Citizen Science Symposium: Launch of the CS Association of Southern Africa
THEME: Citizen Science - Democratising Knowledge for Action

Date: 19 October 2023

Time: 09:30 – 12:00

Registration link:https://us02web.zoom.us/webinar/register/WN_OevC_cMoSYS37c5wmRkHnQ

Background

Citizen science is not a new concept. In fact, the first formal use of the term "citizen scientist" can be found in the magazine New Scientist, October 1979. Prior to this time, it was an informal exercise driven by passion, particularly among photographers. Citizen science (CS) is sometimes described as public participation in scientific research, participatory monitoring, or participatory action research whose outcomes are often advancements in scientific research by improving the scientific community's capacity, as well as increasing the public's understanding of science. In abbreviated form, it's also referred to as **community science**, **crowd science**, **crowd-sourced science**, **civic science**, or **volunteer monitoring.** It is scientific research conducted, in whole or in part, by amateur scientists or ordinary citizens often in collaboration with scientific research led by experts. It is very important to differentiate between CS and once-off surveys or even action research where scientists utilize individual community members (or groups) to collect data for the benefit of the research study and duration. This has a short time equal to that of the study, beyond that there is no sustainability built-in, tested indicators, or common vision.

Citizen science is exploding in popularity all around the world. And for good reason! It's fun, it illuminates mysteries, and it makes it possible for everyone to experience real research. The World Economic Forum (January 2021) makes it abundantly clear once more that there can be no sustainable economic growth in an unconducive environment. All forms of development depend on healthy natural ecosystems and the services they provide. It is unfortunate that globally, we continue to lose habitats, species, and experience worsening pollution. These conditions are made worse by limited practical interventions on climate change mainly by rich nations that benefitted from burning fossils.

The most apparent concern globally is the dwindling water resource quality and quantity data. This is clearly marked in the SDG:2030 report published in 2021. Indeed, this desperate situation is mentioned in the National State of Water Resources of South Africa published by the Dept of Water and Sanitation in 2021. On the other hand, nationally and internationally, there is an increase in ecosystem degradation, hence the additional call by the UN to secure and implement restoration of these ecosystems within a decade from 2021! This emphasis is re-enforcing restoration calls already listed under several SDG: 2030 Goals. UN in the light of data gaps has made a call to member states to seriously consider supporting citizen science data and information generation and where possible align this with mandatory monitoring for quality control and assurance. It is also well acknowledged that trained citizen scientists (CS)

collect far more data than mandated organizations in space and time. It is therefore a service that is hugely underutilized.

Various attempts are made by many countries, including South Africa, to secure the validity and acceptance of the CS data by researchers and policy. As a start to gain policy support, the WRC and the United Nations Children's Emergency Fund (UNICEF) committed to jointly fund a project in which one objective is to produce a state of water resources using CS data. Another project initiated by UNICEF/Ground-Truth is on reviewing the database developed by the WRC in the last decade. Other WRC funded monitoring and training projects on CS role currently underway, are on developing online training, as well as weather and climate change early warning, led by Ground-Truth and South African Weather Services, respectively. In the list of proposals to be funded from 2024, WRC has the following update and diversification of the current citizen science monitoring toolbox (TT/763) by adding approved (validated/piloted/training/quality control and standardized) raw water chemicals, domestic drinking, and irrigation water in the gardens as well as W.A.S.H tools. All these will be validated against the Government existing tools, such as Blue/Green drop, Agricultural water quality guidelines, aquatic and chemical or salinity guidelines. Inevitable, is the air-water quality, with special reference to Mpumalanga where most challenges have been experienced and the Department of Forestry, Fisheries, and Environment has established high technical monitoring tools and implemented as a priority site. However, these tools, like others produced by DWS, etc, are highly technical for community use and often prohibitively, very expensive which makes them inaccessible to marginalized citizens, hence the science is not democratized. Others include streamlining CS data and information into policy decision-making, developing quality control mechanisms (standardization), establishment of sustainable CS networks, engaging more youth as future leaders, exploring entrepreneurship opportunities, and encouraging the use of technology (such as 4IR) and social media in water resources monitoring.

UNEP-GEMS/UNESCO-IHP (2021) are equally committed to supporting CS development and its strengthening across the global communities, especially member states. The World Water Quality Alliance, the World Water Watch, HR2W, are all fully supportive and participate in CS efforts in South Africa and continental. CS is indeed a global movement and game changer in water resources quality management, where NGOs, Gov, Research institutions/funders, Communities are holding hands towards a greener and liveable world, where economy can flourish and society benefits.

Without doubt, there is a wave of interest in CS, but these actions and activities are uncoordinated and piecemeal, hence the difficulty in upscaling efforts and results to generate national data and information that is so critical in making impact on integrated water resource monitoring.

Overall aim

In September 2016 WRC and partners called a symposium to assess the feasibility of strengthening CS groups and activities in southern Africa. The idea was supported but lacked champions to investigate the feasibility and sustainability of pulling the groups under one body.

In 2022, WRC and partners revisited the networking idea in a very successful symposium meant to explore the feasibility of establishing a coordinated CS association voice in South Africa and Transboundary states. That symposium mandated a task team to go and explore the feasibility and outline all what is required to establish a sustainable network and report

back in a year to the citizen scientists who gave it a mandate and anyone else interested to be part of the initiative. The task team is ready to report back for the potential membership to decide.

The aim of the October 2023 symposium is therefore to provide feedback on network establishment, pros and cons, and allow for the launch of a Southern African Association for CS network. The focus of the CS is on natural (aquatic/terrestrial) resources sustainable development and management, a catchment or landscape approach. It is expected that the society will empower a coordinated CS voice to integrate CS so as to best address the SDG's and effect better management and behavioural change which are well overdue.

Objectives:

The CS network launch is based on striving towards achieving the following, progressively.

1. Secure voluntary executive committee members to lead the society.
2. Launch the network.
3. Data types, training, quality control and collection.
4. Standardization of data/consolidation.
5. Data management and sharing-online.
6. Meet the reporting requirements at national-regional-international levels.
7. Gain policy support and sustainable partnership leading to action.
8. Sustaining the role of CS-awareness/empowerment/action.
9. Solicit ideas on sustaining the society-funding options.
10. Firming up the CS legality (NPO), vision and mission

Target audience:
The symposium is open to all who are concerned about communities and their environment, International speakers or audience are invited to share lessons on establishing and sustaining CS society, such as from the UN-SDG reporting team, WWQA, GlobalFreshwaterWatch, UNESCO-IHP, HR2W. Policy, business, international partners, Africa CS society, SADC, academic institutions, NGO/NPOs, research institutions, schools, church leaders, traditional leaders, and politicians, are invited to participate in launching the CS society for southern Africa.

Draft Agenda

Programme Director: Ms Dan'sile Cindi (South African National Biodiversity Institute)

TIME	PROCESS	RESPONSIBLE PARTY
09h45-10h00	Registration, meet and greet	All
10h00-10h:15	Welcoming remarks: Citizen Science-WRC strategy	Dr Shafick Adams, Water Research Commission (WRC)
10h:15-10h30	Citizen Science Research support Objectives of the symposium	Mr Bonani Madikizela, Research Manager (WRC)
10h30-10h50	Keynote Address: Sustaining the role of Citizen Scientists in a changing world.	Ms Faye Brownell (Amanzi ethu Nobuntu-DUCT)/ Mr Ben Smith-UNICEF
10h50-11h10	Introduction of the Interim Executive and appreciation	Mr Gary Bing (Interim Committee chairperson)
10h35-11h05	Feedback on establishment of the association process	
11h05-11h15	Facilitator: Question & Answer session	Prof Jaqui Goldin (University of the Western Cape)
11h15 – 11h45	Facilitator: Suggested Executive Committee Positions to lead the organization are: 1. Leader 2. Deputy Chairperson 3. Treasurer 4. Communications and Website Management 5. Secretariat 6. Youth Rep 7. X5-Additionals Call for volunteers/or Voting	Mr Bonani Madikizela Mr Tiyani Chauke Ms Atlegang Lekabe
11h45-12h00	Way forward and Closing remarks: Expected milestones by Executive Rep. International and Partnerships: CS perspective	CS Society Chairperson Dr Mamohloding (WRC)