

**A. ASSESSMENT TEAM COMPOSITION**

<b>Lead:</b>	UNHCR
<b>Participating Agencies:</b>	Local Government (District Water office; Environmental Health office); LWF; UNICEF; VEDCO

**B. GENERAL INFORMATION**

Dates of Assessment	22 <sup>nd</sup> - 24 <sup>th</sup> February 2017		
Locations:	Lamwo District: Palabek Kal; Palabek Ogili; Palabek Gem Sub-counties		
GPS coordinates:	3°22'38.52"N, 32°30'3.17"E		
Total Population*:	Lamwo District: <b>171,300</b>	Sub-counties: <b>9</b>	Household Size: <b>6</b>
Population in Target Areas*:	Palabek Kal: <b>14,620</b>	Palabek Ogili: <b>9,729</b>	Palabek Gem: <b>15,207</b>
Expected refugee population:	<b>100,000</b> (planning figure - to be informed by site carrying capacity)		

\*Source: National Census 2014

**C. BACKGROUND**

In the last eight months (July 2016 - Feb 2017) Uganda has continued to receive asylum seekers from South Sudan following an extended period of instability in parts of the country. The refugee influx to Uganda especially through the border points at Ngomoromo, Waligo, Aweno Olwiyo and Madi Opei - all in Lamwo District has led to proposal of settlement site in the district. The proposed site covers part of Palabek Gem, Palabek Kal and Palabek Ogili sub-counties.

In preparation for ground-setting, UNHCR in partnership with Lamwo District Local Government (District Water Office; District Environmental Health Office; and the Local authority), LWF, UNICEF, and VEDCO organized a field assessment for Water, Sanitation, and Hygiene from 22<sup>nd</sup> - 23<sup>rd</sup> February. The assessment involved visits to the border points, proposed settlement site, a health facility, school and water and sanitation infrastructure in and around the proposed site.

**Methodology:** Information was collected mainly through Observations; Unstructured interviews with key informants - including communities, government officials (water, health, education, local authorities, and immigration); and reviews of secondary data. Two coordination meetings were held with the different WASH stakeholders in Lamwo which also contributed to and informed the findings of the assessment further.



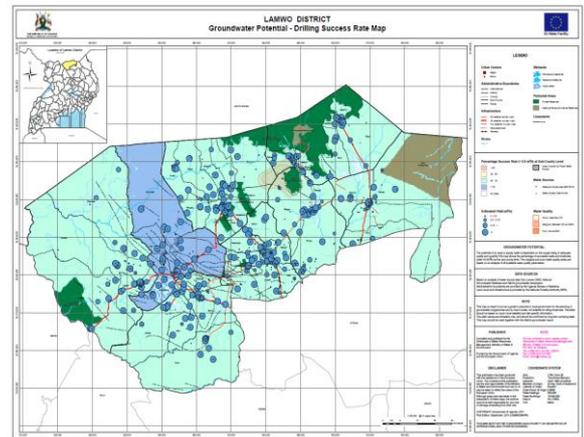
*New arrivals at Waligo border point*



*A family awaiting relocation at Ngomoromo border point*

## D. WATER SUPPLY (ACCESS, QUALITY, MANAGEMENT)

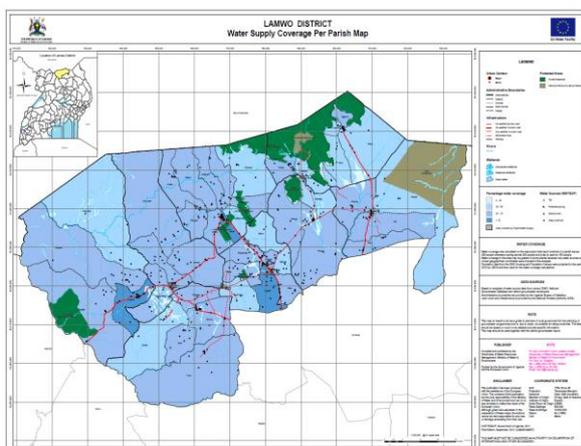
The main source of water in the proposed settlement site - and largely in the district - is ground water. Information from the District water office indicates that there is moderate to very good ground water potential, with 50-75% drilling success rates. While available data shows an average drilled depth of 60m in the proposed settlement, with the first water strikes for boreholes between 10 - 15m, and second strikes at 30 - 40m; the topography of parts of the identified site (Beyogoya and Alimotiko West villages) may impede water development in the areas due to the slopes/ valleys - as well as the rocky soil formations in the area.



In total, there are 239 boreholes in the three sub-counties of Palabek Kal, Palabek Ogili, and Palabek Gem, each serving an average of 220 people - which is within the national standards of 300 people/ borehole. Boreholes yields range between 0.75m<sup>3</sup>/hour to 7m<sup>3</sup>/hr. There were few boreholes with yields of 7m<sup>3</sup>/hour and one with 18m<sup>3</sup>/hour which was previously used to supply water to Palabek Kal town but it is no longer functional. 25% of the borehole in the area are non-functional, while some of the functional boreholes have very low yields and require significant rehabilitation works (see annex for details).

Sub-Counties	Functional Boreholes	Non-Functional Boreholes	Number of People/Borehole
Palabek Kal	52	18	278
Palabek Ogili	51	16	187
Palabek Gem	76	26	198

The water supply coverage in the three sub-counties under which the proposed settlement site will be located is estimated at 78%, however the area is expansive and settlements are spread out resulting in an average walking distance of about 700m to the boreholes. A number of people also reported that they walk for 1.5km - 3km, which is above the national standard of 1km. At household level, the average amount of water collected is estimated at 4-5 jerricans, which is approximately 13 litres per person per day. It is estimated that 32% of the population in the three sub-counties gets water from unprotected water sources. Besides the boreholes, other sources of water in the area include seasonal rivers/ streams, ponds, and from rain water harvesting - mainly used for health centres, markets and school institutions. The district also has one water dam in each of the 9 sub-counties mainly used by livestock. As part of the development plans for 2017, the district water office will drill a borehole in each sub-county.



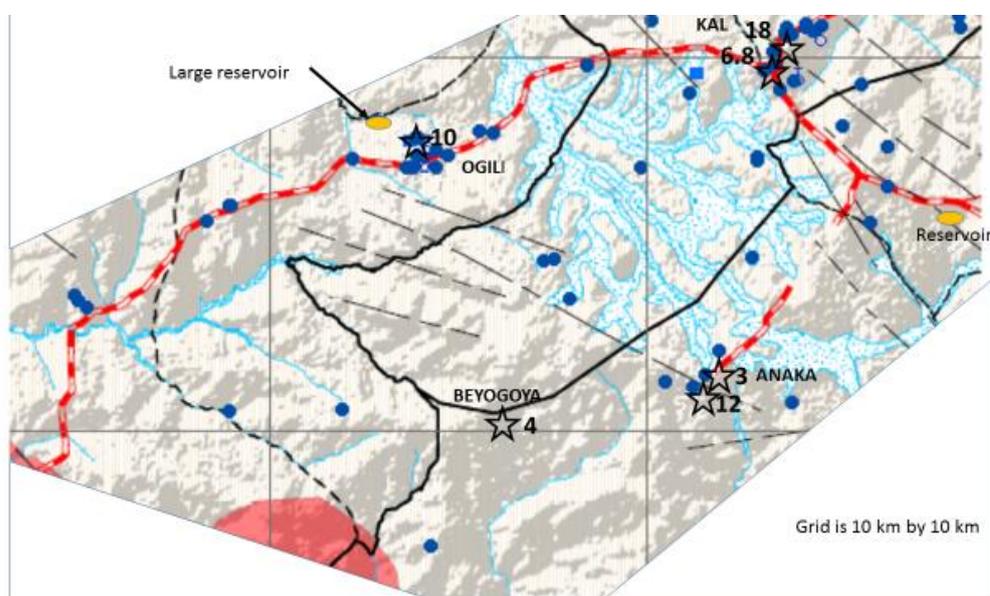
Queueing was observed in some of the boreholes, and the environmental condition around the water facilities were generally poor as they are shared with animals. The district water office conducts quarterly water tests (biological) to check the quality of boreholes suspected to be contaminated. In Palabek Ogili, there were reports of boreholes abandonment due to water quality issues (high iron content).

Water facilities are managed by the communities through water user committees consisting of 9 members. Each households contributes a monthly fee of 1000 - 2000 UGX for maintenance of the borehole. This is usually problematic for refugees who are integrated in the communities as they cannot afford to pay the water users fees.

### Details of Existing boreholes with yields above 5m<sup>3</sup>/hr in the proposed settlement area

No	Source name	Source No	Parish	Sub-County	Depth	Yield
1	Alimotiko East	DWD 42586	Labigiryang	Palabek Kal	45m	5m <sup>3</sup> /hr
2	Lanywang central	DWD 28625	Labigiryang	Palabek Kal	52m	6.5m <sup>3</sup> /hr, but not functional
3	Pauma East	DWD 26555	Kal	Palabek Kal	87.24m	5.4m <sup>3</sup> /hr, but not functional
4	Palengo A (Kal central)	CD 1304	Kal	Palabek Kal	66.9m	6.8m <sup>3</sup> /hr, already motorised
5	Pa'Anyala (Kal central B)	DWD 020078-22	Kal	Palabek Kal	60.7m	18m <sup>3</sup> /hr, but not functional, capped. It was formerly motorised to supply Kal town but pump sunk and the district had no funds to rehabilitate it. Source/pump/generator in pump house.
6	Pagwar (Liri central)	DWD 48780	Ayu alali	Palabek Kal	58.05m	6.9m <sup>3</sup> /hr, functional
7	Junction (Oboke Olot)	DWD 34279	Patanga	Palabek Gem	45m	5.3m <sup>3</sup> /hr, functional
8	Likiliki p.7 school	DWD 22378	Patanga	Palabek Gem	42.7m	8m <sup>3</sup> /hr, functional
9	Kafata	DWD 48777	Patanga	Palabek Gem	51.13m	7m <sup>3</sup> /hr, functional
10	Dyangbi	DWD 48782	Patanga	Palabek Gem	57.75m	7m <sup>3</sup> /hr, functional
11	Moroto East	DWD 28588	Moroto	Palabek Gem	73.24m	6m <sup>3</sup> /hr, functional
12	Kamama central HC 111	DWD 48775	Moroto	Palabek Gem	60.5m	7m <sup>3</sup> /hr, functional
13	Aloyi (Arusha)	DWD 48776	Moroto	Palabek Gem	52.55m	6.7m <sup>3</sup> /hr, functional
14	Waribu Cing (Medde central)	DWD 27545	Gem	Palabek Gem	63.1m	5m <sup>3</sup> /hr, functional
15	Amako ki Arima (Medde central)	DWD 24337	Gem	Palabek Gem	68.56m	7.65m <sup>3</sup> /hr, functional
16	Amina	DWD 48778	Gem	Palabek Gem	60.6m	7.06m <sup>3</sup> /hr, functional
17	Tee kasia (Pawena central)	DWD 48789	Cubu	Pallabek Gem	77.3m	7m <sup>3</sup> /hr, functional
18	Apyeta East	DWD 35196	Apyeta	Pallabek Ogili	71.85m	5m <sup>3</sup> /hr, functional
19	Laoro pa Rwot (Lagot opuk)	DWD 21319	Apyeta	Pallabek Ogili		6m <sup>3</sup> /hr, not functional, capped.
20	Lugwar p.7 (Lugwar central)	DWD 16453	Lugwar	Pallabek Ogili	42m	5m <sup>3</sup> /hr, functional
21	Laluru Oyika (Padwat west)	DWD 48781	Padwat	Pallabek Ogili	44.3m	7m <sup>3</sup> /hr, functional
22	Onen (Mudu North West)	DWD 28006	Paracelle	Pallabek Ogili	84.8m	5.1m <sup>3</sup> /hr, functional
23	Palabek Ogili Solar motorised borehole		Lugwar	Pallabek Ogili		10.2m <sup>3</sup> /hr. Solar motorised, with pump house and fence. Second phase for transmission pipeline, elevated reservoir and distribution system soon to start. Contractor given the site but yet to commence work

Source: District water office reports



Proposed settlement area showing mapped fracture zone and some high-yield boreholes

## E. SANITATION AND HYGIENE

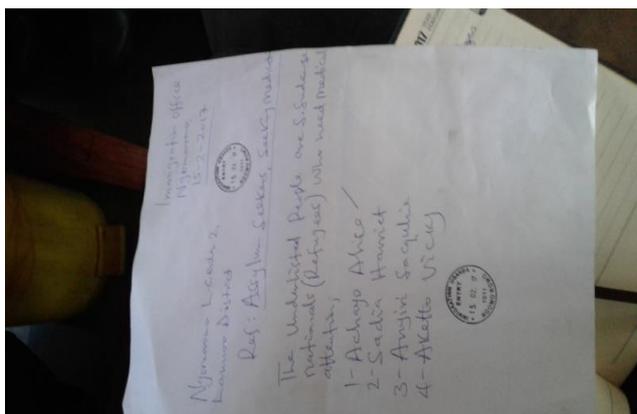
The average household latrine coverage in the proposed refugee-hosting areas in the three sub-counties is 51%; while 29% of the households in the area were reported to have handwashing facilities. The main sanitation option used in the area is traditional pit latrine (pit, covered with logs, mud and wattle walls and thatch roofs). Latrine use was however reported to be low in the area. It was also reported that many of the asylum seekers currently hosted by local communities do not have pit latrines and therefore practice open defecation. Some of the communities interviewed reported that the low latrine use by refugees was as a result of some of the cultural beliefs in the areas of origin - for instance, that it is not culturally acceptable for faeces to pile on top of the other. Maintenance of communal latrines is also generally poor. At the border points, signs of open defecation were observed in various places - including around constructed latrines.



*Open defecation around a communal latrine at Waligo border*

Soil formation in the proposed settlement is stable and therefore good for pit latrine excavation. However in some locations (Alimotiko West) there are rocky and black soft soils which are not suitable for latrine excavations. Local latrine construction materials is readily available in the proposed settlement (logs and grass) and can be mobilized easily for latrine construction. The national sanitation strategy for promotes community-led total sanitation (CLTS) approach which means that no subsidies are given for household latrine construction.

The average latrine-user ratio for schools in the area is 1:60 which is slightly above the national standard of 1:50. The latrine-user ratio for the school visited during the assessment: Lugede primary school, in Palabek Kal is 1:21;



*Sample referral letter given to refugees seeking medical assistance*

however other schools were reported to have more users than the national standard, including Lamayo Agwata primary school, in Palabek Gem, which is reported not to have any sanitation facilities although there are 726 students in the school. Data from the district water office shows that all the schools in the area have a borehole in close proximity, even though no handwashing facilities are available/ provided near the latrine facilities. Three schools do not however have access to water, including: Padwat primary school in Palabek Ogili; and Ayuu Alali and Lamwogogo primary schools in Palabek Kal (more details in annex).

Each of the seven health centres in the sub-counties where the area of focus is located have 3 latrines each, and access to a borehole apart from Paumu (HCII) in Palabek Kal which has no water supply system nearby, and Anyetta (HCII) in Palabek Ogili which has only one latrine for staff - and none for patients (see details in annex).

At Ngomoromo Health centre near one of the border entry points, it was reported that the most common disease reported by new refugee arrivals seeking medical attention at the health facility was Malaria, Respiratory tract infections, Scabies, and diarrhoeal diseases.

## F. PROPOSED ACTIONS

### Water Supply:

- 1) Initial WASH response is reliant on the site planning process as it will guide the installation of key WASH infrastructure/ interventions. Site plans will incorporate shelter and communal WASH facilities layouts in the blocks to avoid households putting latrines in front of other shelters. Also, WASH installations in the valleys should be avoided as there is a likelihood of flooding during the rainy seasons
- 2) Build upon the preliminary ground water analysis to initiate hydrogeological survey once an implementing partner has been identified for the Lamwo response as it will ensure effectiveness of drilling operations
- 3) Explore possibilities of motorizing the existing high yielding boreholes within or near the proposed settlement which will be suitable sources for water for tankering during the early phase of the response. The following boreholes have been recommended as suitable sources for water trucking - however more detailed investigations and community dialogue will need to take place to gain local community consent for utilization of these water sources. The meetings will need to be spearheaded by the District authorities/ water office.

Location	Source No.	Parish	Sub-County	Depth	Borehole details
Pa'Anyala (Kal central B)	DWD 020078-22	Kal	Palabek Kal	60.7m	18m <sup>3</sup> /hr, but not functional since 2009, capped. It was formerly motorised to supply Palabek Kal town during the IDP camps days. Pump sunk and the district had not yet got funds to rehabilitate it. Source/pump/generator in pump house. Requires fishing, flushing, test pumping again, new submersible pump, new generator
Likiliki P.7 school	DWD 22378	Patanga	Palabek Gem	42.7m	8m <sup>3</sup> /hr, functional
Nget Barrack Anaaka central	DWD 22086	Anaka	Palabek Gem	45.0m	Functioning. Drilled depth-45m, installation depth-27m. Yield 12m <sup>3</sup> /hour. Requires test pumping, installation of submersible/generator
Palabek Ogili (Solar motorised borehole)		Lugwar	Palabek Ogili		10.2m <sup>3</sup> /hr. Solar motorised, with pump house and fence. Second phase for transmission pipeline, elevated reservoir and distribution system soon to start. Contractor given the site but yet to commence work. System can be utilised for water trucking as the second phase works (transmission pipeline, elevate tank and distribution pipeline) are ongoing.

- 4) Rehabilitation of existing boreholes around or within the settlement should commence in the initial response phase (emphasis on change of pipes from GI pipes to stainless steel or plastic as per government directive).
- 5) For new supplies, efforts should be made to drill boreholes with yields of 3 m<sup>3</sup>/hr or more so that motorized pumps and a piped distribution system can be installed. Boreholes designs should cater for livestock since host communities keep animals (cattle troughs should be included on the platform).
- 6) Equipping and building the capacity of pump mechanics in the three sub counties to handle boreholes maintenance in the settlement and host communities (40 of the 52 trained pump mechanics are active).
- 7) The construction of small reservoirs within or close to the boundary of the settlement could be considered to relieve stress on drinking water supplies. The reservoir between Gem and Kal is used, among other purposes, for water for making bricks, and such sources could be helpful to refugees and host communities.
- 8) A system of monitoring ground water levels should be put in place in all boreholes. In addition, boreholes not used because of low yield should be considered for monitoring points, depending on location. A rationalised monitoring system that can readily be implemented should be developed in consultation with the District Water Office. Consideration also needs to be given to resources needed for continued monitoring in the long term.

### **Sanitation and Hygiene:**

- 1) Commence the construction of communal latrines and bath shelters as well as the installation of hand washing facilities at key locations as soon as the refugees are received. For protection considerations, WASH facilities should be separated for females/males and positioned a distance apart.
- 2) Sensitization of the new arrivals on the public health risks associated with open defecation as they enter the border points. They should also be encouraged to use provided temporary communal latrines/bath shelters.
- 3) Considering the cultural beliefs associated with latrine (non)use, hygiene promoters will be a critical resource in reinforcing behavior change messages. The selection of hygiene promoters should therefore be done as part of the initial response including training and facilitation - including the use of various IEC means to disseminate key messages.
- 4) In line with the integrated approach used by the education and health sectors to ensure refugees access these services, WASH partners responding in the area should liaise with the district health office, and district education office to identify gaps and provide support on relevant WASH infrastructure for health and school institutions respectively (see annex for details on some of the gaps identified).

### **Other:**

- 5) Considering that the initial response will rely heavily on WASH infrastructure that has been installed for and managed by local communities using their own resources; also that some refugees reside with and are integrated into local communities, the Lamwo response should go hand in hand with support for WASH infrastructure rehabilitation works in the local communities.
- 6) Any WASH interventions need to take into consideration both UNHCR and national WASH standards, and as much as possible refer to the district development plans if supporting local communities.
- 7) Participation of partners in the district WASH coordination meetings - chaired by the district water officer - will inform and facilitate better collaboration in implementing sectoral activities in the district/ settlements. The following WASH agencies have a presence in Lamwo currently:

<b>Name of Agency</b>	<b>Type of Agency</b>	<b>Areas of Intervention</b>	<b>Refugee Response</b>	<b>Development Interventions</b>	<b>Comment</b>
Local Government	Government	WASH, other	Y	Y	Water, Environmental health
VEDCO	Local NGO	WASH, Livelihoods	N	Y	UNDP, Oxfam funding
UNHCR	UN	Refugee Operations	Y	N	Registration, Collection
UNICEF	UN	WASH, Education, Health	N	Y	Works with local government
LWF	INGO	WASH, Livelihoods	Y	Y	Multi-sectoral
Oxfam	INGO	WASH - local partner	N	Y	Works with VEDCO

## G. ANNEX

### I. WASH facilities in Schools in Palabek Gem, Palabek Kal, and Palabek Ogili Sub-Counties

Sub County	Parish	School	Number of students	Rain water harvesting	Boreholes	Latrines	Latrine/User ratio
Palabek Gem	Anaka	Ayuu Anaka	496	0	1	10	50
	Anaka	Beyogoya	357	0	1	10	36
	Gem	Gem Medde	1050	2	1	20	53
	Patanga	Gem P7	1229	0	1	10	123
	Moroto Gem	Labworoyeng	608	0	1	8	76
	Cubu	Layamo Agwata	726	0	1	0	0
	Patanga	Likiliki	678	0	1	5	136
	Patanga	Palabek Sec.	444	0	1	15	30
Palabek Kal	Lamwo	Ayuu Alali	415	0	0	8	52
	Labitiryang	Dicwinyi	884	0	1	13	68
	Lamwo	Kapetta	605	0	1	10	61
	Lamwo	Lamwogogo	417	0	0	10	42
	Lamwo	Lapalangwen	315	0	1	10	32
	Labitiryang	Latebe Primary	606	0	1	5	121
	Ayuu Alali	Liri	345	0	0	15	23
	Labitiryang	Lugede	315	0	1	15	21
	Kal	Palabek Kal	832	0	1	25	33
	Kal	Pauma P7	281	0	1	5	56
Palabek Ogili	Lugwar	Akanyo	947	0	1	10	95
	Lugwar	Apyeta	689	0	1	5	138
	Lugwar	Lugwar	715	0	1	10	72
	Padwat	Padwat	742	0	0	15	49
	Paracelle	Paracelle	590	0	1	5	118

### II: WASH facilities in Health Centres in Palabek Gem, Palabek Kal, and Palabek Ogili Sub-Counties

Sub-County	Health Unit/ Level	WASH Facilities						
		Borehole	Rain water Harvesting	Latrines	Bath Shelters	Waste pits	Placenta Pits	Incinerators
Palabek Kal	Palabek Kal HCIII	1	1	3	1	-	1	-
	Pauma HCII	-	-	3	1	-	1	1
	Kapetta HCII	1	-	3	1	-	-	1
Palabek Ogili	Palabek Ogili HCIII	1	1	3	1	-	1	1
	Apyetta HCII	1	-	1	1	-	-	-
Palabek Gem	Palabek Gem HCIII	1	1	3	1	1	1	1
	Anaka HCII	1	-	3	1	1	1	1
<b>Total</b>		<b>6</b>	<b>3</b>	<b>19</b>	<b>7</b>	<b>2</b>	<b>5</b>	<b>5</b>

### III: WASH Assessment Team

<b>Name</b>	<b>Organization/Agency</b>	<b>Title/position</b>	<b>Regular base/ Office</b>
Jane Maonga	UNHCR	Senior WASH Officer/ Sector Lead	Kampala
Harriet Nash	UNHCR	Hydrogeologist	Roving/ Arua
Charles Kiwalazi	UNHCR	Assistant WASH Officer	Adjumani
Grace Acayo	Lamwo Local Government	District Water Officer	Lamwo
Arop Wilson	Lamwo Local Government	District Environmental Health Officer	Lamwo
Paul Kejira	UNICEF	WASH Officer	Gulu/ Yumbe
Onen William	LWF	Team Leader - Lamwo	Kitgum/ Lamwo
Patrick Barasa	LWF	Sub-Programme Manager	Kitgum/ Lamwo
Sunday Odong	LWF	Field Base Officer	Kitgum/ Lamwo
Aaron Ali	LWF	Construction Engineer	Kitgum/ Lamwo
Crespo Mubbalya	VEDCO	Advocacy Officer	Kampala
Steven Bwayo	VEDCO	Humanitarian Action Officer	Kitgum/ Lamwo