



ANNUAL REPORT 2022

“Progressive realization of water for productive use (models) in increasing household income, food security and reduce vulnerabilities especially among women in Zambia”



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A word from Co-founders

In the year 2017, we began with a broad idea (in our consultancy work) of promoting solar powered water for rural communities of Zambia. However, we soon saw the need for a more focused approach in our work and how we could make real and positive change in communities. In our work and research focusing on Africa, we discovered the endless and compelling rural social and economic challenges were fueled by the lack of water.

Therefore, in 2019, we concluded and formed an organization- Africa Access Water meant to establish facilities that promote access to water for both domestic and productive use, with a purpose of promoting increased household incomes, improved nutrition and overall food security and economic development especially among communities that are water stressed because of climate change and other factors.

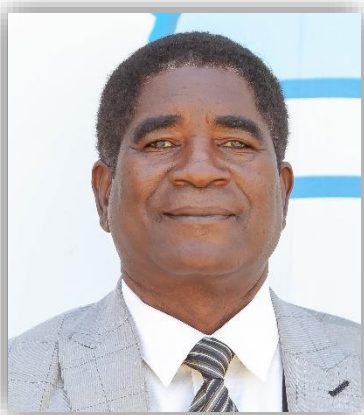
We, through Africa Access Water affirm our conviction that water is at the centre and a stimulate of socio-economic development. Therefore, we advocate

that water is a key resource for production, food security, and poverty eradication.

In our four years of operation, what started as an idea has produced unbelievable impact within a short period of time.

Despite the challenges of Covid 19, AfAW has four (4) running projects which are benefiting at least 10 communities with a population of about 15, 000 people, 3,500 livestock. Currently, the projects have at least 300 women beneficiaries with access to irrigation water on about 15 hectors combined land with production activities, making between US\$50 to \$100 per person per month. We hope to improve the water for productive model so it can be an all-rounded approach that can be upscaled to many places.

We would like to thank all those that supported the formation of the organization, our cause and continue to do so- the private sectors for their technical support, individuals and donors for their financial support and not forgetting our hardworking board for their guidance. We look forward to the growth of a credible and impactful institution.



Paul Kapanda
Co-Founder/CEO



Rodney Katongo
Co-Founder/Director



I am pleased to present to you the Africa Access Water annual report of 2022. It reflects an eventful year in which our organization set the tone for its work and mandate thereby creating strong foundation for the future.

2022, had its own challenges - combined with the previous years when many organizations and countries were hit with Covid 19. Together, we 'weathered the storm' on a path to growth. Indeed, it has be progressive realization of many things for the organization, delivering activities of the four (4) projects in very difficulties times yet determined to changing people's lives.

On behalf of the Board of Management, I would like to sincerely thank all who supported our work in 2022 -financially and technically.

The growing trust in our organization is an indication that we are building a credible and impactful institution whose activities are changing people's livelihoods. I would like to urge all the different stakeholders to continue with the support and looking forward to partnering with many more that believe in our cause.

In the coming year, we shall focus in pursuing

- a. the strategy 2019 to 2024 and revising it;
- b. strengthening the organization's capacity for sustainability;
- c. maintain the delivery of the running projects and programs with more clearly models to set for upscaling and measured impact
- d. and support raising adequate resources for the institution, programs and projects.

I hope you will find our annual report useful in creating partnerships with us!

A handwritten signature in black ink, appearing to read 'Reuben Banda'. The signature is stylized and includes a flourish at the end.

Reuben Banda
Board Chairperson -AfAW

SPECIAL DEDICATION TO BABA GROUP OF COMPANIES



We would like to give special thanks to Baba Group of Companies for their support towards Africa Access Water and believing in our cause. It is rare to find huge private sector support for a non-profit organization like ours in Zambia especially in its infancy stage. From 2019 to-date you have been our 'all-weather friend' supporting us in every possible way.

The support rendered and contribution made especially towards installation of solar powered water systems to our project sites through their social corporate responsible (costing thousands of dollars) is a demonstration that local resource mobilization is possible and can enhance community development. Therefore, it is important to consider creating sustainable partnerships with the private sector without injuring the cause of improving community livelihoods in the community.

To Baba Group of companies, we say thank you and continue supporting organizations like ours to deliver the needed development to rural communities in Zambia and other Africa Countries.

AfAW Board and Founders

This Annual Report highlights Africa Access Water progress and results achieved during the year 2022. It provides an overview or picture on the organization and activities carried out, exploring priority area identified as having potential to grow to scale.

While AfAW is relatively a young organization it's governance structure, foundation and concept ideas are strong as evidenced by the success achieved within a short period of time.

Among the many successes in our four years operation, is managing four projects with an annual budget of between US\$117,000 and US\$200,000 from the local and international private sector, donors, founders, board members, individual and consultancy work. This year, we added two donors on aboard these are MashaV (State of Israel Agency for International Development Cooperation) and Jewish Community through Tevel b'Tzedek.

This year, we commissioned two projects namely;

1. **Mphande Community Development and Innovation Centre (in Kafue District of Lusaka)** in partnership with Tevel; Key focus is providing water for irrigation (for increased incomes, food security & nutrition) and drinking, training center, training programs, training shelters, Youth Service Program participation and the creation of a community fund for development.
2. **Community Preparedness on Floods and Disaster Reduction Project:** The key focus was to prepare community for rain harvesting and using water to produce agricultural products as a key resilient strategy to food security and increased income

The other two running projects are:

- **The Shibuyunji Women Solar powered Water Project** (Lusaka/Central Province) which has been our flagship project working with 60 women provided with drip irrigation and land. These currently are making between 50 to 100 dollar each per month, translating into US\$3,000 to US\$6,000 of income and increased buying power in turning improving rural economy. The fencing and fish pond structure with the support of MashaV the women are expected to increase production focusing on high value crops and have currently planted green maize in readiness for their next crop. It also helps the 2,000 community members with clean drinking water
- **Masopo and Dambilo Livelihood Projects in Southern Province of Zambia:** With an installed solar powered water system for animals and irrigation. The community and benefits more in regards to milk production as a result of animals drinking clean water and irrigation for their crops. This project benefit 3,000 community members, 2500 animals mainly cattle and a few goats.

The visit by our international board members, donors, foundations and high-profile individuals such as Ambassadors stimulated important meeting including office of the vice president, different line ministries, donors and private sector. This also was evidence of the commitment our board has towards helping the organization grow.

We have added a component of the Advocacy focusing on water for productive use as a stimulant to rural development. This has seen a number of activities being conducted and have joined hands with other players during the world water week, key speakers at the national environmental protection dialogue and other important events and platforms. We have enhanced our visibility through the present of social media.

Furthermore, we began a component of business development that will focus on sustainability mechanism using land and water at site that we are conducting our projects.

We would like to encourage different players including the donor community to partner with Africa Access Water in eradication poverty with water!

A handwritten signature in black ink, consisting of a series of vertical lines on the left and a stylized, cursive-like shape on the right.

Paul Kapanda
Chief Executive Officer



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Who We Are

Africa Access Water (AfAW) is a nonprofit organization focusing on the providing rural communities in Zambia (Africa vision) with solar-powered water facilities for domestic and productive use. AfAW's goals are to increase household incomes, food security, improve nutrition and reduce vulnerabilities and poverty in rural communities specially among women using water for productive models. AfAW supports sustainable economic development while upholding human rights and equality principles, especially in areas that are water stressed because of climate change.

AfAW continues to engage in research, advocacy, and lobby for better national, regional, and global environmental policies.

What informs our conviction?

1. Recorded Extreme Poverty in Zambia and Africa with a call to resolve this crisis.

Climate Change

“The poorest farmers rely on rain-fed agriculture with limited growing periods – leading to high vulnerability to poor harvests, diminished nutritional status and chronic poverty (Barrett and Swallow 2005, Ravallion et al 2008, Burney et al 2010). In addition, climate change is expected to increase climate variability and or vulnerabilities across the globe (IPCC 2018) and this will severely impact the productivity of rain-fed agriculture (Barrios et al 2008, Ringler et al 2010).”

Further, female-headed smallholder farms will share a disproportionate share of climate-related impacts; a historical lack of resources and recognition of land rights has constrained resilience-building among female farmers to climate shocks and variability (FAO 2011, Codjoe et al 2012, van Koppen et al 2012, GGCA 2016).

Energy and Water

"Energy and Water productivity among farming communities in Sub-Saharan Africa remains a significant challenge due to high costs, non-payment of services, theft, inability of locals to maintain solar technology, and unwillingness of financial institutions to finance SPIS due to apparent risk and lack of documentation to prove landownership (Azimoh et al 2015, Quansah et al 2016, Winklmaier and Santos 2018, Hartung and Pluschke 2018). Further compounding the social and economic barriers, the International Renewable Energy Agency (2016) states that there has been limited studies to demonstrate the impact of SPIS on agricultural productivity"

With that highlighted what then can we do in consideration?

- **Powered Irrigation:** "powered-irrigation has long been recommended as an effective means to improve livelihoods and businesses, nutritional intake and food security through expanded and higher yield growing periods (Burney et al 2010, Xie et al 2014)."

2. A call by Global Institutions and Instruments on the Poverty, Climate Change and the Resolve on Sustainable Development- Water and Energy

The UN 2030 Agenda for Sustainable Development, Sendai Framework for Disaster Risk Reduction 2015-2030, 2015 Paris Agreement, UN RESOLUTION 71/222- 2018 to 2028 the International Decade for Action, "Water for Sustainable Development", Africa Union and the Agenda 2063, SADC and other regional bodies agreed that water is crucial in dealing with most of the challenge that poor and rural communities faces. In addition, World Economic Forum put water crisis among the top five (5) global risks. And out of the annual top ten global risks nine (9) of them are linked to water.

3. For Zambia: National Crisis, Poverty and National Development Plans

For Zambia, it clear that water for productive use is becoming top agenda as the country looks to become a middle income country by 2030.

Firstly, it is estimated that the impact of climate change will cost Zambia approximately 0.4 percent of annual economic growth. It is further estimated that without action, rainfall variability alone could lead to losses of 0.9 percent of GDP growth over the next decade, thereby keeping a significant section of Zambia's population below the poverty line.

Secondly, the agro-ecological zones or regions of Zambia shows that Region I and Region II (regions worst hit by climate change) which comprises Southern, Eastern, Western, Central and Lusaka provinces need urgent attention in regards to access and supply of water for drinking and productive use. The National Adaptation Programme of Action on Climate Change (NAPA) Assessment of climate change/variability for Zambia's three ecological regions (precipitation for both baseline (1970-2000) and projected (2010-2070) scenarios covering agriculture and food security, human health and natural resources and wildlife was conducted) reveals that despite Zambia having abundant surface water resources, communities living in arid parts of the country's agro-ecological Region I and II experience severe water shortages during summer. The water balances between demands and resources for the drought year with a ten-year return period showed that these regions are extremely vulnerable and does in fact experience critical shortages during drought conditions. This coupled with lack of infrastructure for water generation, harvesting and supply is pushing rural communities into extreme poverty.

8th National Development Plan and Vision 2030

On of the four drivers of Economic transformation and job creation for Zambia in the 8NDP feeding into the Vision 2030 is Agriculture. And among the six enablers to achieving this is water and energy. It then goes without saying that water infrastructure that support production is key and has become critical. Therefore, our models being developed with feed in this big opportunity and can be scaled up to other places in Africa.

The above gives us the conviction and drives our passion, determination to provide solar powered water systems that will take million of people out of poverty.

And that is why:

Our Vision

African communities developed through solar powered water.

Our Mission

To provide and deliver solar powered water systems for productive use, food security, socio-economic development and wealth creation to rural communities and new settlements in Africa.

Principle Objectives

- (i) To facilitate, promote and provide solar powered water to rural communities for productive use and economic development through human consumption, improved agriculture irrigation, livestock farming and forestation in Africa.
- (ii) To advance gender equality and women empowerment through water access for productive use.
- (iii) To enhance Africa water economics knowledge and

Core Principles

- Installation of solar water systems for productive use
- Mass production of crops by communities and emerging farmers through irrigation
- Financial and Market Linkages
- Poverty eradication through water, community and women empowerment and livestock farming
- Respect and upholding human rights and equality especially in areas that are water stressed because of climate change.

1.3 Theory of Change

MISSION

To provide and deliver solar powered water systems for productive use, food security, socio-economic development and wealth creation to rural communities, urban and new settlements in Africa.

IMPACT

ECONOMICALLY EMPOWERED
AND PRODUCTIVE RURAL COMMUNITIES

OUTCOMES

Increased production of crops, livestock and fish farming in rural communities through solar powered water

Increased household incomes from crops, livestock, fish farming and afforestation activities especially for rural women

Improved access to clean drinking water in rural communities for health and sanitation

Enhanced Africa water economics knowledge and technology through research, advocacy and lobby for better national, regional and global policies

OUTPUT

Installed Solar powered water facility with lines for crop irrigation, livestock troughs and fish farming

Established sales and saving circles, Markets and linkages of produce with mainstreamed afforestation (tree nursery & planting)

Functioning Taped water kiosks, nutrition and sanitation community systems

Credible Water Economics & Energy Research Academy & Centre

ACTIVITIES

Facilitating and providing solar powered water systems with at least three minimum lines to rural communities

Sustainable Livelihoods programmes with a focus on household incomes, food security and links to production for development

Water, Nutrition and Women programmes

Water Economics, Technology and Energy Knowledge & Research Programmes



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Activities: Programs and Projects

This year Africa Access Water focused on consolidating the work done in 2021 after the Covid 19 that disrupted most of the activities in 2020 and 2021. The key focus was on progressively realization and aligning the projects and programs we intend to carry out with intention of reviewing the strategic plan in 2023.

The focus projects were as follows:

- Shibuyunji Women Solar Powered Water Project
- Masopo & Dambilo Livelihood Project

In addition to these we embarked on the two new project which had the ground work done:

- Mphande Community Development and Innovation Project
- Community Preparedness on Floods and Disaster Reduction Management – Ward 14.

The other activities included advocacy campaigned that were attend or at least we made presentation.

SHIBUYUNJI WOMEN

Solar Powered Water Project



Shibuyunji Women Solar Powered Water Project

In the first quarter of 2022, our Shibuyunji project received a boost from MashAV (State of Israel Agency for International Development Cooperation) after the disruption of 2021 and crops destroyed by livestock that trespassed on the two (2) hectares open land full of vegetables worth US\$10,500.

With the Help of MashaV, this support went towards an extra solar powered irrigation system, an aquaculture system and fencing of the women community two hectares farm. The project is working to transform rural agriculture through solar

powered water systems. Program design and operations for the program was done through a partnership of an Israeli company Green2000.



The project handover ceremony was held on 11th March 2022 and was graced by Her Excellency Ofra Farhi, Israel

Ambassador to Zambia, Mr. Sheleni, (Chilanga District Commissioner), Representatives from Ministry of Water and Sanitation, Ministry of Agriculture, Green2000, Chairman Baba Group of Companies and Mr. Reuben Banda (Africa Access Water Board Chairperson)

Currently, the project is benefiting at least 60 women involved in agriculture production and fish farming; 1,500 people and 150 livestock with clean drinking water. This will increase household income for woman and change their socio-economic status.

After the fencing of the two hectors farm (second quarter to third quarter), the women have made a combined income of US\$29,420. They have also made another US\$2,000 from fish harvested. It is

expected that with the now planted fresh maize (corn) and if sold fresh- will make another estimated US\$19,200.

From the earning, 10% goes to AfAW as a revolving fund that is meant to help with maintenance of the system, support the village saving groups, community project of their choice or help expand the water facility. So far, the women in 2022 have contribute contributed US\$2,942 to AfAW in revolving funding.

The project has so far trained 315 peasant or small-scale farmer in high crop vegetable growing, conservation farming, fish farming and nutrition.

There is need for more training. We plan to develop the farm further as a sustainable fundraising farm. To that effect a business plan is being developed.





Masopo and Dambilo Livelihood Project

The Masopo Livelihood project focuses on livestock rearing and water is critical to improving animal health. The community can sell their cattle at higher price. However, here the emphasis is on milk production so that they can regularly have income but also good for their nutrition especially children.

This project through its milk production have sold 23,000litrs of milk worth US\$6,388 in 2022. A total of 100 women are involved in this project. The project is in a very remote rural area. In addition, they are 52 women involved in fresh vegetable growing made US\$11,212 in the 2022. They have contributed 1,760 to AfAW revolving fund. This community also have clean drinking water from the solar powered

water system and has a population of 5,000 people. This project needs extra investment and more trainings for women in growing different crops and market linkages.

289 community members where training in smart agriculture, crop growing and management, milk production and hygiene and nutrition. Out of the community members at least 3 of them have installed smaller solar powered water systems for their irrigation.





Mpande Community Development and Innovation Project

This is a joint project with Tevel b'Tzedek. Tevel is a nonprofit organization focusing on sustainable agriculture, youth and women empowerment, and community mobility. It believes in comprehensive community development work and uses it to fight poverty at its roots - in rural villages around the globe. Tevel b'Tzedek practices long-term strategic interventions led by local partners enhanced by international volunteers and Israeli experts.

The cornerstone of the project is providing access to clean drinking water, irrigation, and animal husbandry, by using solar powered systems. The project will be executed over 10 hectares of land.

Providing water will enable the development of other activities that will benefit the community:

A training center and demonstration plots.

Local farmers will receive training to overcome local barriers to productive agriculture, like drylands cultivation, seed production, and feed manufacturing. In addition, the center will offer financial

A unique agricultural and financial training for women from particularly low socio-economic backgrounds.

Under the program, groups of women will cultivate land and enjoy the income derived from their work. They will receive agricultural, financial, and business training as well as assistance in registering as cooperatives. At the end of the two-year program, each cooperative will save enough money to set up its agricultural project.

Youth and young-adults income generation activities:

Integration of youth and young adults in income generation and community mobility activities in agriculture and health.

Innovation Center: The center will serve as a focal point for innovations and research focused on providing solutions for rural communities in Africa. The center will showcase and test new agricultural technologies and methods by using demonstration plots. The center will connect local government, civil society, academia, the Israeli AgroTech ecosystem, the local private sector, and

most importantly, rural communities of smallholders themselves.

A post-harvest facility: Establish a crop bulking unit and, later on, a processing unit for different crops and products.

Research and Policy: Tel Aviv University, together with AfAW and Tevel, will monitor, evaluate and research different training, intervention strategies, and agricultural methods and technologies executed in the Mphande project. These will be developed into policy and best practices, crucial to other Tevel projects in Zambia and the Zambian public and private sector.

Progress Made So far:

Two solar powered water systems put up in the community. One being a 30,000 litres capacity situated at the project site 10 hectors land (totally fenced) and the other purely for community clean drinking water kiosk. We have conducted 21 training in smart agriculture with the collaboration of government through Kafue District Agriculture Office and 8 training in nutrition. So far 280 small scale farmers and community member have been trained. We have built one training shelter. 28 community youth have been interviewed to participate in the Youth Service Program.

The baseline survey and community consultation was done before the implementation of the project and we shall be conducting Midline survey every six months to determine the progress or help measure the impact.





Community Preparedness on Flood and Disaster Risk Reduction

This project is meant to

- i. To help community to harvest the rain and flood to appropriate channels and recharge zones
- ii. To raise community awareness on floods and disasters' impact on livelihood.
- iii. To educate and help communities with flood adaptation methods and better use of water for production.
- iv. To advocate and lobby for inclusive planning, adaptation and mitigation against floods and disaster at local, national and regional levels.

Given the Ward 14 of Lusaka, it important that mechanisms are sort that will help them improve livelihoods as the area is prone to flooding. People should not see water as an enemy but harness it for productive use. This water can be powered using solar and channels to the need places for production.

So far at least 10 community engagement meetings have been held- helping drawing plans that will help them prepare. We are using different methods of water models. One such method is a technology called Ujeta bucket that can purify dirty water or flood water into clean drinking water. 520 have attend these engagement meeting. Furthermore, we have being engaging civil leaders, government and other stakeholder. Active participants included Civic leaders and Member of Parliament.

We will be providing solar powered water systems for these vulnerable communities as the lack cleaning drinking water or have contaminated water. We are clustering them into groups of hundred and run one single solar powered waters system that will be connected to there homes and will pay a month fee. The targeted areas are the resettlement areas.

The systems will also have provided of small garden and that each home which is productive will have a reduced fee -provided the link the excess vegetable to our program for sell and increase their income too.



Organization Systems and Strategy Development

As part of growing the organization developed the following document, Code of conduct, Financial and Procurement Manual, Human Resource Manual, HIV/AIDS Policy, Gender and Child Policy, Volunteer Policy.

Furthermore, the organization has completed the draft Think Tank body which will help us in developing proposals

and strategies that feed in the organization.

OUR SUCCESS STORY



"I would like to go back to school, take care of my family and improve our livelihoods. Thank you Africa Access Water for providing me with solar powered water and a piece of land to produce carrots for business and my income. My dream is coming true."

- Clara Mulilanduba



Challenges and Opportunities

Organization in its Infancy

Africa Access Water being a young organization was considered a risk to invest in by many traditional donors.

However, the idea and concept are undeniable one of the best in reducing poverty and seeing results almost immediately especially in rural communities. At the beginning for the journey there was no traditional donor support, this put stress on the organization around potential project sites, logistical and administrative costs. With a dedicated team of founders, staff, supportive and experienced experts on our board, we delivered projects and activities using innovation, the private sector with local and international networks. We at least made partnership

with donors that have been able to sustain and we have projects that are evident.

With our progressive realization approach, the Strategy 2019 to 2024 still guides us to remain focused and develop a credible organization that will contribute to the country's development plans, Agenda 2063 of the African Union and Sustainable Development Goal. The organization, its activities and concept open door for donors and other stakeholders to partner in delivering impactful projects that truly change people's livelihoods.

The challenge of Covid 19 hampered us from receiving the grants that were allocated and also affect our operation like many organizations. This put stress in the organization to maintain staff, offices and other administrative cost. However, this period offered us new insights and reflection and 2022 as a second and third year of operation.

Climate Change

With climate change, it is anticipated that the access to water will still be a challenge to many African Countries. Harnessing the sun with available technologies to power water for productivity use, forestation and clean drinking water for both humans and animals is an opportunity to develop rural communities and contribute significantly to sustainable development goals and eradicating poverty. The organization provides an opportunity to help in mitigating the effects of climate changes, this includes forestation throughout the year.

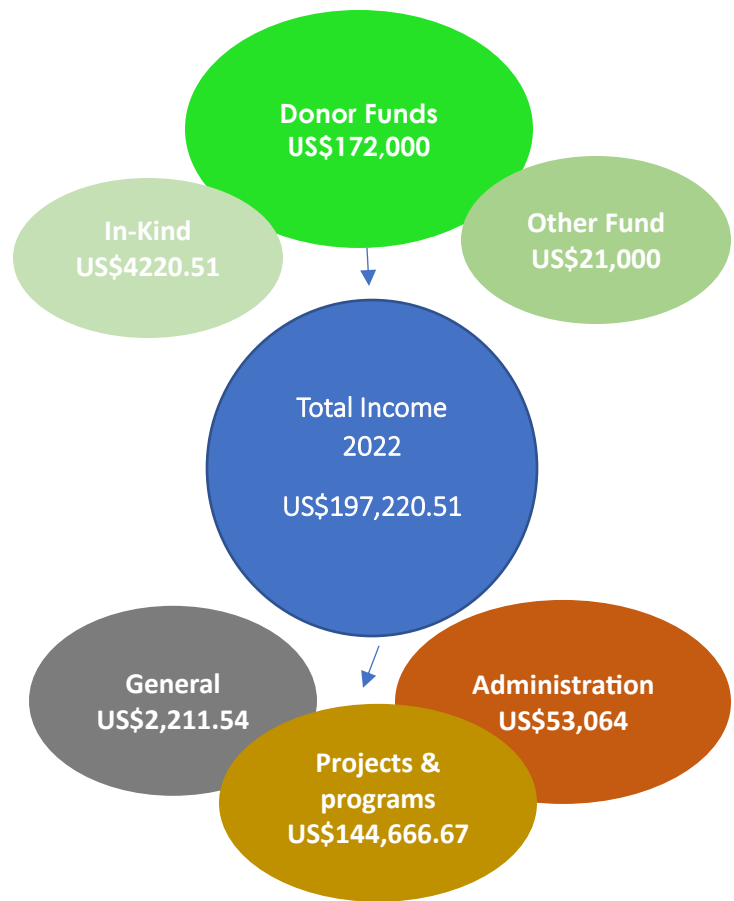
Financing of Solar Powered Water systems

The challenges of financing the solar powered water remains one of the hindrances to developing communities. Currently the cost of installation is considered high and at times prohibitive.

However, when a cost benefit analysis and 'value for money' is done, the cost is considerably affordable and when compared to many programs targeting to reduce poverty in communities is far much more cheaper in the long run. As an organization, we see a growing interest in funding these technologies and the private sector coming on board to deliver with competitive prices- we believe the cost will go down- with increased competition and demand.

Therefore, it opens up opportunities in collaborating and partnering with private sector (who own these technologies) to create a financing model that will be a win-win situation for the parties

Summary of Annual Accounts





Conclusion

The year 2022, was a great year for Africa Access Water and now the organization is ready to take another gigantic step by providing solar powered water systems to many other communities in the coming year.

The organization will dedicate its time following and revise the strategy 2019 to 2024 and enhance fundraising using different models. In 2022, alone Africa Access Water sites were visited by at least 20 different institutions (international and local), high profile personalities among

them international donor agencies, foundations, Ambassadors- who have showed interest in partnering with us. We are hopeful that the coming year will bring to fruition the desired support and resources.

Our gratitude goes to the different individuals, donors and private sector that helped in funding some of the projects that are now bearing fruits. This coming year, we shall add to our profile traditional donors both locally and internationally. We hope for more support from different stakeholders including the private sector, government and donors.