



REPORT ON MAINTENANCE CONDUCTED AT BUGESERA AND NGOMA DISTRICTS.

1. INTRODUCTION

This report provides a summary of maintenance activities conducted on weather stations located in Bugesera and Ngoma Districts from September, 30th to October, 3rd, 2025. This involves conducting preventive maintenance and corrective maintenance of the automatic weather stations, automatic rain gauges, and manual stations located in mentioned districts.

2. PERFORMED ACTIVITIES

2.1. MAINTENANCE OF AUTOMATIC WEATHER STATIONS

STATION		FINDINGS	PERFORMED ACTIVITIES	RECOMMENDATIONS
1	RWERU	Station did not report during night hours due to faulty battery.	Replaced battery	Monitoring the reporting status especially during night.
		RH sensor gives incorrect values due to a loose connection to the data logger.	Connect sensor properly on data logger.	Monitor sensor values regularly to check its performance.
		Soil temperature at depth of 100 Cm gave wrong values.	Replace soil temperature and moisture sensor at depth of 100 Cm.	
		Water collector and rain gauge sensor were very dirty.	Cleaning both water collector and rain gauge sensor.	Regular preventive maintenance.
		Tall trees and grasses inside and outside the fence.	Cutting grasses and trees.	Regular cleaning of station environment.
2	ZAZA	Station did not report during night hours due to battery faulty.	Replaced battery	Monitoring the reporting status especially during night.
		Rain gauge reports rainfall which extremely higher than the manual rain gauge.	Replacing rain gauge sensor (SN:178325).	Monitoring the performance of new installed one.
		Wind direction values vary only between 0 ⁰ and 180 ⁰ .	Attempted troubleshooting, but the problem persists.	Further investigation of wind direction channel on data logger.
		Soil moisture at depth of 10 Cm and depth of 20 Cm are suspected.	Attempted troubleshooting, but the problem persists.	Sensors to be replaced in next maintenance.
3	MAYANGE	Water collector and rain gauge sensor were very dirty.	Cleaning both water collector and rain gauge sensor.	Regular preventive maintenance



		Tall trees and grasses inside the fence.	Cutting grasses and trees.	
		Data logger time was one hour behind the local time, while barometer time was on GMT time.	Set both data logger and barometer's time to local time.	
4	GIHINGA	Water collector and rain gauge sensor were very dirty and not levelled.	Adjust the time on both data logger and barometer to match local time.	Regular preventive maintenance.
		Tall trees and grasses inside the fence.	Cutting grasses and trees.	Regular cleaning of station environment.
5	RUHUHA	Not reporting	Attempted troubleshooting, but fails due to faulty data logger.	Replace data logger.

2.2.MAINTENANCE OF AUTOMATIC RAIN GAUGES

STATION		FINDINGS	PERMODED ACTIVITIES	RECOMMENDATIONS
1	MUTENDERI	No Communication with server.	Rebooting data logger, now station is reporting .	Regular preventive maintenance.
2	SAKE	No issue	Preventive maintenance.	Regular preventive maintenance.
3	MURAMA	No issue	Preventive maintenance.	Regular preventive maintenance.

2.3.MAINTENANCE OF AGROSYNOPTIC STATION

STATION		FINDINGS	PERMODED ACTIVITIES	RECOMMENDATIONS
1	KAZO	No evaporation pan available.	Installation of evaporation pan.	Regular preventive maintenance.

2.4.MAINTENANCE OF CLIMATOLOGY STATIONS

STATION		FINDINGS	PERMODED ACTIVITIES	RECOMMENDATIONS
1	NYAMATA	Low Voltage Dry Cells and Stevenson screen is old.	Provide a set of dry cells.	Painting of Stevenson screen.
2	JURU	Tall trees near station.	Discussion held with sector authority to cut trees.	Follow up.
3	JARAMA	Rain gauge is for old version of 8mm measuring cylinder, fence is damaged	station inspection and data forms collection.	Replace rain gauge with new version of 10 mm measuring cylinder and rehabilitation of fence and



		and Stevenson screen is damaged.		Painting of Stevenson screen.
4	ZAZA	Fence is damaged.	Station inspection and data forms collection.	Rehabilitation of fence.

2.5.MAINTENANCE OF MANUAL RAINFALL STATIONS

STATION		FINDINGS	PERMODED ACTIVITIES	RECOMMENDATIONS
1	SAKE	No issue found.	Station inspection and data forms collection.	Regular preventive maintenance.
2	MUTENDERI	Rain gauge is for old version of 8mm measuring cylinder.	Station inspection and data forms collection.	Replace rain gauge with new version of 10 mm measuring cylinder.

3. ACHIVEMENTS

- Two stations (RWERU and ZAZA) experienced power-related issues that caused them to stop reporting during night hours; the problem has since been resolved, and both stations are now reporting normally.
- The MUTENDERI station had stopped reporting; however, the issue has been resolved, and it is now transmitting data normally.
- Two faulty sensors; the soil sensor at depth of 100 Cm at RWERU and the rain gauge sensor at ZAZA were replaced.
- An evaporation pan was successfully installed at the KAZO station.

4. CHALLENGES

- The issue at RUHUHA station was not resolved due to the unavailability of a new data logger to replace the faulty one.
- We were not able to resolve the issue of wind direction at ZAZA due to faulty of data logger.

5. RECCOMNDATIONS

- RWERU, MAYANGE, and GIHINGA stations were found in poor environments, surrounded by tall grasses and trees; hence, regular preventive maintenance and inspection are recommended.
- Procure new data logger and Replace data logger of RUHUHA AWS.



6. ANNEX



Figure 1:Evaporation Pan at KAZO site.

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