miniSASS – citizen biomonitoring for indicator 6.3.2

Background

miniSASS allows non-specialists to determine the quality of water in streams and rivers. By counting the different groups of **macroinvertebrates**, users can generate a score that reflects the **health of the river** for that location at a point in time.

miniSASS was developed based on the South African Scoring System (**SASS**) and uses a streamlined taxonomic system that reduces the required classification skills to easily identifiable features such as the number of tails or pairs of legs.

The miniSASS method has been **rigorously tested** and was found to reliably predict a SASS score.

This method is widely used in South Africa and neighbouring countries. **Globally**, it has been effectively applied in India at high altitude, as well as in Brazil, Canada, Germany and Viet Nam.

The miniSASS platform is maintained by the organization **GroundTruth** that verifies the incoming data and is supported by the **Water Research Commission of South Africa**. More information is available at www.minisass.org/website.

Method

Biomonitoring methods such as miniSASS have been used for decades to assess water quality. These methods rely on the presence, absence or abundance of species that are driven by their tolerance of water quality. Some species are **more sensitive than others** and are not found where water quality is poor.

Samples are collected by disturbing the river substrate and collecting the macroinvertebrates in a net. The sample is emptied into a white tray, and using a simple dichotomous key, users are guided through the **classification process**. More sensitive groups such as stoneflies are scored higher than tolerant groups such as leeches or worms.

There are five possible categories of water quality ranging from "**Natural**" through to "**Very poor**".

Potential

Efforts to engage citizens in water quality data-collection programmes can accelerate progress on target 6.3 by simultaneously **filling data gaps** and **engaging citizens**, creating ownership of the SDGs.

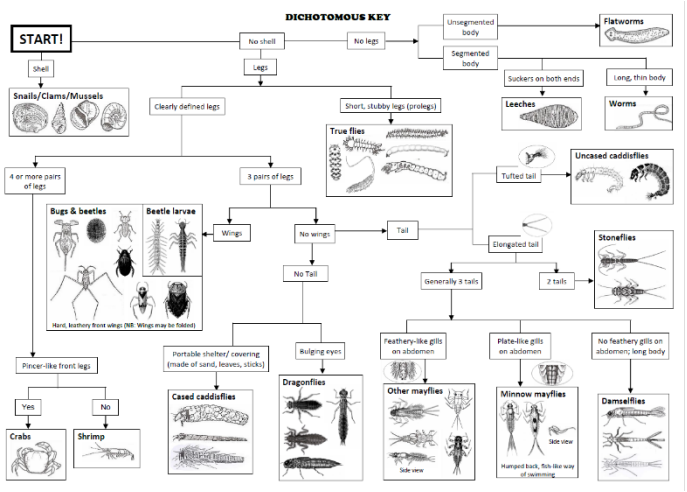
Empowering citizens with the **tools of scientific data collection** and providing **education** on water quality concepts establishes a connection between local knowledge of the pressures on water bodies and the observed in-stream water quality. This connection can be a **powerful motivation** to help drive change.

Future

Acceptance of citizen-derived data for official SDG reporting is rare. To build confidence, **upscaling and testing** of these methods is needed to ensure these data both are and are **seen to be suitable**.

This method has **global potential**, but further testing is needed to ensure the method is **optimized** for local conditions – it works, but could performance be improved?

miniSASS has the potential to **complement** physico-chemical data currently used for indicator 6.3.2 to provide a **comprehensive picture** of water quality.



miniSASS dichotomous key used to identify macroinvertebrates.

Photo credit: miniSASS.org.

SUSTAINABLE DEVELOPMENT GOALS