

JAMHURI YA MUUNGANO WA TANZANIA
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27/09/ 2018

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**Yah: TAARIFA YA UTENDAJI KAZI WA MASHINE ZA KUCHUJA NA KUTIBU MAJI
(ALMEGA REVIVO 1200)**

Tafadhali rejea kichwa cha habari hapo juu.

Kazi ya uchunguzi wa utendaji kazi wa mashine mpya za kuchuja na kutibu maji zilizosimikwa katika shule za msingi za Kongowe, Mzinga na Maweni katika wilaya ya Temeke na Kigamboni ilifanyika na kukamilika.
Taarifa ya kazi hiyo imeambatishwa na barua hii.

Wako katika ujenzi wa Taifa

Abeid G. Kiangi

Kny: **Mkurugenzi Huduma za Ubora wa Maji.**

For: DIRECTOR WATER SUPPLY
DARES SALAAM

**THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF WATER AND IRRIGATION**



**REPORT ON EFFICACY OF WATER PURIFICATION SYSTEMS
(ALMEGA REVIVO 1200)**

27th September, 2018.

*Central Water Laboratory
Ubungo –Dar es Salaam*

1.0. Introduction:

Assessment of the performance of three new **Water Purification Units ALMEGA REVIVO 1200** installed at Kongowe Primary School (Temeke District), Mzinga Primary School (Temeke District) and Maweni Primary School (Kigamboni District) in Dar es Salaam, were conducted on 25th September 2018 by Staff from the Central Water Laboratory in the Department of Water Quality of The Ministry of Water. The purpose of this assessment was to ascertain the safety of boreholes-treated water to be used by students and teachers in the above mentioned schools which have populations 2842, 3565 and 1458 respectively (according to Teachers of these schools), hence ascertain efficiency of the water treatment /purification systems. The Purification units were installed in these schools on 17th/09/2018, 18th/09/2018 and 24th/09/2018 respectively.

2.0. Methodology:

For Purification system installed at Kongowe Primary School, three water samples were collected from three locations, these are: (1) raw water from a tank at the tap before entering to purification unit (2) Treated water at the tap after treatment process and (3) Treated water at the tap after storage tank for treated water. No sample was collected directly from the borehole due to power cut.

In each purification system for Mzinga and Maweni Primary Schools, three water samples were collected from three locations, these are: (1) Raw borehole water (2) Raw water at the tap before entering to purification unit and (3) Treated water at the tap after treatment process. Samples were transported to the Central Water Laboratory and tested for physical and bacteriological quality according to procedures stipulated in Standard Methods for the Examination of Water and Wastewater 20TH Edition.

3.0. Results:

The analytical results for physical and bacteriological quality are presented hereunder.

3.1 Results for Kongowe Primary School

Site	Tap before treatment	Treated Water at the tap after treatment	Treated Water at the tap after treated water storage tank	Standard (TZS 789-EAS 12:2014) for Treated potable water
Sample ID	1128/18	1129/18	1130/18	
Parameters				
pH	6.79	6.96	6.86	6.5-8.5
EC (μ S/cm)	857	863	859	1500
Total Dissolved Solids (mg/L)	513	514	513	700
Total Coliform (Cfu/100ml)	148	0	0	Absent
Fecal coliform (Cfu/100ml)	72	0	0	Absent
Ecoli (Cfu/100ml)	2	0	0	Absent

3.2 Results for Mzinga Primary School

Site	BH water	Tap before treatment	Treated Water	Standard (TZS 789-EAS 12:2014) for Treated potable water
Sample ID	1131/18	1132/18	1133/18	
Parameters				
pH	6.26	6.74	6.87	6.5-8.5
EC (μ S/cm)	850	855	933	1500
Total Dissolved Solids (mg/L)	508	510	758	700
Total Coliform (Cfu/100ml)	0	10	0	Absent
Fecal coliform (Cfu/100ml)	0	7	0	Absent
Ecoli (Cfu/100ml)	0	0	0	Absent

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3.3 Results for Maweni Primary School

Site	BH water	Tap before treatment	Treated Water	Standard (TZS 789-EAS 12:2014) for Treated potable water
Sample ID	1134/18	1135/18	1136/18	
Parameters				
pH	7.37	7.63	7.67	6.5-8.5
EC ($\mu\text{S}/\text{cm}$)	758	761	766	1500
Total Dissolved Solids (mg/L)	372	373	375	700
Total Coliform (Cfu/100ml)	10	152	0	Absent
Fecal coliform (Cfu/100ml)	0	0	0	Absent
Ecoli (Cfu/100ml)	0	0	0	Absent

4.0. DISCUSSION

➤ Physical parameters

pH and other Physical parameters of water samples from all Purification systems showed no significant difference before and after filtration, also all of them are within the acceptable limits.

➤ Bacteriological Quality

In all three Purification systems, the raw water at the tap before entering to the treatment unit was found to be contaminated with coliform bacteria whereas treated water was free from bacterial contamination.

5.0. CONCLUSION

- The treatment units were proved to be efficient and the treated water is safe for drinking.
- Regular checking of water quality is recommended.