



TECHNICAL ASSESSMENT REPORT ON GREEN GICUMBI INTERVENTION AREAS WEATHER STATIONS

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1. Background

The project, implemented by the National Fund for Environment (FONERWA), aims to enhance the resilience of rural communities through climate-resilient interventions in nine sectors of Gicumbi District. Among its key achievements, the project installed three automatic weather stations in collaboration with the relevant national institutions to facilitate the collection and dissemination of weather and climate data to guide CSA practices.

Recently, the project team received reports of technical issues at Bwisige, Cyumba and Mulindi Weather Stations, characterized by frequent shutdowns and restarts, affecting data transmission and reliability.

2. Purpose of assessment

The main objective of the current joint field assessment on weather stations was to:

- Identify the root cause of the technical issues reported at Bwisige, Cyumba and Mulindi Weather Stations.

- Verify the operational status of the stations and the functionality of all components.
- Provide recommendations for corrective action to ensure consistent data collection and transmission.

3. Methodology

The assessment was conducted jointly by the Green Gicumbi Project technical team and the partner institution's namely METEO Rwanda experts involved Weather station's maintenance

- On-site inspection of system components, including batteries, sensors, and data loggers.
- Diagnostic tests on power supply system and weather data transmission systems.
- Review of maintenance logs and recent operational data.

4. Findings

1. All sensors and data loggers at all weather stations are normally functioning properly.
2. The solar panels were found to be in good condition and generating adequate power.
3. The only issue identified is related to the batteries, which showed signs of reduced storage capacity and inconsistent power retention, resulting in repeated shutdowns of the stations.

5. Conclusion

The technical assessment confirms that 2 weather stations namely Mulindi and Bwisige are partially operational (only operate during sunlight). During sunlight other station's components are working (data logger, radio modem and sensors). In contrast, Cyumba is not fully operational because it's battery is not working at all. The problem is solely due to battery wear, which has reduced the stations' ability to maintain stable power supply.

This is a routine maintenance requirement, not a system fault, and will be resolved by replacing the existing batteries with new ones of equivalent (12V,40Ah) or higher

6. Recommendations

1. Immediate replacement of the batteries at 3 stations to restore continuous operation.
2. Regular preventive maintenance to monitor weather station performance and plan timely of different parts before they get obsolete
3. Periodic system checks (every three months) to ensure stable data transmission and long-term functionality of all weather stations.

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