WATER QUALITY SAMPLE COLLECTION FOR PHYSICAL AND BACTERIOLOGICAL WATER QUALITY ANALYSIS AT HAND PUMPS, HOUSEHOLDS AND TAPSTANDS FOR QUARTER TWO 2025/2026.



SUBMITTED TO THE DISTRICT WATER OFFICE, MADI OKOLLO DLG BY ARIMA JONATHAN-HEALTH INSPECTOR

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Introduction

Water quality testing is the process of analyzing water samples to assess their chemical, physical, and biological characteristics and compositions. It is a crucial aspect of ensuring safe and healthy drinking water, protecting aquatic ecosystems, and monitoring the quality of water in various industrial and environmental settings. These indicators are inherent attributes of the status of sanitation facilities, coverage and utilization, hygiene situation and practices especially personal, domestic and food hygiene practices, safe water chain and level of practice as well as organizational strategies employed in management of water supply and quality management and also water as a resource among the people of concern.

Concept of the Activity

The purpose water quality monitoring was to collect samples for water samples, quality analysis and sanitation analysis using checklists at the point sources to understand the community knowledge, attitude and practices. Water safety through balancing sanitation, hygiene practices and possible risk factors that may lead to contamination of water impacts on the health of population of Madi Okollo. Continous monitoring of water quality thus is a reflection of the quality of water and state of the source hygiene and sanitation. The analysis was done between October and December 2025.

Methodology

- Letztest kit for water quality analysis was utilized and absence or presence test for bacteriological analysis was used.
- The activity was carried in the sub county of Rigbo council targeting the majority water sources in this sub county.
- The community access was through community leaders.
- Sterilized equipment were assembled to enhance decontamination.
- Before sample collection sanitary survey conducted alongside sample collection to determine risk factors
- Sample collection at the selected pump stations, tapstands and households
- Incubation was done for 18hrs at a temp. Of 40^{o}c to aid normal condition for the growth of E. coli only.
- Presence and absence test used in bacteriological analysis.
- Membrane filtration conducted for samples that showed presence, coded 1.

General Observations during the exercise

Households lack hand washing facilities, poorly maintained latrines and unsafe water chain especially poor storage of water in dirty areas uncovered, use of dirty containers for drinking water

Mishandlement of tap stands/handpumps with taps tied with dirty clothes and polythene materials likely to cause pollution and contamination.

Achievements

Managed to analyse samples from 44 sources from Rigbo sub county during the exercise

All the samples were subjected to incubation resulting into both reactive and none reactive results in sources as summarized

S/NO	NAME OF WATER SOURCE	DATE	TURBIDITY (NTUs)	PH	E-COLI PRESENCE	IRON TEST (mg/100cm3)
1.	FORIA CC PSP	12/11/2025	<5	7.4	**0**	**ND**
2.	MALIAMUNGU YAHAYAM SHOP	12/11/2025	<5	6.7	**0**	**ND**
3.	BANDUNI HAMZA	12/11/2025	<5	6.9	**0**	**ND**
4.	GOD CARE SHOP	12/11/2025	<5	6.3	**1**	**ND**
5.	RASUL SHOP	12/11/2025	<5	6.9	**0**	**ND**
6.	WALOPE BH	12/11/2025	<5	6.8	**0**	**ND**
7.	ANIVU JOHN SHOP	12/11/2025	<10	6.8	1	**ND**
8.	FETA SAMUEL	12/11/2025	<5	7.1	1	**ND**
9.	RAIN HARVESTING TANK SENIOR QUARTER	10/11/2025	<5	7.3	1	**ND**
10.	OCOMBENGA BH	10/11/2025	<5	7.4	**0**	**ND**
11.	BLESSED MOTHER MARY SCHOOL PSP	10/11/2025	<5	6.7	**0**	**ND**
12.	MATANGACIA BH	10/11/2025	<5	6.7	**0**	**ND**
13.	OLUJOBO STAFF QUARTER PSP2	10/11/2025	<5	6.7	**0**	**ND**
14.	OBIBIFE BH	10/11/2025	<5	7.1	1	**ND**
15.	KALIGO P7 BH	10/11/2025	<5	6.8	**0**	**0.48**
16.	OLUJOBO MCH TS	10/11/2025	<5	6.6	**0**	**ND**
17.	OLUJOBO SQ	10/11/2025	<5	7.0	**0**	**ND**
18.	MCH RHT	10/11/2025	<5	7.1	**0**	**ND**

19.	KALIGO P7 BH	6/11/2025	<5	7.2	**0**	**0.48**
20.	STAFF ROOM POT KALIGO	6/11/2025	<5	6.7	**0**	**BMR**
21.	STAFF KALIGO	6/11/2025	<50	7.0	1	BMR
22.	EDEN A BH	20/11/2025	<5	6.8	**0**	**ND**
23.	ODUJO	20/11/2025	<5	6.7	**0**	**ND**
24.	BUKUNGA	20/11/2025	<5	6.5	**0**	**ND**
25.	ALUKPERENGA	20/11/2025	<5	6.9	**0**	**ND**
26.	OSSA A	20/11/2025	<5	6.7	**0**	**ND**
27.	YANGA BH	20/11/2025	<40	6.6	0	**ND**
28.	EDENI AYAMARAT	20/11/2025	<5	7.3	**0**	**ND**
29.	ODRUAKU BH	20/11/2025	<10	6.9	**0**	**ND**
30.	OLIONGA BH	20/11/2025	<5	7.3	**0**	**ND**
31.	EMVENGA BH	20/11/2025	<5	7.2	**0**	**ND**
32.	RIGBO P/S	20/11/2025	<5	6.9	**0**	**ND**
33.	EMVENGA BH	20/11/2025	<5	7.0	**0**	**ND**
34.	OLIVU HC BH	20/11/2025	<5	6.8	**0**	**ND**
35.	KOGBO BH	20/11/2025	<5	6.5	**0**	**ND**
36.	YELEGO	20/11/2025	<5	7.4	**0**	**ND**
37.	FUNDO P/S	20/11/2025	<5	6.7	**0**	**ND**
38.	ELUKWESINYONGE	15/12/2025	<5	6.9	**0**	**ND**
39.	WARANGA BH	15/12/2025	<5	6.3	**0**	**ND**
40.	ORUKU BH	15/12/2025	<5	6.9	**0**	**ND**
41.	ODOBU MKT BH	15/12/2025	<5	6.8	**0**	**ND**
42.	ODROO BH	15/12/2025	<5	6.8	**0**	**ND**
43.	MARKET BH	15/12/2025	<5	7.1	**0**	**ND**
44.	OCEA A	15/12/2025	<5	7.3	**0**	**ND**

ND= Not Done **BMR=Beyond Machines Reading**

RESULTS: 5/44 POINTS ARE CONTAMINATED

Challenges

- Madi Okollo is wide spread from Ewanga to Anyiribu making collection of samples per month not an easy experience.
- Extremely poor access Road network conditions across some of the sub counties.
- Carrier for mobile kit not yet delivered
- The laboratory needs re-organisation for upgrade and accreditation as it is well equiped with modern equipment .
- Limited funding for water sampling, analysis and follow-ups.
- Poor community attitudes towards O & M of facilities.

Recommendations

- Use of Aqua safe at household and boiling of water for households with coliform contamination.
- Need to carry out more confirmatory chemical tests on points such Kaligo P7 Borehole where there were public outcry for action from an accreditated laboratory.
- Sensitisation of community on safe water chain
- Refresher training for pump operators on operation and maintenance of these systems.
- Reformation and reorientation of the water user committees and water boards
- Promotion of household sanitation and hygiene using participatory approaches like PHAST and CLTS in both the host and refugee community.
- Need to increase funding for water quality monitoring .

PICTORIALS



ABOVE: STERILISATION OF THE SOURCE POINT FOR SAMPLING



LABELLING OF SAMPLES IN THE LAB FOR INCUBATION