



The Adaptation SME Accelerator Program (ASAP): Africa Focused Adaptation SME Market Study

Market Study Report and Selected Findings | September 2023

Adaptation SME Accelerator Project (2020 – 2023) – www.climateasap.org

Led by:



With support from:



KEY FINDINGS

There are significant number of SMEs in Africa that are developing and offering solutions to customers to help identify, assess, and address impacts and risks due to climate change. These solutions can be applied in new geographies to address similar challenges.

- **Using the Harmonized Framework for Identifying Adaptation-related companies, a sizeable and Diverse Universe of Adaptation SMEs exist in Africa.** 160 Adaptation Solutions SMEs across 37 Countries were identified by the ASAP project over the last 3 years. These businesses operate across sectors and represent a diversity of business models, with companies providing products and services that help with climate impacts in Agriculture; Water Supply, Sewerage, Waste Management and Remediation; and Electricity, Gas, Steam & Air Conditioning Supply; and other areas.
- **Technology Deployment with additional services.** A large proportion of companies in these sectors utilize aspects of their technologies to provide climate risk analysis, consulting, and advisory products, localized and specific information & communication to end users and utilizing climate finance products to encourage deployment to previously underserved and vulnerable communities.
- **Alignment with National Determined Contributions and National Adaptation Plans.** The large proportion of companies in these sectors aligns with the on-the-ground impacts identified in the latest [IPCC 2022 Working Group 2 report on climate change impacts, adaptation and vulnerabilities](#) and many of the region's National Determined Contributions ("NDCs"). Technologies including agriculture analytics and support platforms, parametric insurance, risk analytics and decision support tools, cold chain supply chains, weather analytics, cooling solutions, clean water technologies and professional services, address key climate risks in the region including vulnerable food supply, health challenges from heat & vector borne illnesses, water stress, and natural disasters. Growth of these solutions will be needed to match the scale of the impacts of climate change in the region.
- **Geographic distribution, but clustered around innovation hot zones.** While SMEs were identified in 37 countries, the innovations were clustered by region, with innovations being centered and deployed in (a) West Africa – Nigeria (33) and Ghana (23); (b) East Africa – Kenya (52), Tanzania (21), Uganda (16), Rwanda (13); and (c) Southern Africa – South Africa (31), Mozambique (10), Zimbabwe (9). Anecdotally, companies had expansion plans within their respective regions, and some had plans to expand across Africa or enter other global regions.
- **There is a Strong Opportunity to Accelerate and Invest in Adaptation SMEs in Africa.** Companies that ASAP engaged with were actively seeking technical assistance or investment funds in order to demonstrate a new product and/or service or to scale it after a successful pilot demonstration. ASAP activities including the Accelerator program and other convenings, workshops, and meetings with stakeholders demonstrates that investors are looking for opportunities in this space and many of the SMEs identified in the ASAP database could present opportunities for both private and public sector investment to have impact in the region.
- **Key Sectors for investment in the region.** Agriculture and resilient food systems; climate risk and weather analytics; finance (including access to capital and insurance products), water (irrigation, water harvesting, smart water management); distributed and demand response energy systems; health care monitoring and care; and disaster recovery.
- **Women leading adaptation SMEs.** Women were found to have an active role in either owning, founding, and/or leading climate adaptation SMEs with at least 44% of the companies in the database reporting information. An additional 51% of companies either did not report data or did not have it readily available for assessment. Considering that the ASAP Accelerator program had 75% of its Africa cohort with women either owning, founding, or leading the companies, there is a good likelihood that the number of women leading adaptation efforts in Africa is over half of the SMEs or more.

INTRODUCTION

The Adaptation SME Accelerator Program (ASAP) seeks to mobilize and empower SMEs in developing countries to address climate resilience and adaptation through a three-pronged strategy, comprised of the following:

- **Component 1: Identification (Map Companies and Markets)** – mapping resilience companies and markets; building the taxonomy of climate resilience and adaptation technologies, products, and services; creating and maintaining a database of Adaptation SMEs; publishing sample investment case studies/company profiles.
- **Component 2: Integration (Organize Regional Adaptation SME Networks)** - developing a network of Adaptation SMEs and related stakeholders through convenings and an up-to-date Adaptation SME database.
- **Component 3: Incubation & Acceleration (Launch Adaptation SME Accelerator Programs)** – incorporating a “toolkit” for identifying and supporting Adaptation SMEs in and into existing incubator and accelerator programs; launching the first cohort(s) of Adaptation SMEs in developing countries through these incubator and accelerator programs.

This Market study represents the Africa regional portion of *Component 1 (Identification)* with the following objectives:

- Applying the principles of the Adaptation Taxonomy to better understand the main sectors and prospects for investment in Adaptation SMEs in the region.
- Mapping of 160 SMEs and counting which are offering adaptation and climate resilience solutions to customers in the region.

Through these objectives, this study hopes to achieve the following longer-term impacts:

- Improve the standards and framework for identifying and categorizing the adaptation-focused technologies, products, and solutions, which will help to increase the awareness of SMEs involved in activities which fit into the Adaptation Taxonomy;
- Increase the number of investable climate resilience and adaptation-focused businesses in the region by including mapped Adaptation SMEs in the public database and by specifically highlighting opportunities for investment and/or technical assistance; and
- Enhance the ecosystem of adaptation-focused SMEs and other public and private stakeholders in the region to spur critical investment in climate adaptation and resilience, thereby helping to bridge the gap in financing towards adaptation.

[ASAP](#) is led by the [Lightsmith Group](#) with funding from the [Global Environment Facility's Special Climate Change Fund](#) and the [Inter-America Development Bank](#). ASAP is facilitated by Conservation International.

This market study was structured around two deliverables: (a) surveying existing studies highlighting the specific climate impacts and challenges facing the region (b) applying the ASAP Adaptation Taxonomy to identify SMEs involved in adaptation and climate resilience solutions throughout Africa.

For the purposes of this summary report, the terms *climate adaptation* and *climate resilience* are used interchangeably, though readers should be aware that there is technical distinction between the two. The full peer-reviewed Adaptation Taxonomy (Attachment A) further details the distinction between these terms.

Adaptation Taxonomy

A peer-reviewed harmonized taxonomy has been developed to establish a set of transparent principles for determining whether an SME qualifies as an “Adaptation SME” based on the type(s) of technologies, products, and/or services that it provides. Given the existing universe of definitions, standards, methodologies, and frameworks in existence or under development related to climate finance and sustainable activities, the Adaptation Taxonomy was developed by building upon, and with reference to, the following existing definitions, taxonomies, and approaches:

- Intergovernmental Panel on Climate Change (“IPCC”)
- EU Taxonomy for Sustainable activities
- Task Force on Climate-related Financial Disclosures (“TCFD”)
- Climate Bonds Initiatives (“CBI”)’s Climate Resilience Principles
- Joint MDB methodology for tracking climate change adaptation finance
- Joint MDB IDFC Framework for Climate Resilience Metrics
- Market Research for a Climate Services Observatory (“MARCO”) project
- European Market for Climate Services (“EU-MACS”) project

The [Adaptation Taxonomy](#) has been designed to be *flexible* and *dynamic*, as adaptation and resilience needs (and the solutions that can address those needs) will evolve and change over time. The Taxonomy is also structured to be *inclusive*, since there are many companies that may not self-identify as a climate adaptation-related company, but that do have technologies, products, and services that can help to build climate resilience. In addition, given the highly context-specific nature of climate adaptation, the Adaptation Taxonomy does not provide a stand-alone list of technologies, products, and services that could be narrowly viewed as contributing to adaptation. Rather, it seeks to offer a framework to identify “Adaptation SMEs” based on whether the technologies, products, and services they provide enable the **identification, assessment, management, and/or monitoring** of physical climate risks and their impact(s). Four main elements comprise the Taxonomy, namely: (i) a definition of “Adaptation SME”, (ii) eligibility criteria, (iii) a segmentation of “Adaptation SMEs”, and (iv) a results framework to measure, monitor, and report adaptation-related outcomes. The results framework will be further developed in the subsequent phases of the broader ASAP initiative.

The Adaptation Taxonomy establishes a working definition of an “Adaptation SME” as follows:

An **Adaptation SME** is a company providing technologies, products and services that:

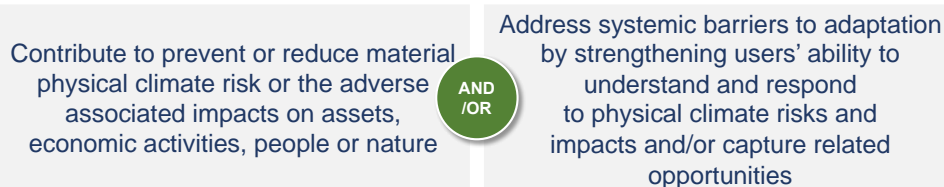


Figure 1: A working definition for an “adaptation SME”

It also provides a set of eligibility criteria for an SME to qualify as an “Adaptation SME”, outlined as follows:

In order to qualify as an **Adaptation SME**, an SME’s technology, product, or service must satisfy the following criteria:

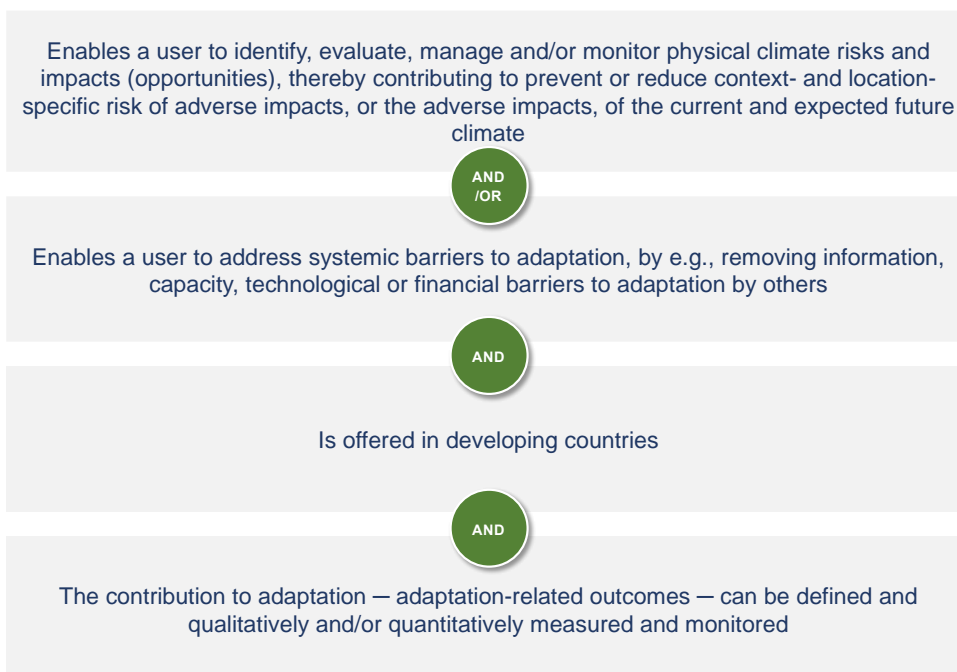


Figure 2: “Adaptation SME” eligibility criteria

Over time, the Taxonomy may evolve to include/exclude specific technologies, products, and services, but the Adaptation Taxonomy provides a key starting place for future refinements. Ultimately, the harmonized Adaptation Taxonomy can, and should be used by both public and private stakeholders to identify, engage, increase the awareness of, and most importantly, scale SMEs in developing countries involved in climate adaptation and resilience.

The full Adaptation Solutions Taxonomy can be found at https://lightsmithgp.com/wp-content/uploads/2020/09/asap-adaptation-solutions-taxonomy_july-28-2020_final.pdf

THE STATE OF CLIMATE IMPACTS IN AFRICA

Africa has already begun to be impacted by Climate Change and the IPCC expect for future impacts to be substantial (IPCC 2023). Even with a successful global effort to limit warming to 2°C, adaptation solutions will be required to mitigate the growing number of environmental and social risks & impacts due to climate change. As noted in recent reporting, these impacts are already having devastating consequences on vital industries such as food and health, are impacting the amount and quality of water available to communities, and the growing uncertainty of hazardous weather impacts the ability for communities and businesses to continue to normally operate.

The IMF estimates that Sub-Saharan Africa has already lost an average of \$520 million annually due to climate change since 2000 (IMF 2020). Impacted by both long term trends and extreme weather events, the world's fastest-growing population region will only continue to face unique challenges exacerbated by climate with increasing temperatures, sea levels, changing precipitation and other extreme weather threatening livelihoods, human health and safety, food and water security and socio-economic development (UNFCCC, 2020). Further compounding this impact, 36% of the African population lives in extreme poverty (Hendrik, 2021) which makes them more vulnerable to climate disruptions than in other parts of the world.

The costs for countries to adapt to climate change continue to rise, with current estimated needed investment between \$30-50 billion USD annually for climate adaptation and resilience solutions to counter the rising impacts in Africa (IMF 2023). These solutions are needed across many sectors including agriculture, water, infrastructure, health, and others to combat both long term and short-term challenges arising from climate change.

According to the IPCC latest Synthesis Report on Climate Change in 2023 Africa is projected to face both long term and short-term climatic risks which require adaptation solutions to scale and address.

Long term challenges arise from the slow and systemic increase in GHG causing shifts in precipitation and temperature patterns that also drive changes in land use and species migration, threats to human health, food security, water security and reduced economic output, exacerbating the already existing poverty rates. Agriculture which makes up 15% of the continent's GDP, ranging from 3% in Botswana to more than 50% in Chad (OECD/FAO 2016) is particularly vulnerable to long term challenges of continually rising temperatures and increasing water stress, as rainfall patterns change, and water obtained by glacier melt

SNAPSHOT OF ECONOMIC IMPACT OF CLIMATE CHANGE IN AFRICA

The IMF estimates that Sub-Saharan Africa has already had **\$520 million in economic loss** annually due to climate change since 2000.

Costs for countries in Africa to adapt to climate change are estimated to reach **\$50 billion per year by 2050**, roughly 1.6% of current GDP (IMF 2023)

According to *The State of the Climate in Africa 2020*, climate change could decrease GDP by 3% in Sub-Saharan Africa by 2050.

declines. Stressed water resources also pose challenges to human consumption and hygiene, and industrial applications, impacting economic growth. Human health is at risk due to increased heat, as seen globally in the Summer of 2023, and to the rise in infectious diseases due to climate change.

Extreme weather events – drought, fire, and storms will likely continue to increase in impact to human lives and economic loss. Over the last 50 years, its estimated that 1695 natural disasters including floods, droughts, and storms, caused the loss of 731,747 lives and \$38.5 billion USD in economic loss in Africa (World Meteorological Organization 2021). One storm, Cyclone Idai in 2019 caused \$3.2 billion in economic damages and required \$242 million in international aid to rebuild (Post-Cyclone Idai Cabinet for Reconstruction 2019). These extreme weather events combined with longer term stressors likely will force rural to urban migration, leading to increased urban poverty at further risk to flooding and extreme heat waves. Solutions will be required to allow for communities to develop resilient infrastructure and public services to overcome both extreme weather events and the long-term challenges of climate change.

KEY REGIONAL RISKS FOR ADAPTATION IN AFRICA

According to the latest IPCC 2023 Synthesis Report on Climate Change, key risks in Africa which will require adaptation solutions include:



Risk to food security, risk of malnutrition and loss of livelihood due to reduced food production from crops, livestock and fisheries



Risk to water and energy security due to drought and heat



Increased human mortality and morbidity due to increased heat and infectious diseases



Reduced economic output and growth, and increased inequality and poverty rates



Species extinction and reduction or irreversible loss of ecosystems and their services including freshwater, land, and ocean ecosystems.



Extreme weather events disrupting transport systems, public services (health, sanitation, water, education), infrastructure, production systems, especially in informal areas

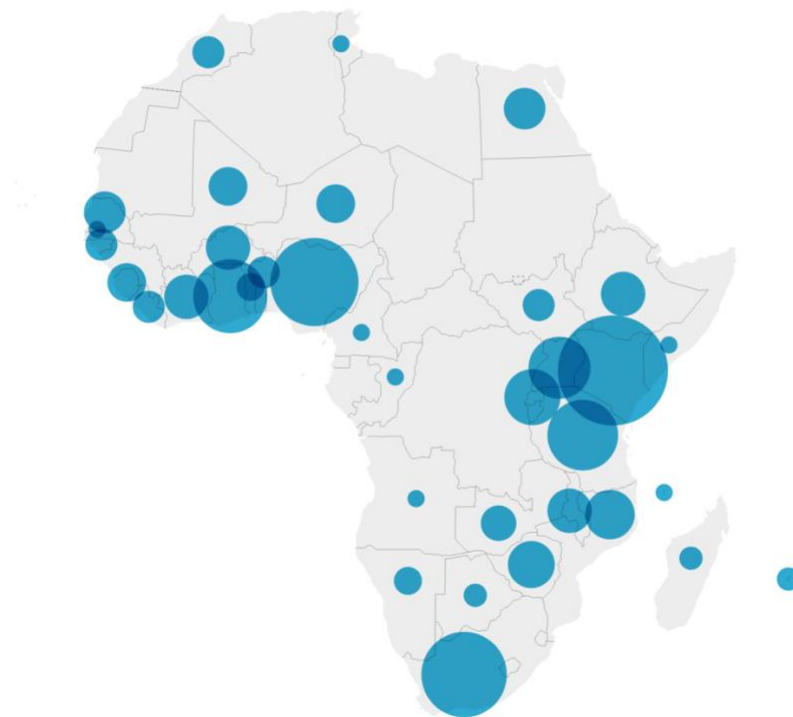
IPCC, 2023: *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, 184 pp., doi: 10.59327/IPCC/AR6-9789291691647.

MAPPING ADAPTATION SMES – ANALYSIS AND BREAKDOWN

Through a combination of desk research and targeted outreach to networks and key regional partners, the Africa Climate Adaptation SME study used the Adaptation Solutions Taxonomy to screen and identify 160 Adaptation SMEs from 37 Countries in Africa. Innovation clusters were found centered around the countries with bigger populations and stronger economies in (a) West Africa – Nigeria (33) & Ghana (23); (b) East Africa – Kenya (52), Tanzania (21), Uganda (16), and Rwanda (13); and (c) Southern Africa – South Africa (31), Mozambique (10), & Zimbabwe (9), as seen in Figure 3. Many companies either currently or aspire to offer services at least regionally, if not throughout the continent.

Adaptation SME Accelerator Project - Africa SME Market Mapping

Africa market mapping of Small and Medium Enterprises providing climate adaptation and resilience solutions to customers.



Map: Brian Parham • Source: adaptation SME Accelerator Project (ASAP) • Created with Datawrapper

Figure 3 - Climate Adaptation SMEs Geographic deployment in Africa. Dynamic figure can be found at <https://datawrapper.dwcdn.net/0Xf2d/1/>

Of the 160 African SMEs identified in the Africa Study which have products, technologies, and solutions that can help to build resilience to risks increased by climate change over 51% had direct applications in Agriculture (Figure 4). Water supply, wastewater and other waste management solutions were provided by 17% of SMEs. Many of the climate adaptation solutions found provided products or services impacting or related to multiple sectors – with complementary results. These could include water efficiency or treatment solutions that bolstered irrigation for farmers; software solutions that provided climate analytics and localized the information for ease of application by smallholder farmers or other users less familiar on the latest of climate science. Financial products often helped to either mitigate climate risks or

to provide better access for customers that traditionally have trouble affording the cost to access climate adaptation technologies. The full list of the 160 Africa Adaptation SMEs identified by the ASAP project can be found in Attachment A to this report.

Climate Adaptation Solutions Identified by Sector

Survey of small and medium enterprises providing climate adaptation and resilience solutions to customers in Africa. Percentage of solutions being provided to each sector.

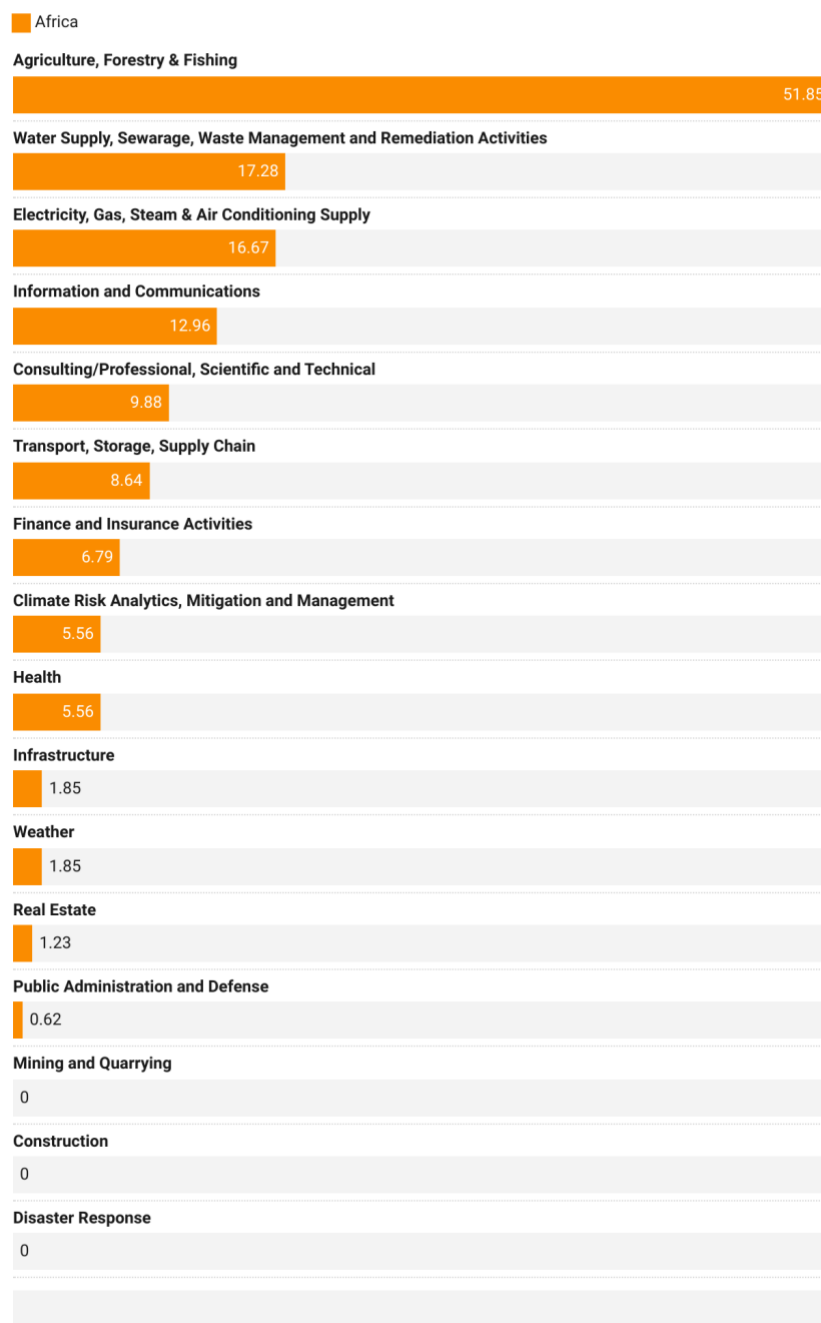


Chart: Brian Parham • Source: Adaptation SME Accelerator Project (ASAP) • Created with Datawrapper

Figure 4 - Sectoral breakdown of climate adaptation solutions and services being deployed in Africa. Dynamic figure can be found at <https://datawrapper.dwcdn.net/4om33/3/>

Example companies and technologies identified in the ClimateASAP database which address “Key Regional Risks for Adaptation in Africa”



Risk to food security, risk of malnutrition and loss of livelihood due to reduced food production from crops, livestock and fisheries

Solutions identified include analytics and support platforms, precision agriculture and crop monitoring, financial products and parametric insurance, and low cost, energy efficient irrigation products. Example companies include:

agroclimatica

[Agroclimatica](#) – Agroclimatica is a risk assessment platform built for climate-smart agriculture. Enables customers to build resilience through better understanding climate risks and responding to those risks.



[BovControl](#) - Bovcontrol is a data collection and analysis tool to improve performance on meat, milk, and genetics production. Builds resilience by facilitating the better management of livestock herds through efficient resource production.



[Kitovu Technology Company](#) – Kitovu Technology Company provides smallholder farmers with data about soil and crop health, storage and market links, through a digital farm productivity platform. Builds resilience to drought, heat stress, and extreme weather events that reduce crop yields and harm farmer incomes.



[Pula Advisors](#) - Pula is radically restructuring agricultural insurance, using technology to help insure the previously unbanked, uninsured and untapped market of smallholder farmers. Builds resilience to weather volatility by providing crop and livestock insurance to farmers, allowing them to hedge against potential climate impacts.



[Sun Culture](#) - SunCulture provides low-cost, solar-powered irrigation to African farmers, increasing yields by more than 300 percent. Builds resilience to weather volatility and promotes efficient irrigation for crops.



[ZR3i](#) – ZR3i is a precision agriculture platform-as-a-service that offers crop monitoring, management, and insurance services to the agriculture sector in Egypt and the Arab world, helping farmers to mitigate risks due to climate change. Builds resilience to extreme weather events and weather volatility that reduce crop yields and harm farmer incomes.



Species extinction and reduction or irreversible loss of ecosystems and their services including freshwater, land, and ocean ecosystems.

Few companies were found that directly addressed this risk as a part of their core business plan.



[Water Rhapsody](#) - All the work carried out by Water Rhapsody is an attempt to reduce demand for and reliance on municipal water, which almost ran

completely dry in 2018. Such work means that riverine environments around the world will regain their biospheres (the maximum number of eco-systems) leading to healthy sea life, estuarine life and riverine ecology.



Risk to water and energy security due to drought and heat

Solutions identified include waste water treatment, solar irrigation pumps, water filtration, heat transfer equipment, smart water leak detection software, off-grid water purification, and biodegradable toilets. Example companies include:



[Abrimix](#) – Abrimix markets a unique patented technology that has been thoroughly researched and developed to provide respective clients with an affordable, efficient and cost effective water treatment process.



[Biopipe Global](#) - Biopipe Global has developed a patented 100% sludge-free, chemical-free, odor-free, silent, easy to assemble and install, scalable, low cost, ecological and virtually maintenance-free onsite sewage wastewater treatment system.



[Future Pump Limited](#) - Futurepump is a company headquartered in Kenya which develops solar powered irrigation pumps. These pumps run on renewable energy, designed for 1-2 acre farms, and are highly efficient and portable. The company aims to provide solutions for future precipitation changes due to climate change.



[Greenchain Group](#) – Greenchain Group specializes in the design and installation of water filtration and purification units suitable for rainwater filtration and groundwater filtration for residential, industrial, and commercial use.



[Heat Exchange Products](#) - The company designs, manufactures and installs a wide range of water treatment, water purification, and heat transfer equipment and solutions through specialized non-commoditized chemicals in order to provide reliable, efficient, cost-effective, and long-term technological ideas and solutions to its customers in the municipal, industrial, agricultural/fishing and mining sectors of Namibia.



[HydroIQ](#) - HydroIQ is an Africa-based technology company that has developed a smart water leak detection system that can help to manage, monitor, and understand household water usage.



[Peepoo](#) - Peepoo is a personal, single-use, self-sanitizing, fully biodegradable toilet that prevents feces from contaminating the immediate area as well as the surrounding ecosystem. After use, Peepoo turns into valuable fertilizer that can improve livelihoods and increase food security.



OffGridBox™

[OffGrid Box](#) – OffGrid Box develops and installs water purification systems and renewable energy technology in remote areas in Africa.



Increased human mortality and morbidity due to increased heat and infectious diseases

Solutions identified include air quality monitoring and sharing platforms, off-grid refrigeration products for medicine and food, environmentally friendly cooling & heating solutions, and digitized pharmaceutical supply chain systems. Example companies include:



[AirQo](#) – AirQo was founded to close the gaps in air quality data in Uganda and across Sub-Saharan Africa. We continuously provide evidence of the magnitude and scale of air pollution by developing and deploying a network of low-cost air quality monitoring devices. By applying artificial intelligence, we derive insights from the data collected and share in real-time through our data sharing platforms. Services are provided in Burundi, Cameroon, Ghana, Kenya, Nigeria, Mozambique, Senegal and Uganda. Builds resilience through providing customers with air quality data to adapt their daily behaviors in response.



[Gas Chill](#) - Gas Chill is an Egyptian company that provides inventive world class cooling & heating solutions using the latest groundbreaking Japanese & European technology. Gas Chill's core objective is to provide the most revolutionary, environmentally friendly energy supply techniques, not only in Egypt, but the MENA region. Builds resilience by enabling customers to efficiently respond to heat conditions.



[Field Intelligence](#) - Field Intelligence has developed a SaaS-based pharmaceutical supply-chain platform to make healthcare radically simple, affordable, and effective. By digitizing and optimizing large-scale pharmaceutical supply chains, the company's solution increases the resilience and dynamism of pharma supply chains.



[Sure Chill](#) – Refrigeration technology which does not need constant power to keep medical supplies or food cold. Builds resilience for off grid health clinics and residents who can ensure that critical medicine and food stay at the proper temperatures without the need for energy from consistent electrical sources.



Extreme weather events disrupting transport systems, public services (health, sanitation, water, education), infrastructure, production systems, especially in informal areas

Solutions identified include risk analytics and communication tools, weather tracking and analytics, cold chain storage for supply chains particularly for food and medicine, and logistic software solutions. Example companies include:



[AfricaWeather](#) - AfricaWeather is a weather company based in South Africa offering value-added weather solutions to a range of clients across aviation, mining through transport and others. The product enables customers to better understand and respond to hazardous weather events.



[Agroclimatica](#) – Agroclimatica is a risk assessment platform built for climate-smart agriculture. The product enables customers to better assess risk and respond to climatic events.



[Coldhubs](#) - ColdHubs, is a “plug and play” modular, solar-powered walk-in cold room, for 24/7 off-grid storage and preservation of perishable foods. The product enables customers, particularly those off-grid to keep perishable food for longer, building the resilience of the food supply chain.



[Freezelink](#) – Freezelink delivers cold chain logistics services to reduce food waste and enhance food security and to increase the availability of medicine in Africa. Builds resilience to extreme heat and extreme weather events that reduce crop yields, worsen food waste, and increase food insecurity. The



[Kobo360](#) - Provider of an online digital logistics platform intended to connect truck drivers to freight companies easily. The company's platform offers a vehicle financing program through which drivers can finance new trucks through citizen investors and pay them back directly over a 60 month period, enabling clients to receive freight trips and logistics related assistance. Enables supply chain resilience through efficiency.



[Ignitia](#) - Ignitia has developed a unique algorithm that produces GPS-specific weather forecasts for the tropics that are twice as accurate as existing global models. The algorithm takes into account the convective processes that dictate a majority of tropical weather events (that global models are not calibrated for) to produce highly accurate 2-day rain forecasts, and also offer monthly and seasonal predictions, enabling customers to better understand and respond to current weather conditions.



[Worldtech Consult](#) – Worldtech Consult designs, manufactures and installs solar powered walk-in cold rooms to extend the shelf life of agricultural products and temperature-sensitive materials, enhancing food system resilience and minimizing losses. Builds resilience to extreme heat and extreme weather events that reduce crop yields, worsen food waste, and increase food insecurity.

Country Profiles

Country specific deployment varied widely (Figure 5), and likely represents that the market mapping exercise could continue to identify innovations being developed in countries that had fewer SMEs identified through this market mapping exercise. It is also likely that existing SMEs in the database have expanded the regional scale of the deployment of their technologies and services, which have not entirely been captured to date.

Adaptation SME Country Sector Profiles - Africa

ASAP Adaptation SME Database - Global Mapping

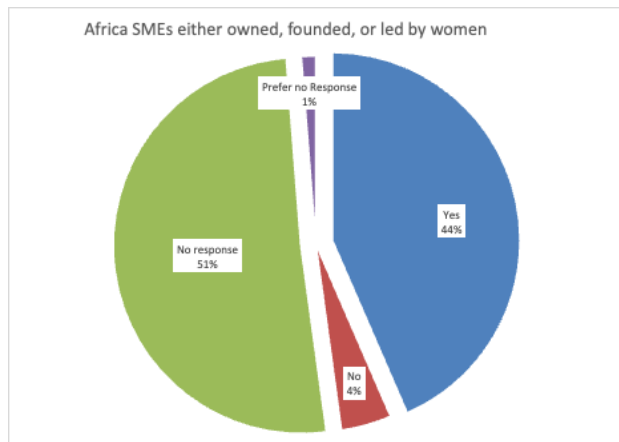


Chart: Brian Parham • Source: Adaptation SME Accelerator Project (ASAP) • Created with Datawrapper

Figure 5 – SME's deploying climate adaptation solutions and services by sector by country in Africa. Dynamic figure can be accessed: <https://datawrapper.dwcdn.net/r8TDg/1/>

Gender and Climate Adaptation & Resilience SMEs

Women were found to have an active role in either owning, founding, and/or leading climate adaptation SMEs with at least 44% of the companies in the database reporting information. An additional 51% of companies either did not report data or did not have it readily available for assessment. Considering that the ASAP Accelerator program had 75% of its Africa cohort with women either owning, founding, or leading the companies, there is a good likelihood that the number of women leading adaptation efforts in Africa is over half of the SMEs or more.



CONCLUSION

The ASAP market survey provides a snapshot into the developing innovation space in Africa for climate adaptation solutions. During the project, several other accelerator and investment initiatives are being developed, some utilizing the Climate Adaptation Taxonomy as a foundation to further identify and support technological solutions with the aim to scale and grow to provide more services to a wider base of customers facing increasingly drastic consequences of climate change. Continued work to identify new companies and engage with those existing in the database will be required to monitor the dynamic situation where entrepreneurs are creating new applications and expanding the use case of their technologies, solutions, and services to new sectors, and new markets. With both rising populations and the rising impacts of climate change to critical sectors including agriculture, water supply, infrastructure, health, and public administration, there will be continued need for solutions combining analytics, professional and technical expertise, and the ability to communicate the implications of changing climate to customers and businesses throughout Africa. This study demonstrates that entrepreneurs and innovators are building the solutions that are currently and projected to be needed at scale in the coming decades to help address the climate vulnerabilities in the region. It should serve as a foundation to build upon and as a call to action for accelerators, investors, multilateral development agencies; national governments in Africa; and those from the international community who are invested in the development of resilience in Africa to engage through investment, technical assistance, strategic programs, and policy support to enable the widespread deployment and adoption at scale of these and other climate adaptation solutions being developed.

The database of companies identified in this study can be accessed at www.climateasap.org.

ABOUT THE ADAPTATION SME ACCELERATOR PROGRAM (ASAP) & ITS PARTNERS

ASAP is a program dedicated to assisting small and medium-sized enterprises (SMEs) in adapting to climate change impacts. It offers tailored support and resources to vulnerable SMEs in developing countries. ASAP focuses on capacity building, mentorship, and access to financing, helping SMEs identify climate risks and implement resilience strategies. The project aims to integrate climate resilience into SMEs' business models and foster sustainable practices. Through its targeted efforts, ASAP contributes to enhancing the adaptive capacity of SMEs in the face of climate challenges. ASAP is led by the Lightsmith Group with funding from the Global Environment Facility's Special Climate Change Fund and the Inter-America Development Bank. ASAP is facilitated by Conservation International. For more information on ASAP, visit www.climateasap.org and about The Lightsmith Group visit www.lightsmithgp.com.

About Conservation International

Conservation International protects nature for the benefit of humanity. Through science, policy, fieldwork and finance, we spotlight and secure the most important places in nature for the climate, for biodiversity and for people. With offices in 30 countries and projects in more than 100 countries, Conservation International partners with governments, companies, civil society, Indigenous peoples and local communities to help people and nature thrive together. Go to **Conservation.org** for more, and follow our work on [Conservation News](#), [Facebook](#), [Twitter](#), [TikTok](#), [Instagram](#) and [YouTube](#).

About The Global Environment Facility (GEF)

The GEF is a family of funds dedicated to confronting biodiversity loss, climate change, pollution, and strains on land and ocean health. Its grants, blended financing, and policy support helps developing countries address their biggest environmental priorities and adhere to international environmental conventions. Over the past three decades, the GEF has provided more than \$22 billion and mobilized \$120 billion in co-financing for more than 5,000 national and regional projects. More information can be found at www.thegef.org.

SOURCES:

Hendrik, J. (2021) *DevelopmentAid, DevelopmentAid*. Available at: <https://www.developmentaid.org/> (Accessed: 20 December 2021).

International Monetary Fund African Department (2020) ‘2. Adapting to Climate Change in Sub-Saharan Africa’, in *Regional Economic Outlook, April 2020, Sub-Saharan Africa*. International Monetary Fund, p. 29. Available at: <https://www.elibrary.imf.org/view/books/086/28915-9781513536835-en/ch02.xml> (Accessed: 4 January 2022).

International Monetary Fund (IMF). 2023. “Closing the Gap: Concessional Climate Finance and Sub-Saharan Africa.” In *Regional Economic Outlook: Sub-Saharan Africa—The Big Funding Squeeze*, Washington, DC, April.

IPCC, 2023: *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, 184 pp., doi: 10.59327/IPCC/AR6-9789291691647.

OECD/FAO (2016), “Agriculture in Sub-Saharan Africa: Prospects and challenges for the next decade”, in *OECD-FAO Agricultural Outlook 2016-2025*, OECD Publishing, Paris. DOI: http://dx.doi.org/10.1787/agr_outlook-2016-5-en

Post-Cyclone Idai Cabinet for Reconstruction (2019) ‘Mozambique Cyclone Idai Post Disaster Needs Assessment: Full Report’. Government of Mozambique. Available at: <https://www.gfdrr.org/en/publication/mozambique-cyclone-idai-post-disaster-needs-assessment-full-report-2019> (Accessed: 20 December 2021)

Trabacchi, C, Koh, J., Shi, S., Guelig, T. (2020) “Adaptation Solutions Taxonomy” Available at: https://lightsmithgp.com/wp-content/uploads/2020/09/asap-adaptation-solutions-taxonomy_july-28-2020_final.pdf

UNFCCC (2020) *Climate Change Is an Increasing Threat to Africa* / UNFCCC. Available at: <https://unfccc.int/news/climate-change-is-an-increasing-threat-to-africa> (Accessed: 20 December 2021).

World Meteorological Organization (2021), “WMO Atlas of Mortality and Economic Losses from Weather, Climate and Water Extremes (1970-2019).” World Meteorological Organization. Available at: https://library.wmo.int/doc_num.php?explnum_id=10989 (Accessed August 17, 2023).

#	Company	In what countries are your company's solutions currently offered?	Sector	Please provide an overview of what you do. If accepted in to the ASAP Directory, this will be the text used as your Business Overview.	Website
1	4energy Global	Germany Poland United Kingdom Greece Egypt, Arab Rep. France Portugal India	Electricity; gas, steam &; air conditioning supply	4energy Global is a leading provider of low energy cooling products & intelligent energy management solutions.	http://www.4energy.org/
2	Abrimix	South Africa Canada United Kingdom Sub-Saharan Africa Europe &; Central Asia North America Latin America and Caribbean, Nigeria	Water supply; sewerage, waste management and remediation activities	Abrimix markets a unique patented technology that has been thoroughly researched and developed to provide respective clients with an affordable, efficient and cost effective water treatment process.	http://www.abrimix.co.za/
3	ACRE Africa	Kenya Uganda Tanzania Mozambique Malawi Ghana Senegal Rwanda	Agriculture; forestry and fishing Finance and Insurance Activities Professional, scientific and technical activities	ACRE Africa, the brand name of Agriculture and Climate Risk Enterprise Ltd. (ACRE) is a registered insurance surveyor in Kenya, an insurance agent in Rwanda and in Tanzania. It operates as a for profit company that evolved from the Kilimo Salama project (established 2009) that was funded through the Syngenta Foundation and the Global Index Insurance Facility (GIIF).	https://acreafrica.com/
4	Aerial Industries	Nigeria Singapore Sub-Saharan Africa	Agriculture; forestry and fishing	Next generation open-farm precision technologies for a smarter, healthier and more sustainable arable farming ecosystem. Products include an aerial robot for agriculture mechanization and embedding crop data computing software which allows farmers to access innovative crop spraying solutions.	https://www.aerialindustries/
5	AfricaWeather	South Africa Zambia Botswana Namibia Mozambique	Information and communication; Weather	AfricaWeather is a weather company based in South Africa offering value-added weather solutions to a range of clients across aviation, mining through transport and others.	https://www.africaweather.com/
6	Agri-IQ	South Africa Mozambique Kenya	Agriculture; forestry and fishing Professional, scientific and technical activities	AGRI-IQ are committed to growing agriculture throughout the SADC region to provide integrated services and innovative agri-business solutions to commercial farming enterprises, smallholders, farmers and government institutions.	https://www.agri-iq.com
7	AgriTask	Brazil Kenya, Mexico, Philippines, Thailand, Tanzania, Brazil, Peru, Chile, Argentina, Bolivia, Uruguay, Morocco, Nigeria, South Africa, Mozambique, Ethiopia, Congo, Dem. Rep.;	Agriculture; forestry and fishing	Developer of an agricultural management platform intended to make precision agronomy and agriculture technologies immediately accessible to farmers. The company's platform integrates multiple technologies into a farmers' intelligence ecosystem and correlates between various data layers of ground data, forecast data and activities that are performed or planned for specific crops, for deeper agricultural insights.	https://www.agritask.com
8	Agro App Services	Liberia	Agriculture	Our company is trying to solve post harvest losses to increase income and secure food for the future. Our services is to build a local food storage facilities at local market places to recover food wastage; fast perishable and left over produce.	http://www.agroappservices.com
9	Agroclimatica	Nicaragua Denmark El Salvador Ecuador Costa Rica Guatemala Honduras Kenya Netherlands	Agriculture; forestry and fishing; Professional activities; Information and Communications; Climate Risk Analytics	Agroclimatica is a risk assessment platform built for climate-smart agriculture.	https://agroclimatica.com/en/
10	Agromyx	Ghana	Agriculture; forestry and fishing	Agromyx (Ghana) manufactures freeze-dried fruits, vegetables and grains to stem post-harvest losses and create instant food products. We aim to deliver innovative solutions for the elimination of post-harvest food losses in the global food supply chain, and also providing nutritious healthy food products. Connecting farmers to the business world by increasing productivity.	http://agromyx.com/
11	AirQo	Uganda	Human health and social work activities	AirQo was founded to close the gaps in air quality data in Uganda and across Sub-Saharan Africa. We continuously provide evidence of the magnitude and scale of air pollution by developing and deploying a network of low-cost air quality monitoring devices. By applying artificial intelligence, we derive insights from the data collected and share in real-time through our data sharing platforms.	https://www.airqo.net/
12	Akwaaba Feeds	Ghana	Agriculture; forestry and fishing	Akwaaba Feeds partners with Bioproton Pty Australia to produce nutritious poultry and pig feed. Specifically, they produce various starters, mashers, and feeds.	https://akwaabafeeds.com/
13	Altech Group	Congo, Dem. Rep.	Electricity; gas, steam &; air conditioning supply Energy Human health and social work activities	Altech's mission is to expand access to clean, reliable, renewable, and affordable energy for off- and poor-grid households.	https://www.altech-rdc.com/ https://wa.me/message/LMIDIER2MP_SZO1
14	Alzanael Private Limited	Zimbabwe	Energy; Electricity		https://thelandaccelerator.com/network/companies/
15	Aoulaye Sesame	Niger	Agriculture; forestry and fishing	Aoulaye Sesame a company that grows white sesame in Niger	
16	Apollo Agriculture	Kenya	Agriculture; forestry and fishing Finance and Insurance Activities Information and communication	Developer of an agriculture platform designed to help farmers with modern farming in emerging markets.	http://www.apolloagriculture.com/
17	Aquafarms Africa	Guinea	Agriculture		http://www.aquafarmsafrica.co
18	Arifu	Kenya	Agriculture; forestry and fishing	Arifu offers mobile learning tools that make it possible for the world's least served people (youth and women at the base of the income pyramid (BOP), rural smallholder farmers, and microentrepreneurs) to access the information they need to improve their incomes and escape from poverty using any mobile phone. Arifu develops learning campaigns for multinational companies, international NGOs, and social enterprises operating in the agriculture, financial services, and consumer goods sectors.	https://www.arifu.com
19	Amergy	Sub-Saharan Africa Nigeria	Electricity; gas, steam &; air conditioning supply	Amergy designs, manufactures rent-to-own solar energy solutions providing, affordable, reliable and clean electricity for commercial, residential and rural electrification applications.	https://amergy.com/index.html
20	Asaduru	South Africa	Infrastructure Real estate activities Water supply; sewerage, waste management and remediation activities	Green building firm specialising in biological waste water recycling, stabilised rammed earth construction, and holistic development	https://www.asaduru.com/
21	Astrofica	South Africa	Information and communication	Astrofica's African-owned satellite constellation offers highly accurate, real-time earth observation data to a multitude of local and international clients seeking actionable information that impacts their business operations.	https://www.astrofica.com/
22	BalanceCell	South Africa	Electricity; gas, steam &; air conditioning supply	Developer of battery management and cell balancing system designed to help convert the world to renewable energy sources, support the provision of electricity to the last billion people, and thus improve quality of life. The company's aim is to provide the electronics, the communications and the power electronics on batteries that will make them more useful and cost effective, enabling clients to reduce costs and improve battery performance regardless of battery chemistry.	http://www.balancecell.com/
23	BBOXX	Sierra Leone Kenya Pakistan Somalia Congo	Electricity; gas, steam &; air conditioning supply	BBOXX designs, manufactures, distributes and finances innovative plug & play solar systems to improve access to energy across Africa and the developing world. More than 150,000 BBOXX products have been sold in more than 35 countries, improving the lives of nearly 1 million people.	https://www.bboxx.co.uk/

24	Bell Industries	Kenya	Agriculture; forestry and fishing	Bell Industries sells a variety of products namely fertilizers, chemical enhancers, and storage vessels meant to protect and maximize harvests.	http://www.bellindustrieskenya.com/
25	Bfarm-Tech	Ethiopia	Agriculture; forestry and fishing Information and communication Transportation and storage		https://bfarm-tech.wixsite.com/website
26	Bleera Energy	Kenya	Electricity; gas, steam &; air conditioning supply	Bleera Energy was created at Kisii University to deploy off-the-shelf micro-hydro power plants, leveraging megawatts of untapped, clean, carbon-free energy in order to bring electricity to western Kenya.	http://bieera.com/
27	Biopipe Global	Bangladesh India Philippines South Africa Ethiopia	Water supply; sewerage, waste management and remediation activities	Biopipe Global has developed a patented 100% sludge-free, chemical-free, odor-free, silent, easy to assemble and install, scalable, low cost, ecological and virtually maintenance-free onsite sewage wastewater treatment system. Provider of an agricultural service intended to facilitate agricultural operations business. The company's operation offers high-end agriculture solutions to development across different crop types from cereals to plantations, orchards, and cut flowers as well as evaluate locations to identify optimum crops and crop plans to maximize yields and return to all stakeholders, enabling farmers to access capital, financial, and business management systems to develop large-scale agricultural production	https://www.biopipe.co/
28	Blueagri	South Africa Curacao Zambia Zimbabwe	Agriculture; forestry and fishing	Bovcontrol is a data collection and analysis tool to improve performance on meat, milk and genetics production.	https://blueagri.com/
29	BovControl	Global	Agriculture; forestry and fishing	Cadel Consulting Ltd (Burkina Faso) produces phospho-compost, an organic fertilizer that helps in restoring degraded land, a problem faced by 85% of farmers in Burkina Faso. The company also distributes improved seed from other companies and trains farmers on smart farming practices. Builds resilience to: drought, heat stress, and extreme weather events that reduce crop yields and degrade arable land.	https://www.bovcontrol.com/
30	Cadel Consulting	Burkina Faso	Agriculture Soil		https://www.cadelafrica.com/
31	Classic Foods Limited	Kenya	Agriculture; Climate Risk Analytics and Risk Management		http://www.classicfoods.co.ke
32	Climate Edge	Kenya Colombia United Kingdom	Agriculture; forestry and fishing	Climate Edge works with agricultural service providers to make their services accessible to thousands of smallholder farmers.	https://www.climate-edge.com/
33	Coldhubs	Nigeria	Agriculture; forestry and fishing Electricity; gas, steam &; air conditioning supply	ColdHubs, is a "plug and play" modular, solar-powered walk-in cold room, for 24/7 off-grid storage and preservation of perishable foods	http://www.coldhubs.com/
34	Congretype	South Africa	Climate Risk Analytics and Risk Management	Congretype provides societal based solutions in renewable energy, ICT for devel	https://www.congretype.co.za/
35	Cropin	Kenya, Ethiopia, Rwanda, Uganda, Mozambique, South Africa, Zimbabwe, Ghana, Côte d'Ivoire, Burkina Faso, India, Global, Nigeria	Agriculture; forestry and fishing; Supply Chain; Information and Communications	Offers farm management software designed to facilitate connected and data-driven farming to integrate the agricultural sector with information and communication technology (ICT). Allows different value chain participants to monitor farm produce status, improve the financial and operational aspects of agriculture and ensure the quality and safety of food for end consumers.	http://www.cropin.com/
36	Daystar Power	Nigeria	Electricity; gas, steam &; air conditioning supply	Daystar Power supplies affordable, reliable and clean power to businesses and consumers across Africa. They provide customers with continuous power, covering all consumers at a monthly fee and zero capital expenditure, by employing a combination of technologies, including solar power and battery back-up.	https://www.daystar-power.com/
37	De Omni Man Nigeria Limited	Nigeria	Agriculture Waste		http://www.dcomniman.com
38	Devergy	Tanzania	Electricity; gas, steam &; air conditioning supply	Makes clean energy services affordable to low-income customers in Tanzania through a pay-as-you-go model using mobile banking	https://devergy.com/
39	Digital Microsystems Pte Ltd	Singapore	Transportation; Logistics; Infrastructure	We are in business of AMI products & Solutions for electric utility companies in the emerging markets. We provide end to end smart metering solutions (Meter to cash) to utility companies addressing various operational challenges that they are faced in, day in day out, such as: Power theft, Collection p0blem, Meter reading, Managing assets in the filed, Demand Side Management, Visibility over consumptions, evolving consumers' expectation, and customer satisfaction issues.	http://www.dms-ami.com
40	E3D Niger	Niger	Agriculture; forestry and fishing Human health and social work activities	E3D Niger grows neem trees to make natural pesticides, insect-repelling soaps, disinfectants, and related products.	https://e3dniger.com/
41	Easy Solar	Sierra Leone Liberia	Electricity; gas, steam &; air conditioning supply	Easy Solar distributes a wide range of solar products, appliances and complementary lifestyle products, while providing customers with consumer-financing solutions through mobile technology. The technology enables customers to make small payments over time until they own the product outright.	https://www.easysolar.sl/
42	ELWIN AMANCHASIS COY LTD	Nigeria Morocco Turkey United States United Arab Emirates United Kingdom Germany Netherlands Israel China Japan South Korea	Agriculture; forestry and fishing Manufacturing	Elwin AgTech Project 1.0 is an innovative commitment to delivering sufficient, &; nutritious foods, and creating sustainable dignified jobs by empowering smallholder farmers with smart farming techniques (climate adaptation and resilience) for optimum improvement in productivity up to 60% for marketable value profitability.	https://www.elwin-group.com.ng
43	Emabhaceni Development And Nature Solutions	South Africa	Energy		http://www.emabhaceni.co.za
44	Energy Shift	South Africa	Electricity; gas, steam &; air conditioning supply	Energy Shift has designed components that are able to connect to any standard PV panel, thereby converting the PV installation to a full-blown PV-T installation. This significantly reduces the need for new capital expenditure on PV-T where companies already have PV systems installed. It also reduces the overall cost of a new PV-T installation by combining the retrofitted Energy Shift technology with standard PV technology.	https://www.savant.co.za/ventures/energy-shift/
45	Esoko	Ghana Liberia Tanzania Benin Malawi Zimbabwe Kenya Burkina Faso	Agriculture; forestry and fishing Finance and Insurance Activities Information and communication	Esoko has been helping enterprises manage rural communities. Traditionally focused on content services for farmer, Esoko now provides access to critical services via mobile channels (agronomic, climate, markets, credits and digital skills) to smallholder farmers to build resilience and adapt to climate. We promote transparency in agricultural value chains and help organizations to track community based projects using a powerful data digitization platform and field deployment expertise.	https://esoko.com/
46	Expressions Global Group	Kenya	Agriculture; forestry and fishing	Expressions Global Group (Kenya) offers affordable piped water for irrigation to smallholder farmers, making them more productive and climate-resilient.	http://expressions.co.ke/

47	FarmCrowdy	Nigeria	Agriculture; forestry and fishing	Provider of digital agriculture platform intended to connect farm sponsors with real farmers. The company's platform applies an agri-tech approach to crowdfunding by matching investors with smallholder farmers, increase food production while promoting youth participation, enabling working class Nigerians to crowd-sponsor farming projects with the promise of a share in the returns.	http://www.farmcrowdy.com/
48	FarmDrive	Kenya	Agriculture; forestry and fishing	Provider of financial services intended to offer loans to small farmers. The company's services leverage alternative datasets to create comprehensive credit scores which financial institutions use to lend to smallholder farmers at the base of the pyramid, thereby enabling farmers to get loans, improve the livelihoods of entire communities, and alleviate poverty, hunger and inequalities.	https://www.farmdrive.co.ke
49	Farmerline	Ghana	Agriculture; forestry and fishing	Farmerline develops solutions to increase access to farmers and simplify transactions throughout the agricultural value chain. We are the first organisation in Africa to give farmers access to information through voice messages in local languages, effectively bridging the knowledge gap among smallholder farmers. We are building the "Amazon" for farmers where they can access these timely services and other quality resources at affordable prices in their community.	https://farmerline.co/
50	Farmio Ltd	Ghana	Agriculture; Climate Risk Analytics and Risk Management; Information and Communication		http://www.farmioch.com
51	Farmshine	Kenya	Agriculture; forestry and fishing	Developer of an Agri-Tech platform intended to connect farmers with the information, suppliers and service providers. The company operates a global agriculture platform where farmers, buyers and service providers can trade on mutually beneficial terms, thereby enabling fully transparent management of the agriculture value chain and allowing smallholder farmers to increase their income by aggregating and selling their harvests directly to large commodity companies.	http://www.farmshine.io/
52	Favorite Doctor	Nigeria	Health;		https://www.favdoctor.com
53	Field Intelligence	Sub-Saharan Africa Nigeria Kenya Germany	Human health and social work activities	Field Intelligence has developed a SaaS-based pharmaceutical supply-chain platform to make healthcare radically simple, affordable, and effective. By digitizing and optimizing large-scale pharmaceutical supply chains, the company's solution increases the resilience and dynamism of pharma supply chains.	http://www.field.inc/
54	Freezelink	Ghana	Cold Chain - supply Chain	Freezelink (Ghana) delivers cold chain logistics services to reduce food waste and enhance food security and to increase the availability of medicine in Africa. Builds resilience to: extreme heat and extreme weather events that reduce crop yields, worsen food waste, and increase food insecurity.	https://freezelink.co/
55	Future Pump Limited	Kenya Benin Burkina Faso Ethiopia Gambia, The Ghana India Malawi Mali Mozambique Nigeria Papua New Guinea Nepal South Sudan Zambia Uganda Zimbabwe	Agriculture; forestry and fishing Water supply; sewerage, waste management and remediation activities	Futurepump is a company headquartered in Kenya which develops solar powered irrigation pumps. These pumps run on renewable energy, designed for 1-2 acre farms, and are highly efficient and portable. The company aims to provide solutions for future precipitation changes due to climate change.	https://futurepump.com
56	Gas Chill	Egypt, Arab Rep.	Electricity; gas, steam &; air conditioning supply	Gas Chill is an Egyptian company that provides inventive world class cooling & heating solutions using the latest groundbreaking Japanese & European technology. Gas Chill's core objective is to provide the most revolutionary, environmentally-friendly energy supply techniques, not only in Egypt, but the MENA region.	http://www.gaschill.net/index.html
57	GeoPoll	Kenya South Africa Tanzania Sierra Leone Liberia Guinea	Information and communication	GeoPoll, the mobile engagement platform of Mobile Accord, provides real-time mobile data collection, insights and analytics.	https://www.geopoll.com/
58	Geospatial Analytical Services	Ethiopia	Agriculture; forestry and fishing Information and communication Infrastructure	Geospatial Analytical Services (GeoSAS) is an Ethiopian private consulting company established in 2007. GeoSAS provides professional services in planning, designing, implementing, monitoring and evaluation of development projects in various sectors, with a focus on climate change and agriculture. The firm specializes in acquisition, processing, analysis and synthesis of geospatial data for various applications using GIS and Remote Sensing.	http://www.geosas.net/geosas-consulting/index.php
59	Germark Holdings Limited	Tanzania	Professional, scientific and technical activities; energy; finance		https://www.germarkholdings.com
60	GPTech	Spain, South Africa, Chile	Electricity; gas, steam &; air conditioning supply	Our solutions are focused on grid integration of solar and wind energy, as well as on grid stability and energy transport. They are based on four top product lines: Advance Power Integration Solutions Multi-Level Solar Inverters Energy Management Solutions Plug and Play Storage Solutions	http://www.greenpower.es/en/home/index.html
61	Green Dreams TECH Ltd	Kenya Ethiopia Tanzania	Agriculture; forestry and fishing	Green Dreams TECH's product iCow is a mobile-based agricultural platform providing farmers services and data to help increase productivity based on good agricultural practices.	https://www.icow.co.ke
62	Greenchain Group	South Africa	Water supply; sewerage, waste management and remediation activities	Specialise in the design and installation of water filtration and purification units suitable for rainwater filtration and groundwater filtration for residential, industrial and commercial use.	https://www.greenchaingroup.com/
63	Grincom Innovated Limited	Kenya	Agriculture		http://www.nakurulivinglab
64	Groupe Vlan	Niger	Agriculture; forestry and fishing; Professional Services; Information and Communications; Climate Analytics		https://www.c-himma.net/
65	Harvesting	Uganda Tanzania Kenya India	Agriculture; forestry and fishing	Developer of a crop risk assessment technology intended to address challenges in agriculture using data science. The company's technology helps financial institutions to understand agriculture communities and risks associated with lending farmers by leveraging advancements in remote sensing satellites and machine learning as well as engages in building accurate predictive models for crop yields via data collection, data analysis and data reporting, enabling clients to view, analyze and manage.	https://harvesting.co/
66	Havilah Brands Kenya Ltd	Kenya	Water supply; sewerage, waste management and remediation activities		https://www.havilah.co.ke
67	Health Child	Uganda	Agriculture		http://www.healthchild.org.ug

68	Heat Exchange Products	Namibia	Water supply; sewerage, waste management and remediation activities	The company designs, manufactures and installs a wide range of water treatment, water purification, and heat transfer equipment and solutions through specialized non-commoditized chemicals in order to provide reliable, efficient, cost-effective, and long-term technological ideas and solutions to its customers in the municipal, industrial, agricultural/fishing and mining sectors of Namibia.	https://www.hepwater.com/
69	Hello Tractor	Nigeria Kenya Afghanistan Bangladesh Thailand Jamaica Guatemala Global Nigeria, Kenya, Angola, Ghana, Côte d'Ivoire, Malawi, Mozambique, Senegal, Tanzania, Uganda	Agriculture; forestry and fishing	Hello Tractor has developed a low cost monitoring device that when placed on a tractor provides the owner with powerful software and analytics tools to ensure tractors are both profitable and properly cared for. Developer of a drone technology designed to offer UAV aerial technologies for the civil sector. The company's drone technology improves analytical processes by combining the capture of aerial data with new information technologies, enabling clients to generate layers of predictive intelligence of high added value.	https://www.hellotractor.com
70	Hemav	Mexico Brazil Argentina Chile Paraguay Morocco Tunisia	Information and communication Professional, scientific and technical activities; Public Administration and Defense		https://hemav.com/en/
71	Honeyflow Africa	Nigeria	Agriculture; forestry and fishing	Developer of a sophisticated monitoring system intended to digitize beekeeping operations. The company's platform uses the power of IoT, AI, and machine learning and is composed of a battery of sensors feeding information to a smartphone app, enabling the beekeeper to monitor their hives remotely and will save their time and labor by more efficient, targeted interventions, as well as boost their earnings.	http://www.honeyflowafrica.com/
72	HydroIQ	Kenya Sub-Saharan Africa	Water supply; sewerage, waste management and remediation activities	Founded in 2017, HydroIQ is an Africa-based technology company that has developed a smart water leak detection system that can help to manage, monitor, and understand household water usage.	https://www.hydroiq.africa/
73	Ibbie Agtech	Nigeria	Agriculture/ Supply Chain		http://ibbieagtech.com
74	Ignitia	Ghana Nigeria	Agriculture; forestry and fishing Information and communication Professional, scientific and technical activities	Ignitia has developed a unique algorithm that produces GPS-specific weather forecasts for the tropics that are twice as accurate as existing global models. The algorithm takes into account the convective processes that dictate a majority of tropical weather events (that global models are not calibrated for) to produce highly accurate 2-day rain forecasts, and also offer monthly and seasonal predictions.	https://www.ignitia.se/
75	Igo Company Limited	South Sudan	Energy & Cooling		http://www.igocompanylimited.org
76	INGENIAR: Risk Intelligence (INGENIAR CAD/CAE LTDA.)	Colombia Mexico Venezuela, RB Nicaragua Ecuador Peru Chile Bolivia Brazil Uruguay Argentina Niger Madagascar Comoros Mauritius India Vietnam Thailand Myanmar Nepal	Finance and Insurance Activities Professional, scientific and technical activities	INGENIAR [Ingeniería y Análisis de Riesgos] was founded by Omar Darío Cardona Arboleda in 1986 in Manizales city, with the aim of offering specialized services in the field of engineering, planning and public policy, with emphasis in seismic resistant structure design, urban planning, risk modelling and disaster risk management, and specialized software development.	http://www.ingeniar-risk.com/en
77	InspiraFarms	Sub-Saharan Africa Kenya Guatemala Rwanda	Agriculture; forestry and fishing Transportation and storage	InspiraFarms produces energy-efficient pre-cooling and cold rooms, pack houses and automated ripening chambers; client-centered technical support; and affordable asset financing terms that allow agribusinesses cut energy costs, reduce food losses, meet major international food safety certifications, and allow for remote performance monitoring on or off-grid.	https://www.inspirafarms.com/
78	Integems	Sierra Leone	Professional, scientific and technical activities	Integrated Geo-information and Environmental Management Services is an Environmental Consulting organization providing cost-effective geo-information and environmental management services and solutions to clients to effectively and efficiently respond to socio-economic, environmental and natural resources management challenges and opportunities.	https://www.integemsgroup.com
79	Johnfoworade Global Enterprises	Nigeria	Agriculture / Finance		http://www.johnfoworade.com
80	Justcleanit	Uganda	Water supply; sewerage, waste management and remediation activities; Agriculture		http://www.justcleanit.co.ug
81	Karm Solar	Egypt, Arab Rep.	Administrative and support service activities Electricity; gas, steam &; air conditioning supply Energy	Karm Solar provides solar solutions for on grid and off grid customers in Egypt.	https://www.karmsolar.com/
82	Khebhandza Marketing Co. Ltd	Tanzania	Agriculture		http://www.khebhandza.co.tz
83	Kijiko Conservation	Uganda	Energy		https://www.kijikoconservation.com/
84	Kitovu	Nigeria	Agriculture; Climate Risk Analytics and Risk Management; Information and Communication	Kitovu Technology (Nigeria) provides smallholder farmers with data about soil and crop health, storage and market links, through a digital farm productivity platform. Builds resilience to: drought, heat stress, and extreme weather events that reduce crop yields and harm farmer incomes.	https://www.kitovu.com.ng/
85	Kobo360	Nigeria Kenya Uganda Togo Ghana Côte d'Ivoire Burkina Faso	Transportation and storage	Provider of an online digital logistics platform intended to connect truck drivers to freight companies easily. The company's platform offers a vehicle financing program through which drivers can finance new trucks through citizen investors and pay them back directly over a 60 month period, enabling clients to receive freight trips and logistics related assistance.	http://www.kobo360.com/
86	KOFAR	Kenya	Agriculture; forestry and fishing	KOFAR Ltd is a social enterprise that processes fortified compost from vegetative waste and sells this as a product with soil conditioners to reverse acidity, boost moisture retention and increase quality yields for farmers.	https://kofarLtd.com/
87	Kukua Weather Services	Tanzania, Netherlands	Information and communication; Professional, Scientific, and technical activities; weather	Kukua is a social enterprise/tech company that began operations in 2015 in Tanzania.	https://www.f6s.com/kukuaweatherservices
88	Kuli Kuli	United States Ghana Uganda	Agriculture; forestry and fishing	Producer of nutritional products intended to pioneer superfood Maringá. The company's products include Maringá energy bars, organic Maringá powder, organic Maringá green smoothie mixes and Maringá green energy shots that provide a good source of plant protein, iron, vitamins and antioxidants, enabling consumers to have healthy food and improve their health. Maringá is a nutritional, climate smart crop grown in West Africa.	https://www.kulikulifoods.com/
89	Kumwe	Rwanda	Agriculture; forestry and fishing	Kumwe is Rwanda's largest aggregator of premium maize and domestic freight broker.	https://www.kumwe.com/

90	Lentera Africa	Kenya	Agriculture; forestry and fishing	Lentera Limited was established in 2016 and is in the business of silicon organic fertilizer. The company's main product is silicon foliar feed. The company manufactures a blend of fertilizers that increases plant tolerance to dry weather conditions and increases overall yields. Lentera's silicon fertilizer not only ensures well-nourished plants, but also restores the soil to its natural healthy self.	https://lenterafrica.com/
91	Leorganic Africa Ltd.	Kenya	Agriculture		http://www.leorganicafrika.com
92	Lori Systems	Uganda Nigeria Kenya	Transportation and storage	Developer of an online logistics platform intended to revolutionize the cargo-transport value chain in Africa. The company's platform enables the logistics space to operate at an order of magnitude more efficiently, can optimize truck utilization and also handles invoicing, payment and tracking, enabling clients to handle their logistics issues efficiently and quickly.	http://www.lorisystems.com/
93	Made In Congo	République du Congo	Agriculture; Climate Risk Analytics and Risk Management; Information and Communication		http://www.esk-agrifood.com
94	Madumbi Sustainable Agriculture	South Africa Sub-Saharan Africa	Agriculture; forestry and fishing	Marketing and distribution company in Sub-Saharan Africa. The company provides bioinoculant, biostimulant, biorational services from seed to fork, that consists of pest and disease control products, plant health and stimulation products, micro-organism based on natural resources, insecticides and pesticides that helps in healthy, high yielding, high quality crops and avoid depleting of soil and reduces suppression of fungal plant diseases on crops	https://madumbi.co.za/
95	Manobi Africa	Mauritius Ethiopia Kenya Tanzania Congo, Dem. Rep. Nigeria Niger Mali Senegal Guinea Sierra Leone Côte d'Ivoire Ghana Burkina Faso Benin	Agriculture; forestry and fishing Human health and social work activities Water supply; sewerage, waste management and remediation activities	Manobi Africa provides expertise in integrated GIS systems and web-mobile convergence. Their most successful products target the agricultural sector within which Manobi offers a catalog of integrated services that enable their partners to deploy services in the field.	https://www.manobi.com/
96	Manstrat Agricultural Intelligence Solutions	South Africa	Agriculture; forestry and fishing	Manstrat Agricultural Intelligence Solutions is a South African developer of internet based agricultural decision support systems. The team comprises of agricuturists and IT specialists that work to facilitate the implementation of economically viable and sustainable farming systems through the provision of updated, relevant and appropriate information to the agricultural industry.	http://www.manstratais.co.za/
97	Meridia	Ghana Indonesia Malawi Lithuania Netherlands Côte d'Ivoire	Real estate activities	Meridia offers smallholder farmers with affordable land documentation.	https://www.meridia.land/
98	Modcoal	Ghana	Energy		https://www.linkedin.com/in/matthew-baba-nanquan-368a9197
99	mPower Social Enterprises	United States Haiti Guatemala Egypt, Arab Rep. Nepal Bangladesh Myanmar Philippines India Zambia Rwanda Botswana	Agriculture; forestry and fishing Human health and social work activities Information and communication Professional, scientific and technical activities Water supply; sewerage, waste management and remediation activities	mPower is a social enterprise aiming to solve development challenges using technology. Their global team of multi-disciplinary experts co-design with partners to iteratively learn and solve development challenges in areas of climate change, health, water and sanitation, agriculture, livestock, fisheries, governance and humanitarian issues among others.	http://www.mpower-social.com/
100	Netsys	South Africa	Information and communication; Professional, Scientific, and technical activities; weather	NetSys is a leader in delivering complex telecommunication and meteorological data-processing solutions. Apart from supplying premier WMO and ICAO compliant Message Switching as well as Weather Visualization Systems, NetSys is also a leader in SADIS, WIFS and EUMETSat Reception Station provision and in partnership with some of our customers are actively advancing the development of the Weather Information Exchange Model (WIXM). Of late we are also successfully addressing the needs of NOTAM office	http://www.netsys.aero/
101	Ngirwi Sarl	Senegal	Agriculture; Supply Chain		http://ngirwisarl.com
102	Novfeed	Tanzania	Agriculture; waste		https://novfeed.com
103	NuWater	South Africa	Water supply; sewerage, waste management and remediation activities	Nuwater provides solutions and services for the treatment, reclamation and re-use of wastewater as well as the desalination of sea and brackish water.	https://www.nuwater.com/
104	Offgrid Box	Italy United States Rwanda Tanzania	Electricity; gas, steam &; air conditioning supply Water supply; sewerage, waste management and remediation activities	OffGridBox develops and installs water purification systems and renewable energy technology in remote areas in Africa.	https://www.offgridbox.com
105	Oolu	Mali Niger Nigeria Burkina Faso	Electricity; gas, steam &; air conditioning supply	Provider of high-quality solar products on an affordable financing plan for off-grid communities in West Africa.	https://oolusolar.com/
106	Paraexcel Global Limited	Nigeria	Agriculture/ Supply Chain		http://www.phvforbit.com
107	Peepoole	Kenya Sub-Saharan Africa South Africa Congo, Dem. Rep. South Sudan Pakistan Bangladesh New Zealand Philippines Syrian Arab Republic Haiti	Human health and social work activities Water supply; sewerage, waste management and remediation activities	Peepoo is a personal, single-use, self-sanitizing, fully biodegradable toilet that prevents feces from contaminating the immediate area as well as the surrounding ecosystem. After use, Peepoo turns into valuable fertilizer that can improve livelihoods and increase food security.	http://www.peepoole.com/
108	PEG	Ghana Sub-Saharan Africa Côte d'Ivoire Senegal Mali	Electricity; gas, steam &; air conditioning supply	PEG Africa is a leader in deploying and financing solar to households and SMEs in West Africa. Via its PAYG financing model, it enables customers to replace their perpetual spending on poor-quality polluting fuels such as kerosene and diesel with solar energy. PEG is currently serving hundreds of thousands of daily users in Ghana, Cote d'Ivoire, Senegal and Mali, and has recently expanded its capabilities to include solar water irrigation and bigger solar power systems for SMEs.	https://pegafrika.com/
109	Plantix	India Egypt, Arab Rep. Pakistan United Kingdom Global Malaysia Australia Tanzania	Agriculture; forestry and fishing	Plantix is an app which provides customers with tools to improve agricultural yields using image recognition software to diagnose and offer treatments for pest, disease, and/or nutrient deficiency problems. The software covers 30 major crops, detects 500 plant damages, is available in 18 languages and has more than 15 million downloads.	https://plantix.net/en/
110	PowerGen Renewable Energy	Kenya Nigeria Sierra Leone Tanzania Benin	Electricity; gas, steam &; air conditioning supply	PowerGen is the leading developer of distributed renewable energy in Africa. PowerGen's vision is to provide 1 million customers with clean, reliable and affordable power by 2030.	https://www.powergen-re.com/
111	Pula	Kenya Malawi Zambia Nigeria, Madagascar, Mozambique, Uganda, Rwanda, Ethiopia, Mali, Senegal, Ghana, Togo, Cote D Ivoire	Agriculture; forestry and fishing Finance and Insurance Activities	Pula is radically restructuring agricultural insurance, using technology to help insure the previously unbanked, uninsured and untapped market of smallholder farmers.	https://www.pula-advisors.com
112	Rafode Ltd	Kenya	Energy; Finance		http://www.rafode.co.ke
113	Re-Basket	Zimbabwe	Agriculture; Big Data		http://re-basket.com
114	Regid International	Kenya	Energy; Professional, Scientific and technical activities; Climate Risk Analytics and Risk Management		https://regid-international.org/

				Rejuvenate! Umhlaba is a land restoration company that was founded in 2019. Our name resonates with our deep seated desire to ensure that land in Africa is revived and productive, supporting the blooming African population and beyond. We are developing an exchange for land restoration where companies that have a net negative impact on the land buy a share which entitles them to 1 hectare of land rehabilitated by us and other restorers.	https://rejuvenateumhlaba.com/
115	Rejuvenate! Umhlaba	Zimbabwe	Agriculture; forestry and fishing		
				Releaf invents and operates proprietary technology to reduce post-harvest loss in the oil palm sector. We buy palm nuts from smallholders in Nigeria and provide extension services. There are 4M oil palm smallholders contributing 80% of Nigeria's supply of palm oil.	https://www.leaf.africa/
116	Releaf	Nigeria	Agriculture; forestry and fishing		
				Since its founding in 2008, Renewvia has designed, installed, owned and operated over 80 megawatts (MW) of power across the United States, Pacific Islands, South America and sub-Saharan Africa. Projects range from equipping large industrial farms with up to 60 MW of renewable energy to constructing 2.5 MW distributed rooftop solar arrays for industrial facilities and 50 kilowatt (kW) systems for small commercial buildings, along with hybrid and standalone solar microgrids of varying size in remote, hard-to-reach communities. Currently the company is developing clean energy projects where the most expensive fuel source is burned to create power. Power costs for businesses in these areas are crippling and many times large capital expenditures are not feasible for business owners regardless of the associated returns.	https://www.renewvia.com
117	Renewvia	United States, Kenya, Nigeria, Rwanda	Electricity; gas, steam &; air conditioning supply		
				Rensource Energy is a leading provider of off-grid energy. It is using best-in-class technology, financial innovation, and a robust operational infrastructure to build West Africa's largest portfolio of microutilities.	https://www.rensource.energy/
118	Rensource	Nigeria	Electricity; gas, steam &; air conditioning supply		
				Resurgence is a design, technology and consulting company that specialises in climate risk, resilience and inclusive multi-hazard early warning services. The company has award-winning expertise in co-designing early warning systems with national, municipal and community stakeholders, and in supporting governments and cities to develop the data infrastructure to manage and reduce climate risk.	https://www.resurgence.io
119	Resurgence	Jamaica Kenya Tanzania Uganda	Information and communication		
				Using EMI soil scanners, Satellites and Drones, Revolut provides insight to crop information	https://www.revolutsystems.com/
120	Revolute Systems	South Africa	Information and communication		
					http://www.riskbasedleader.com
121	Risk Based Solutions	Zimbabwe	Climate Risk Analytics and Risk Management		
				Water Management with engineering and technological solutions to assess risk and provide the cleanest water possible.	http://www.rolfswater.com/
122	Rolfes Water	South Africa	Water supply; sewerage, waste management and remediation activities		
				Rwanda Biosolution produces organic fertilizers from grass and domestic wastes.	https://rwandabiosolution.com/
123	Rwanda Biosolution	Rwanda	Agriculture		
				Safi Organics uses technology to decentralize and downsize fertilizer production, making it possible for rural Kenyan villages to use their own locally available resources, labor, and waste and improve their yields up to 30%.	http://safiorganics.co.ke/
124	Safi Organics	Kenya	Agriculture; forestry and fishing		
				Sanergy manufactures and operates low-cost, high-quality Fresh Life toilets for Nairobi's slums. Sanergy also collects and converts waste from the toilets into fertilizer and animal feed for commercial and smallholder farms. The fertilizer helps restore soil health in Kenya, where 80 percent of the people rely on agriculture for their livelihoods. Due to soil degradation, farm productivity has been declining, and there is a demand for 270 mil	http://www.sanergy.com/
125	Sanergy	Kenya	Water supply; sewerage, waste management and remediation activities		
				Provider of an on-demand delivery platform designed to offer door-to-door delivery and transportation services. The company's easy-to-use delivery platform schedules, tracks, and pays for all deliveries, connects riders and offers cashless payments via mobile, enabling users to manage all their deliveries from one spot, access reporting tools and save on logistics costs. Also offers transport of loose or containerized cargo across East Africa using Sendy Freight.	http://www.sendyit.com/
126	Sendy	Kenya	Transportation and storage		
127	Simec	Rwanda	Agriculture; Water		http://www.simec.rw
				We manufacture SmartRoot™. A biofertilizer containing living cells of mycorrhizal fungi, with the ability to mobilize nutrients and water for plant use through biological processes. This increases crop yields and improves crop resistance to water stress and harmful pathogens. SmartRoot™ products are for use in a wide range of crops production systems and crop varieties; home gardening, nurseries subsistence/smallholder farming, and organic farming.	https://smartroot.co.za/
128	SmartRoot	South Africa	Agriculture; forestry and fishing		
129	Solar Floppy	Egypt, Kenya, Tanzania	Water; Agriculture		https://solarfloppy.com
				The company is a manufacturer of sustainable water purification systems designed to produce pure drinking water from contaminated sources under very difficult conditions. The company's filtration systems remove all impurities, bacteria, viruses and other contaminants from the feed water, leaving only high-quality water as the end product, enabling clients to offer safe and affordable water locally in remote locations.	https://solarwatersolutions.fi/en/
130	Solar Water Solutions	Kenya Namibia	Water supply; sewerage, waste management and remediation activities		
				Provides access to clean energy and financing solutions for solar home, small-business, agriculture and corporate systems in Sub-Saharan Africa	https://www.solamow.eu/
131	SolarNow	Uganda	Energy, Agriculture.		
				Off-grid solar home systems with a pay-as-you-go service. Manufacturer of solar products intended to avail high-quality solar products for lighting and low voltage electricity provisions. The company's products help derive power of the sun to provide a source of light and charge devices for lighting and low voltage electricity provision, enabling clients to improve the lives of people that have no access to electricity.	https://www.solar-works.co.za/
132	SolarWorks!	Mozambique Netherlands South Africa Malawi	Electricity		
				SparkMeter offers comprehensive low-cost metering solutions for electric utilities in developing markets. 3.5 billion people across the world live without reliable electricity access.	http://www.sparkmeter.io/
133	SparkMeter	Sub-Saharan Africa Tanzania Nigeria Kenya United States	Electricity; gas, steam &; air conditioning supply		
				Strider serves large growers with a platform and software that facilitates the monitoring of large tracts of land and decision making.	https://www.strider.ag/
134	Strider (acquired by Syngenta)	Brazil United States Mexico Colombia Bolivia Paraguay Argentina Mozambique	Agriculture; forestry and fishing		
				SunCulture provides low-cost, solar-powered irrigation to African farmers, increasing yields by more than 300 percent.	http://www.sunculture.com/
135	SunCulture	Sub-Saharan Africa Kenya	Agriculture; forestry and fishing Water supply; sewerage, waste management and remediation activities		

136	Sunew Filmes Fotovoltaicos Impressos S.A	Tanzania Indonesia Sweden United States United Arab Emirates United Kingdom Ireland Haiti Brazil Saudi Arabia Hong Kong SAR, China Japan Australia Germany	Professional, scientific and technical activities	Sunew was created with the mindset of revolutionizing the energy consumption and production paradigm, building a better world for next generations. After 10 years of research, Sunew built an innovative and highly scalable production process, and now it's the world leader in Organic Photovoltaics (OPV) technology, with the largest installations in the world.	https://sunew.com.br/
137	Sunken Limited	Kenya	Manufacturing	Sunken Ltd is a company that works in partnership with institutions throughout the Kenyan region to provide integrated services and innovative business solutions to commercial enterprises. At Sunken Ltd, we specialize in economic and social development by providing green energy solutions to small scale farmers, communities and commercial projects. We supply a package of services designed to provide clients with solutions to improve productivity and profitability in their enterprises	https://sunkenlimited.com/about.html
138	Sure Chill	Congo, Dem. Rep. South Sudan	Electricity; gas, steam &; air conditioning supply	Sure Chill has developed a cooling technology using water as its power source.	http://www.surechill.com/
139	Sustainable Energy Technologies Limited	Ghana	Energy; Health; Agriculture		http://www.setechghana.com
140	Sustainable Farming Solutions (Sfs)	Malawi	Agriculture; Climate Risk Analytics and Risk Management; Finance		https://www.sfsmw.org/
141	Swiftvee	South Africa	Agriculture; forestry and fishing	Developer of an agricultural platform intended to address water scarcity, food security and market efficiency for the livestock sector. The company's platform utilizes a mobile application to provide intuitive data and analytics with capacity to scale globally, enabling companies to ensure higher profit margins and wider social impact.	https://www.swiftvee.com/
142	Synergistics Environmental Services	South Africa	Professional, scientific and technical activities	Synergistics Environmental Services (Pty) Ltd is an independent team of Environmental Management Consultants established in 2004 to meet the demand for quality environmental consulting services.	http://www.synergistics.co.za/
143	Teconica International	Nigeria	Agriculture/ Supply Chain		http://www.teconicaintl.com.ng
144	The Real IPM Company	Sub-Saharan Africa, Kenya	Agriculture; forestry and fishing	Biocontrol solutions provider in Kenya and larger Eastern Africa which designs and implements robust insect and pest management programs which actively replace pesticide inputs and improve crop quality and yields for growers and consumers. The company also offers training, contract research, consultancy and scouting for pest management services.	https://realipm.com/
145	Thuthuka Group	South Africa	Professional, scientific and technical activities	Thuthuka Group Ltd (TGL) is a multidisciplinary engineering company, active in the design, manufacture, installation project management and project finance for the chemical, mining, metallurgical and industrial markets. The scope of work includes chemical and metallurgical process, water and effluent treatment, hazardous waste and air pollution control and construction of the civil infrastructure for the above plants.	http://www.thuthukagroup.com
146	Trailblazer Technologies	South Africa	Information and communication	Trailblazer Technologies is a developer and licensor of innovative chemical treatment technologies, ranging from conceptualisation to commercial utilisation. Trailblazer has a key focus on industrial and mining waste water treatment as well as a passion for improving agricultural use of water.	https://www.savant.co.za/ventures/trailblazer-technologies/
147	UjuziKilimo	Sub-Saharan Africa Kenya	Agriculture; forestry and fishing	UjuziKilimo uses innovative data acquisition technologies and a comprehensive database to collect and analyze farm data to help farmers and agriculture players make better decisions and build targeted services. Through machine learning it provides actionable agronomic insights to farmers; business intelligence & predictive analytics to agriculture service providers & businesses through a fully integrated data platform, powered by millions of data sets.	https://www.ujuzikilimo.com/
148	Upowa	Cameroon	Electricity; gas, steam &; air conditioning supply	Through reliable, affordable solar home systems, upOwa provides easy access to clean energy for people who live with no access to the national grid in Cameroon. Customers pay through small installments over 18-36 months.	https://www.upowa.energy/
149	Urban Tech Solutions	Kenya	Water		http://urbantechsolutions.com
150	Utilities Development Company	Kuwait Middle East &; North Africa	Water supply; sewerage, waste management and remediation activities	The company operates wastewater treatment projects which are designed to accommodate Kuwait's growing need for environmentally sound treatment and reclamation of wastewater.	http://www.udsculaibiya.com/
151	Wasoko (formerly Sokowatch)	Kenya Tanzania Rwanda Uganda	Transportation and storage	In Africa's cities alone there are more than 10 million informal shops selling over \$180 billion worth of goods every year. SokoWatch is a last-mile distribution platform and agent network that enables small shop owners to stock consumer goods products from companies such as GlaxoSmithKlein, Unilever, and Procter & Gamble. Shop-owners text SokoWatch their orders and local, salaried SokoWatch agents fulfill the orders from central distribution hubs and deliver them to shops in less than 24 hours.	https://sokowatch.com/
152	Wasteman Gh	Ghana	Waste.		http://wasteman-gh.com
153	Watec	Morocco United Kingdom	Water supply; sewerage, waste management and remediation activities	Based in Morocco, Watec provides water treatment and sanitation services in Morocco and other countries, installing wastewater treatment plants for rural municipalities and decentralised sites.	http://www.watec.ma/index.html
154	Water Rhapsody	South Africa	Water supply; sewerage, waste management and remediation activities	All of the work carried out by Water Rhapsody is an attempt to reduce demand for and reliance on municipal water, which almost ran completely dry in 2018. Such work means that riverine environments around the world will regain their biospheres (the maximum number of eco-systems) leading to healthy sea life, estuarine life and riverine ecology.	http://www.water-rhapsody.co.za/
155	Waterhealth International	India Ghana Nigeria	Water supply; sewerage, waste management and remediation activities	Provide scalable, safe and affordable water solutions to underserved populations.	https://waterhealth.com/
156	World Tech Consult	Ghana	Transportation and storage; Cold Chain	Worldtech Consult (Ghana) designs, manufactures and installs solar powered walk-in cold rooms to extend the shelf life of agricultural products and temperature-sensitive materials, enhancing food system resilience and minimizing losses. Builds resilience to: extreme heat and extreme weather events that reduce crop yields, worsen food waste, and increase food insecurity.	https://www.worldtechconsultgh.com/
157	WorldCover	Ghana	Agriculture; forestry and fishing Finance and Insurance Activities	WorldCover is a provider of affordable crop insurance to farmers in the developing world.	https://worldcovr.com/
158	Yapu Solutions	Burkina Faso, Senegal, Ecuador, Colombia, Peru, Ivory Coast, Rwanda, El Salvador	Climate Finance; Agriculture	YAPU provides digital tools supporting financial institutions in developing countries targeting the most vulnerable, microenterprises and small- and medium-sized enterprises. We support our partners to identify social, climate and nature-related financial risks and address them with dedicated loan products. YAPU also collaborates with investors ensuring a comprehensive and verified view on the impact of their investments.	https://yapu.solutions

159	Zonful	Zimbabwe	Electricity	<p>Zonful Energy is a for profit social enterprise that sells modular decentralized and scalable solar energy systems on Pay As You Go model to rural, urban and peri-urban off-grid consumers in Zimbabwe. The solar energy systems consist of solar panel, batteries and a broad range of appliances including lights, radios, televisions and many more others for productive use.</p> <p>ZR3I (Egypt) is a precision agriculture platform-as-a-service that offers crop monitoring, management, and insurance services to the agriculture sector in Egypt and the Arab world, helping farmers to mitigate risks due to climate change. Builds resilience to: extreme weather events and weather volatility that reduce crop yields and harm farmer incomes.</p>	https://zonfulenergy.co.zw/
160	Zr3i	Egypt, Arab Rep.	Agriculture; Big Data		https://zr3i.com