweil Centre counties respectively)
			1.1.2 Number of healthcare providers trained in health care provision	1.1.2A: Training of health care providers in rational drug use and pharmaceutical management 1.1.2.B: Training of health care providers ion IMNCI 1.1.2C: Training of health care provider BEmONC
			1.1.3 Number of health facility infrastructure rehabilitated for safe storage of	1.1.3 A: Rehabilitation of health facilities pharmaceutical storage facilities 1.1.3 B: Equiping facilities with drugs selves and carbinets for

			pharmaceutical supplies	proper storage of essential durgs and medical supplies
			1.1.4: Number of Allied health institute with students enrolled for pharmacy training 1.1.5: Number of water tanks installed for roof water harvest	1.1.4: Conduct a round table advocacy meeting with MOH, Directorate of Pharmacetuicals and MOE actors on adaptation and operationalisation of pharmacy syllabus in NBEG training institutes 1.1.5 Installation of water tanks in health facility for roof water harvest
	Output 1.2	1.2.1. Community participation in health care services improved 1.2.2.Health care governance in the supported health facilities and CHD strengthened	1.2.1: Number of complaints and feedback recorded from the community about the project and address timely	1.2.1 A: Training of affected population on AAP 1.2.1 B: Conduct Monthly community engagement meetings
			1.2.2. Number of community members disaggregated by sex participated in health dialogue meetings	1.2.2 A: Conduct quarterly Pharmaceutical review meetings in each of the supported health facilities. Conduct Monthly Pharmaceutical management meeting with health facilities in charges
	Output 2.1	Improved access to safe water for drinking, cooking, and washing for refugees, returnees, and host communities in Northern Bahr El Ghazal, South Sudan.	2.1.1.Number of broken hand pumps rehabilted and repaired	A.2.1.1: Repair and Rehabilate broken hand pumps
			2.1.2.: Number of Boreholes drilled	A.2.1.2: Drilling of Boreholes
	Output 2.2	Improved access to adequate sanitation facilities for refugees, returnees, and host communities in Northern Bahr El Ghazal, South Sudan.	2.2.1. Number of sex segregated and disability inclusive sanitary facilities constructed	A.2.2.1: Construct sex-segregated and disability inclusive sanitary facilities including CLTS
			2.2.2.% reduction of open defecation cases reported in target locations	A.2.2.2: Conduct community awareness campaigns on dangers of open defecation
	Output 3.1	Women and Girls skilled on abuse avoidance techniques in GBV prevention.	3.1.1:Number of women and girls trained on verbal and physical skills to prevent GBV	A.3.1.1: Engage # adolescent girls using the WART's E4R system of GBV prevention curriculum
			3.1.2. % decline in number of sexually assaulted girls and women	A.3.1.2: Develop a free peer to peer support counselling service "Sexual Assault Survivors Anonimous (SASA)"
	Output 3.2	Increased engagement of men and boys in responsive bystander action and SGBV prevention	3.2.1: % increase in responsive bystander action in an assault situation.	A.3.2.1: Recruit and train #instructors on prevention and response to GBV.
			3.2.2:Increased scores on gender equitable attitudes	A.3.2.2: Train #adolescent boys in and out of school on bystander intervention and challenging toxic masculinity