2025 NEWSLETTER

the SAM project

The SAM Project is a Canadian-registered charity implementing rural development programs in Southern Africa since 2007.

SAM supports household prosperity, food security, and resilience in rural communities through locally guided, water-focused initiatives.

MESSAGE FROM THE FOUNDER

Cover photo: Geologist Chris Kanteene and Maintenance Trainer Clement Simenti pump water from the Kalundu Luezi School well, installed by SAM in 2023.

"May you live in interesting times."

The year 2025 has undoubtedly been one of uncommon uncertainty and challenge—testing the spirit of even the most resolute among us. At the SAM Project, we are privileged to work alongside communities that must rank among the most resourceful and positive-thinking anywhere. Despite prolonged drought, chronic food insecurity, and many other daily hardships, they remain remarkably optimistic, and unwavering in their belief that tomorrow can be a brighter day.

Their perseverance inspires us and strengthens our commitment to supporting sustainable solutions that expand water access, improve food security, and enhance household prosperity.

This year, our modest budget was significantly bolstered by generous contributions—both financial and intellectual—from key supporters and partner agencies. These gifts enabled meaningful progress in establishing clean and reliable water sources.

None of this would have been possible without the dedication and hard work of our staff in both Zambia and North America, whose commitment and professionalism continue to drive the success of the SAM Project.

As we look ahead to 2026, we remain committed to deepening community partnerships, expanding sustainable water access, and strengthening local livelihoods. The challenges are significant, but so is our confidence in what can be achieved through collaboration and shared purpose.

To all our partners, donors, and friends: thank you for your trust and continued support in helping communities build a more secure and hopeful future.

Colin Eves

Colin Eves
On Behalf of the Board of Directors

2025 SUMMARY

OBJECTIVES

In 2025, SAM sought to bring strategic, innovative water solutions to those who need it most by working on the following objectives:

SUPPORT INFORMED WATER INVESTMENT

Complete additional **water point mapping**.

Facilitate cooperative commitments toward **universal water access**.

Develop **geospatial decision-making tools**, enabling government and other water developers to improve the effectiveness of water investments.

EXPAND ACCESS TO DIVERSIFIED WATER POINTS

Introduce **affordable sand-based water technologies** to Zambia by learning from innovators in Zimbabwe and adapting technologies to local conditions.

Continue **implementing proven, low-cost solutions** including water point repairs, protected dug wells, and manually drilled wells.

RESULTS

03 **protected wells installed** by trained community members

01 **protected well repaired** by trained community members

21 **household wells manually drilled** by EMAS-trained drillers using local materials

05 **detailed dam assessments completed** by Engineers Without Borders

07 **communities engaged** through participatory groundwater mapping

01 **borehole drilled** by Rotary/First Plymouth Church

School children dig for water beneath a dried streambed in Nkungwa, a target community for SAM's 2026 well siting and drilling program (see pg. 8).

WATER SCARCITY

WATER SCARCITY REMAINS THE LIMITING FACTOR FOR EDUCATION, GENDER EQUALITY, HEALTH, FOOD SECURITY, AND DAY-TO-DAY WELL-BEING ACROSS SOUTHERN PROVINCE, ZAMBIA.

SAM currently works primarily in Zimba District—one of the driest regions in the country. Although it receives roughly 800 mm of rain per year, rainfall comes in short, intense bursts that quickly run off the landscape. Increasingly unpredictable dry spells continue to erode the subsistence agriculture that most households depend on.

Conventional water development approaches have struggled to supply the population with safe, reliable water sources in this context. Difficult geology makes drilling successful wells extremely challenging. Even when a water point is successfully installed, the commonly used, low-cost hand-pump parts corrode quickly, and communities are rarely equipped with the skills or resources to carry out the maintenance required when the waterpoint inevitably breaks down. Furthermore, resource allocation tends to overlook the more remote, marginalized communities who continue, in obscurity, to experience the most severe water scarcity. As a result of these factors, 64% of Zimba's rural population do not have access to basic drinking water services (an improved waterpoint within 1km of their household).

SAM strives to do things differently by learning from the challenges of past programs. Using geospatial data, we identify where people walk the farthest for water and apply a suite of context-specific, data-driven solutions that use materials designed to last. We also support communities in developing the governance systems, financial tools, technical skills, and spare-part supply chains needed to maintain their water points independently—ensuring long-term sustainability.

WATER UPDATES

SUPPORTING SELF-SUPPLY IN SOUTHERN PROVINCE

This year marked the conclusion of SAM's Rotary-funded program "Diversifying Water Supply in Semi-Arid Africa", which strengthened Southern Zambia's emerging self-supply sector—water development led by the water users themselves.

In 2024, SAM hosted EMAS (a leader in low-cost water supply technologies) to deliver training in manual well drilling and hand pump fabrication using entirely local materials. Two of the most ambitious trainees have since launched a micro-enterprise offering household wells for just K6,000 (~CAD $370) each. They have already installed 21 wells, financed directly by their Zambian clients.

The grant also supported capacity-building in Masanzya, where residents were taught how to construct cement-lined, large-diameter wells equipped with handpumps. The community is now at a stage where they can site, construct, and maintain these waterpoints on their own, independently developing 3 wells in 2025 using subsidized materials.

Left: EMAS-trained well drillers manually drill a 23m deep well using locally available materials; Right: Masanzya community members develop their own protected hand dug wells.

PROMOTING DATA-DRIVEN PLANNING: THE WATER POINT PLANNER (WPP)

In 2025, SAM launched a live Water Point Planner (WPP) dashboard—a tool that helps water developers visualize where water points exist, which ones are broken down, which communities remain unserved, and where new investments will have the greatest impact.

SAM trained local mechanics to update field data in real time using their mobile phones, and supported partners in applying the dashboard for evidence-based planning. The WPP also directly benefited SAM's own programs, identifying the ten schools and clinics facing the worst water scarcity in Zimba to be prioritized for our 2026 programs (see Page 8-9).

COMMUNITY-BASED GROUNDWATER MAPPING

At the communities identified as being the most water stressed by the WPP, SAM conducted community engagement to map indicators of groundwater, such as springs and drought-resilient vegetation. This local knowledge will be extremely valuable when planning more extensive geophysical groundwater surveying in 2026 (see Page 8-9).

Representatives of the women's group in Nkungwa present to SAM and the community where they think groundwater can be found.

LEGACY PROJECT UPDATE - SIANDWAZI DAM AND IRRIGATION SCHEME

Between 2016 and 2019, SAM partnered with the Siandwazi community to construct a 7.5m tall earthen dam to harvest rainwater runoff. The 50,000m3 of water harvested supplies 200m of irrigation canals through a gravity-powered siphon, irrigating 49 garden plots amounting to 19,000m2 of cultivated vegetables. The dam proved critical in the terrible 2023/24 drought season by providing extremely valuable dry season nutrition and income. Through a climate-resilient agriculture demo plot partnership with Response Network (see pg. 7), the community continues to learn how to make the best use of the water.

The Siandwazi dam and gardens as seen from space (Photo: Google Maps).

PARTNERSHIPS

SAM has a strong track record of partnering with like-minded organizations. Collaboration amplifies impact, accelerates innovation, and strengthens community resilience.

ENGINEERS WITHOUT BORDERS (EWB) — NEBRASKA CHAPTER

EWB-NE returned in August 2025 to conduct detailed assessments of five priority community dams—critical infrastructure during the 2024 drought. They reviewed erosion, breaches, soil stability, and topography and worked closely with local leaders to align priorities. EWB will select one site for engineering design, with rehabilitation planned for summer 2026.

FIRST PLYMOUTH CHURCH & ROTARY — LINCOLN, NEBRASKA

SAM supported Rotary and FPC to install a new well in the Sindowe community. The well will support gardening activities near a new irrigation canal, modelled after the successful Siandwazi dam project (see Page 6). The Sindowe canal is expected to become operational in 2026.

RESPONSE NETWORK

Response Network established a climate-resilient agriculture demonstration center at a SAM well that we installed in 2023. With solar power and drip irrigation, the site now supports a tree seedling nursery and value-added activities such as sunflower oil pressing and peanut butter production.

ON CALL AFRICA

On Call Africa equipped a different 2022 SAM well in Kanyanga with a solar pump supplying piped water to the maternity clinic and mother's shelter—serving 25,000 people. Clean, on-demand water will support improved delivery outcomes and patient experience.


EWB


First Plymouth Church / Rotary


Response Network


On Call Africa

SAM Directors Henry Lungu and Taylor Josephy look over 2D subsurface imaging from BGC Engineering and Paul Bauman Geophysics during the 2022-23 Kujana program (Photo: Paul Bauman).

LOOKING AHEAD: ANNOUNCING THE KUJANA 2026 PROGRAM

Water security in Zimba District has long been undermined by well drilling success rates as low as 10%. In 2022–2023, the SAM Project launched Kujana ("to find"), bringing together well-siting experts and advanced geophysical tools to locate water where others had failed. The program was a great success, quadrupling drilling success rates and establishing 7 wells in highly water-scarce areas, reducing the number of people without clean water in Zimba by 12%.

We're excited to announce a planned expansion to this geophysical surveying work through Kujana 2026, made possible by major contributions from BGC Engineering and Paul Bauman Geophysics - Calgary-based firms with deep global experience applying advanced geophysical technologies in challenging terrain. Building on 2025 efforts to identify water-stressed communities using the WPP and capturing local knowledge of groundwater indicators, Kujana 2026 will mark Zambia's first use of the TEM2GO system, a rapid-survey method ideal for Zimba's isolated aquifers.

BGC and PBG geophysicists and community members prepare to conduct 2D imaging of the subsurface using Electrical Resistivity Tomography during the 2022-23 Kujana program.

PLANNED OUTPUTS FOR 2026

First documented use of TEM2GO in Zambia, with shared lessons for all water developers.

Geophysical groundwater surveying near 10+ clinics or schools in severely water-stressed communities.

8+ successful boreholes drilled and equipped with low-maintenance, corrosion-resistant water points.

Training of water point maintenance committees at every new installation.

Continued development and use of Zimba's **geospatial water point database.**

WHY THIS WORK MATTERS:

Exceptional local impact: by targeting the most water-stressed schools and clinics, the wells will make notable improvements to drinking water access and health/education outcomes.

Zambia-wide benefit: by documenting and sharing lessons learned on the use of TEM2GO, the project will further groundwater surveying in Zambia, supporting other organizations to improve their well drilling success rates and reduce waste from expensive dry holes.

HOW YOU CAN HELP

Even with equipment and expertise generously donated, Kujana 2026 remains a major undertaking. **SAM aims to raise US $75,000 to support field operations and to bring quality water infrastructure water to schools, clinics, and vulnerable households.** Every donation counts and is much appreciated - your support will directly strengthen communities and advance methods that can transform water access across Southern Africa.

YOUR SUPPORT MAKES ALL THE DIFFERENCE

Our programs deliver tangible, community-led solutions to water scarcity. By strengthening rural water systems and building local resilience, we help families remain secure, self-reliant, and rooted in the places they call home.

Your support helps prevent climate-driven displacement and expands life-changing programming across Southern Zambia.

WAYS TO DONATE

Make a one-time or recurring donation of up to CAD$ 1,000 through our website or by mailing a cheque (payable to The SAM Project) to: 85 Jane Place, Comox, BC, Canada, V9M 3N4

DONATE TODAY

Make a larger contribution by contacting us at taylor@thesamproject.ca.

NEW! Donate publicly traded stocks to avoid capital gains tax and maximize impact. Contact us directly for details.

Donations of $20 or more are tax-deductible, and receipts are gladly provided.

Donating in 2026 will have even greater impact, as many regions face sharp reductions in government and development funding.

At The SAM Project, we make every dollar count. Our financial statements are available on the CRA Charities Directorate website, ensuring transparency. We operate efficiently: our in-country staff are well-compensated, while the rest of our team volunteers their time. Strategic partnerships further maximize the impact of every contribution.

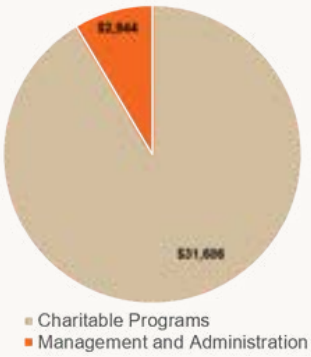

Figure 1: The SAM Project's 2023 expenses (CRA, 2024)

Collecting water at the Siampondo well, installed by SAM in 2023. The pump shown is an Afridev, a low-maintenance model introduced to Zimba by SAM.

TWALUMBA KAPATI!

(Thank You!)

We extend our gratitude to our team, partners, funders, and the communities we work alongside. This work would not be possible without you. Every achievement reflects the ideas, research, contributions, and dedication of a broad network of community members, government agencies, universities, private partners, and NGOs, united by a shared commitment to improving the health and well-being of rural communities through improved access to clean water.