

Citizen Science - Citizen Data for SDG Indicator 6.3.2



Citizen Science - Helping communities to track water quality in Sierra Leone for SDG 6.3.2 reporting

ABSTRACT

This project is part of a broader Citizen Science workstream, which aims to ensure robust data on water quality can be collected and reported for SDG indicator 6.3.2 reporting.

A key part of this Earthwatch project is working with Community Citizen Scientists providing training, support and guidance on collecting and reporting data at selected points on the Rokel River basin in Sierra Leone. Samples will be collected monthly at 27 sites throughout the river catchment, over a year. In collaboration with the National Water Resources Management Agency (NWRMA), the project is developing novel sampling design and training approaches, where organizational and technical considerations are being tested for the first time. Learnings will be used for best practice guidance to optimize the use of Citizen Science data for monitoring and reporting purposes.

The project will improve the understanding of Sierra Leone's surface water quality and provide valuable data for the next round of SDG reporting. It will also build community engagement by further improving citizens' knowledge and understanding of their local freshwater quality and how to protect it both now and into the future.



CONTACT

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UPDATE ON PROGRESS

In October 2021, the National Water Resources Management Agency (NWRMA) partnered with Earthwatch Europe and UNEP on a twelve month research initiative to introduce the FreshWater Watch Citizen Science Monitoring Programme in the Rokel River basin.

FreshWater Watch is a global initiative to monitor the water quality in rivers, lakes, reservoirs, and wetlands, using a standardised methodology followed by citizen scientists around the world to ensure robust, meaningful data.

The programme is designed to help NWRMA identify point-source pollution and map out other environmental threats in the Rokel River basin. NWRMA previously established a total of 19 water quality monitoring stations, and now 24 citizen scientists across 27 different monitoring locations have been trained using the global FreshWater Watch methodology and are taking and uploading regular measurements.

ACHIEVEMENTS

- 24 local communities engaged in improving the freshwater quality of the Rokel River basin
- A total of 24 citizen scientists fully trained in how to take and upload robust FreshWater Watch measurements
- A total of 27 different monitoring locations being regularly sampled throughout the catchment area

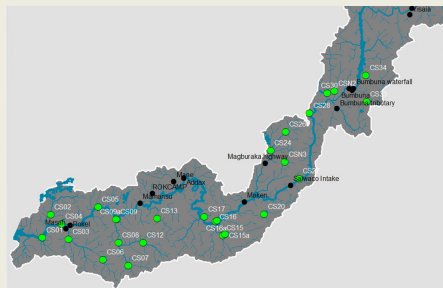


Figure 1. Map of the Rokel River basin showing each of the original 19 monitoring stations (black) and the recently established 27 citizen scientist monitoring locations (green).



Figure 2. Meetings taking place with the local communities to establish engagement, discuss optimum site selection, and confirm recruitment of citizen scientists.

CITIZEN SCIENTISTS

A feedback survey was completed by each of the 24 citizen scientists after their initial training to gather initial impressions about the state of the Rokel River and to evaluate the training day. The two charts below display their responses to questions about their motivations for deciding to join the programme and their environmental experience prior to joining.

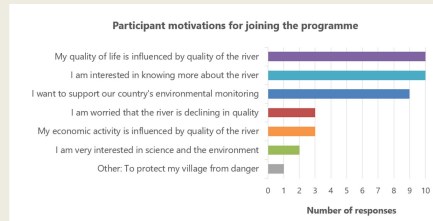


Chart 1. Showing the responses of the 24 citizen scientists to the survey question: "Why are you participating in this programme?"



Chart 2. Showing the responses of the 24 citizen scientists to the survey question: "Before taking part in this programme, did you have any experience in monitoring or managing the local river or environment?"

FUTURE OUTLOOK

The project will continue through ongoing monitoring and knowledge exchange with the 24 participating communities, their citizen scientist leaders and the scientists at the NWRMA. Together, we will continue to build on the work initiated by strengthening the actions of citizen scientists to support for SDG reporting as well as a more sustainable management of the Rokel river basin.

The learnings from the current Sierra Leone project, as well as valuable local connections, will be used to build on the momentum of this project and upscale work across other river basins in Sierra Leone and expand to other countries where data gaps on water quality exist. We will address a major thematic priority topic of the WWQA approved work plan: the need to scale up citizen science-based water quality data collection to support national SDG reporting.

Ongoing collaborations with the Water Resources Management Authority in Zambia, the Ministry of Water (Tanzania) and Tanzania Fisheries Research Institute, Lilongwe Water Board and Ministry of Irrigation and Water Development (Malawi), are being explored to evaluate key components of a citizen scientist/regulatory water quality design process targeted at SDG indicator 6.3.2 reporting.