#	Digital Advisory	Agri-Fina Services	Digital Procurement	Agri e-Commerce	Smart Farming	Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
1		■				236-Mobile Banking Platform	Cassava SmartTech - Steward Bank	X	*236#Bank - Mobile Banking Platform from Cassava SmartTech - Steward Bank. It is a platform where Econet mobile network subscribers can open bank accounts via a mobile phone in minutes. It aims to grow financial inclusion using the mobile platform.	Zimbabwe
2	■				■	3C-BIOVIS	National Center for Applied Research in Rural Development (FOFIFA-DRZVP)	✓	3C-BIOVIS of National Center for Applied Research in Rural Development (FOFIFA-DRZVP). 3C-BIOVIS (carrying capacity and plant biomass calculator using satellite imagery) is a calculation tool that allows the quantity of forage resources to be determined from data obtained by processing satellite images. The principle of the tool consists of measuring and transforming the reflectance of plants (NDVI) detected by satellites into yield in tons of dry matter per hectare. 3C-BIOVIS predicts real-time information on the availability of forage resources: (amount of green matter and dry matter measured on a plot) from data extracted by processing satellite images. The results are then used by the tool to calculate the number of animals (cattle, sheep, goats) that can be fed on the plot.	Madagascar
3	■					3D cartoon: agroecology for future generations	GSDM	X	3D cartoon: agroecology for future generations of GSDM. GSDM has produced a series of 3D cartoons on agroecology for children available in Malagasy, French and English. They are then broadcasted in GSDM's partner schools.	Madagascar
4			■	■	■	Adagin Technologies	Adagin Technologies	X	In 2017, Adagin Technologies was launched combining precision technologies and making them accessible for the agriculture industry. Their solutions combine farming, engineering, and software development to create some of the latest and progressive Agricultural Technologies in the industry. The focus is on aligning solutions to customers' core needs, thereby allowing customers to drive informed decisions and stay competitive in the new Industrial Revolution. Adagin provides precision harvesting and packing technologies from the field at source and understanding each yield and productive performance to increase efficiency and profits. Their smart weigh scales also enable precision traceability and packing from the farm to the fork, and through the value chain to the consumer. Their digital time and attendance solution enables accurate job costing information	South Africa

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									using smart phone technologies thereby enabling real time insight to labour costs, harvesting agriculture solutions.	
5		■				Adumo	Adumo Pty Ltd	X	Adumo is South Africa's largest independent payments processor trusted by retailers across Africa. Used by large multi-nationals, independent retailers, entrepreneurs, and informal traders. A payment solution that provides expertise to make smart payment acceptance decisions. their package offers working capital requirements, consumer engagement platforms, business support solutions, an in-store consumer credit platform, retail point of sales software and hardware, customer analytics, electronic voucher distribution and private label card issuing, all from a single provider. Located in 13 countries across Africa, with more than 30,000 active clients	South Africa
6	■				■	Aerial photographs / mapping by drone	CIRAD	✓	The use of drones to get spatial information. Once georeferenced and orthorectified, photo-interpretation techniques were used to classify the different types of land use and occupation at the level of the land.	Madagascar
7	■				■	Aerobotics	Aerobotics	X	Aerobotics was founded by James Paterson and Benji Meltze in 2014, together with a team of agronomists, engineers, product developers, creatives, and customer service experts. Their mission is to provide their customers with intelligent tools throughout every season, so that they can feed the world. The full team compliment comprises of over 80 employees has operating across the globe with head offices in California and in South Africa. The operation has spread over 18 countries with over 100 drone pilots capturing aerial imagery for farmers. They have processed over 100 million aerial images of citrus trees.	South Africa
8		■				AfriMoola	BoxFusion and Nedbank Uhkeshe Enterprise	X	BoxFusion and Nedbank Uhkeshe Enterprise have now partnered to create Afrimoola, a digital mobile money wallet to assist farmers with payment and e-wallet/ Voucher solutions. Afrimoola is a Fintech under the Nedbank Ukheshe Enterprise program. It is a dynamic Fintech and digital ecosystem built on the ethos of financial inclusion. Afrimoola technology is managed by digital	Namibia, South Africa, Zimbabwe

#	■ Digital Advisory ■ Agri-Fina Services ▢ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									transformation technology company, Boxfusion that provides cutting edge software solutions, providing solutions to may South African government departments, companies, and enterprise clients. Boxfusion has a 12-year track record and are 100% public sector focused and are a gold partner of Microsoft. Afrimoola platform offers omnichannel solutions, wallets, eCommerce, digital money movement across networks, banks and boarders, savings and stokvel solutions at the touch of a button for merchants and customers.	
9				■		AGBIZ	AGBIZ	X	The agricultural business chamber, an NGO operating in Southern Africa. Agbiz is an association of agribusinesses operating in South and Southern Africa and enable their members to play a constructive role in the agriculture sector of the country, economic growth, development and transformation. They offer opportunities to engage with and influence policy and legislative environment, to improve commercial and sustainable agribusiness environment including trade and investment and agricultural finance, to encourage emerging agribusinesses and players in the agro-food value chain and to create relevant accessible agribusiness and market intelligence. They have a website offering detailed market updates and advice on all aspects of agribusinesses including the enabling environment and financial support.	South Africa
10	■	■	▢	■	■	Agricultural Innovation Pilot Project	Anglican Church Diocese of Morogoro	✓	Agricultural Innovation Pilot Project (including Jambo Maisha) from the Anglican Church Diocese of Morogoro (ACDM). The church run agriculture training and capacity building projects that include Digital Solutions, Drone for Crops Management and Drip irrigation.	Tanzania
11	■		▢	■		Agricultural Marketing Information System (AMIS)	Ministry of Agriculture Eswatini	✓	The Agricultural Market Information System of Eswatini (AMIS) is part of the establishment of the NOLWATI AGRIBUSINESS hub by the National Agriculture Marketing Board (NAMBOARD) on behalf of the Ministry of Agriculture and in conjunction with other stakeholders such as ESWADE, SNAU, NGOs and private organizations which help with data capturing, system dissemination and content drafting. AMIS hold relevant information on national business trends on	Eswatini

#	■ Digital Advisory ■ Agri-Fina Services ▢ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									international markets, and the web portal provides information to all agricultural stakeholders. The free subscription page enables emails and participation in Blogs and Fora. Farmers who register provide information on plantings, and forecast harvest dates and yields and can receive information via SMS on their cell phones. Currently market price statistics for Eswatini and neighbouring export markets are on fruit, vegetables, and Maize but in the future grains, small and large livestock are planned. They have an Android App which is designed for farmers, businesses, and individuals to upload products, place orders online as well as to get weather updates and a Facebook page. It was launched in 2020 with an average of 350 active users of their web-based services, their App (AMIS) and USSD Platform (AMIS) respectively, and they have 1,024 registered users. AMIS specifically encourages both B2C and B2B models arising from providing a platform to encourage buying and selling based on the most accurate and up to date market information for agricultural commodities relevant to local and export markets therefore encouraging e-procurement and e-commerce transactions and opportunities for leveraging logistics, transport and the use of farm machinery. AMIS is more related to digital procurement and e-commerce as well as digital advisory on pricing and spans digital advisory, digital procurement and Agri commerce use cases and sub-use cases. Addressing a knowledge gap, AMIS enables farmers to access markets more directly and reduce the role of middlemen and have the nearest state of the art data on pricing for agricultural commodities therefore, empowering them to demand fair prices for their harvests. AMIS seeks to ensure marketing for post-harvest produce and clearly buying for those purchasers looking for specific commodities. The service was developed through donor funding and central government funding and will likely remain reliant on this for the short to medium term. The service was developed through the public sector with extensive consultation with government, commercial companies and social enterprises and entrepreneurs. The model underpinning the platform is a public-private model managed by the NAMBORD parastatal. The application uses Computers, Smartphones, Basic and feature phones. They have a website, dashboard, and social media platforms (WhatsApp	

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming	Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
					and Twitter). The most significant challenges experienced in the two Eswatini innovations include for AMIS, the affordability of using the App, Platform and USSD services, the uptake of these services by farmers and particularly women and girls and any resulting behaviour changes. AMIS had enabled the government to shut down borders to imports of certain produce, which is in surplus in Eswatini, as determined by farmer production forecasts. AMIS has moved from successful small-scale testing to wider scale adoption.	
12	■(Agri-Fina Services) ■(Agri e-Commerce)	Agricultural Produce Brokers	Individual	X	There is growing awareness of the fundamental and vital role fruit and vegetable consumption plays in human health and nutrition in both developing and developed countries. The initiative aims to integrate the fast-growing vendors to market, technology, value addition and supply of affordable quality produce to the Namibian community at a fingertip. Furthermore, the initiative aims to serve as a platform for educating and promoting health consciousness in consumption and will promote sustainable food production, including access to Agri-digital Financial Services through collaborative efforts.	Namibia
13	■(Digital Advisory)	Agricultural Research Council (ARC) Hub App	Agricultural Research Council	✓	ARC Hub App of the South African Government. The ARC Hub app is an all-round information source for Farmers, Extension Practitioners and Researcher. Its features include 158 manuals related to plant production, animal production, agro-processing, plant health as well animal health developed by researchers across the ARC. The app also provides info on training services offered by the ARC, up-to-date weather forecasts and early warning system that allows cross sharing between farmers and researchers. The Hub App was launched in 2018 and has 3,759 active and registered users and provides digital advisory Smart advisory: Data-driven advisory based on tailored, farm-level agro-climatic and crop specific information to support decision making, maximize productivity and reduce costs. Technologies such as sensors, satellites and drones, as well as big data analytics and AI, underpin many of these services., An advisory services app supports and enhances on-farm decision-making through providing accurate and timely information required at every stage of the agricultural value chain, using ARC's	South Africa

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									research output developed by ARC researcher across the organization. It uniquely bridges the information gap between research and extension and the intention is that the next phase of it will include digital market information linked directly from the Department of Agriculture to enable farmers to make informed marketing decisions. The service relies on Computers, smartphones, and is delivered through website, dashboard and portal and utilizes cloud-based databases. Challenges faced include product development or translation into a local language for greater understanding by end users to address planning, inputs, on-farm production, storage, post-Harvest processing, Transport and eventually market access. They have reached a level of sustainable scale and widescale adoption and the Hub was developed through government and donor grants which it will remain dependent on for some time. It is challenging to manage stakeholders responsible to assist with integration especially related to market data and the technology used is inclusive of those disadvantaged groups.	
14	■		■	■	■	Agrigistics	Agrigistics	X	Your farm operating system enables tracking employee activities from planting to harvesting using rugged Android devices and RFID tags, Measure the yield for every cultivar and view the profitability of each field on your farm and helps farmers Learn from historic data and improve their strategies. This agricultural monitoring solution has been available since 2018 and allows farmers to oversee their entire farming operation without necessarily being present. It addresses planting, crop protection, harvesting, transportation, and packing. The whole system is accessible using smartphones, with a user-friendly interface and includes both labour monitoring as well as input applications, fuel consumption, packhouse monitoring. It can be implemented on labour intensive farms including software designed for fruit, vegetables, nuts, citrus, herbs, spices, dairy and coffee bean farms. It is proactive integrating seamlessly into farming operations and captures data in an easy and simple way.	South Africa
15	■		■	■	■	Agrihub	Agrihub	X	Agrihub is an independent legal entity that has been established between South African fruit industry representatives and competing software solution providers	South Africa

#	Digital Advisory / Agri-Fina Services / Digital Procurement / Agri e-Commerce / Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									to service the South African fruit industry's information needs. It was established because the industry's information needs were not fully serviced. Accurate, complete, and timely information is essential to the industry decisions makers at various levels. Three grower's organizations namely, Citrus Growers Organization (CGA), Hortgro, South African Table Grape Industry (SATI) with the Fresh Produce Exporters Forum (FPEF) are the industry shareholders with four competing software solution providers namely, Dipar, Farsoft, Paltrack and Prophet making up the other 50% shareholding. All parties have equal shareholding and a healthy balance between industry and commercial interests have been struck. Agrihub is currently focused on the dispatch (What has gone where?) statistical information requirements of its various industry stakeholders but it is envisaged that the range of services will be extended over time.	
16	■					Agri-Intel	CropLife South Africa	X	The Agri-Intel website offers easy access to a comprehensive database of all chemical, biological, and natural crop protection and public health products registered for use in South Africa including product labels, SDSs and information on maximum residue limits and withholding periods. Agri-Intel is owned and managed by CropLife South Africa. CropLife SA is a non-profit company representing the plant science industry, including most responsible manufacturers and suppliers of crop protection products as well as industry associated entities such as analytical laboratories and the pest control industry. Agri-Intel provides web-accessible, current, and correct plant protection information to various stakeholders in the agricultural and export industries to assist in the mitigation of production and marketing risks related to the use of plant protection products. Registered users can view this information by selecting Label information (Database)and Residue management (MRLs) from the men.	South Africa
17					■	AgriLed	AgriLed	X	AgriLed is a sustainable off-grid food security solution making use of Controlled Environment Agriculture (CEA) within shipping containers. They produce high-	South Africa

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									quality crops with great nutritional value using our LED Grow Lamps. They offer Controlled Environment Agriculture (CEA) solutions consisting of hydroponics systems, LED Grow lamps and automation within shipping containers. This solution saves water and space. They combine the CEA system with a community centre which includes access to computers, the internet, education, and waterless sanitation. Or a packing & distribution hub for the commercial farmer. Making use of CEA (Controlled Environment Agriculture) they localize the food supply, which cuts logistic cost. For ease of mobility and remote provision, the Sustainers system is housed in shipping containers, also ideal for the limitations faced in urban environments. The Sustainers system is designed to optimize the nutrition of the plant in the growing stages, and is also in line with several UN Sustainable development goals	
18				■		Agri-M	Agri-M	X	Agri-M - Input supplier of Staden Plastic System (plastic pipes for borehole equipment), Solar Pumps, Submersible Pumps, KSB Pumps, Centrifugal Pumps, Electrical motors, Irrigation necessities and Drip & Floppy Irrigation using smart meters and sensors.	South Africa
19	■		■	■	■	Agrimate	Box Fusion	X	Agrimate uses NDVI, sentinel 2 Infrared Satellite Images, Computer Vision and Artificial Intelligence to calculate Expected Yields and Credit Losses in Agriculture. This is also integrated into a Value Chain management system that manages the day to-day farming operations giving a 360 view of value chain in real time.	Namibia, South Africa, Zimbabwe
20	■					Agrimotion	Agrimotion	X	Agrimotion strives to set the standard for best practices in soil management and fruit production, through ethical and sustainable solutions.	South Africa
21		■				AgriPay	Zanaco Plc	✓	AgriPay (2019) from Zanaco Plc. AgriPay is a mobile-based (USSD) platform for smallholder farmers. The bundled services include account opening, access to markets, access to information, and a suite of digital financial products and	Zambia

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									services. The solution is value-chain agnostic and designed to meet the needs of value chain players in the agric space. They have around 7500 users.	
22	■	■	■	■		AgriPredict Platform	AgriPredict Solutions	✓	AgriPredict Platform (2019) from AgriPredict Solutions. Using mobile phones to provide vital, timely and on-demand agricultural information to small scale farmers to help them manage risk. They have around 51,000 registered users of which around 10,000 active.	Zambia
23					■	Agrishare	Welthungerhilfe	✓	Agrishare app (2019) from Welthungerhilfe (WHH). Agrishare is a free-to-use shared services mobile solution for mechanized agriculture. It links owners of agricultural equipment like tractors, shellers and lorries, to farmers and other actors in the agricultural value chain. This is done through an Android mobile application. It has 53,000 registered users.	Zimbabwe
24		■				AgriTask GIS	AgriTask	✓	Agritask GIS by Hollard is a digital innovation and digital insurance solution for Index/Parametric Insurance connected to Meteosat satellite GIS platform and can remotely activate a smartphone to collect GPS data or points of agricultural plots and finally estimate the plot size. Using this innovation Hollard remotely get information about the size of agricultural plot and use this information to assess farmer eligibility for agricultural credit or insurance access and can enrol farmers. It addresses farmers being able to plan effectively and ensure that they can produce efficiently and gain access to markets. The company Hollard operate in Botswana, Lesotho, Mozambique, Namibia and South Africa and launched Agritask in 2020. They have 10 active users so far and 34,000 registered users. The service enables access to insurance products and in doing so access to financial services. The digital innovation relies on GPS, Smartphones and GEO data. It uses spreadsheets (Excel, to cloud-based SQL, third party SaaS software providers and IBM Watson AI platforms. The innovation is transitioning to scale and was developed using donor grants from government or foundations. Currently still dependent on programme support Swiss Capacity Building Facility. Their recent feasibility study on livestock insurance in Namibia, Botswana and Mozambique	Botswana, Lesotho, Mozambique, Namibia, South Africa

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									looks at index-based insurance and agricultural loans and their bundling as part of a potential public sector programme focused on areas prone to drought. Their technology is inclusive of disadvantaged groups.	
25	■				■	AgriTPG	TOPOGIS	✓	AgriTPG of Topogis. Providing plantation statistics using satellite and drone imagery. They are launched in 2019 with a group of young Angolans. Their solution tries to close the knowledge gap. Challenges that they are facing during implementation were: Understanding the market and user needs, Procurement of technology vendors, Data collection issues.	Angola
26		■				Agrofund	Agrofund	X	Agrofund of Agrofund. Agrofund is the first participatory financing platform in the Democratic Republic of Congo. Its mission is to help small farmers who are struggling to find financing from banks to either start or grow their business.	Democratic Republic of Congo
27	■		■	■		AgroMall	Afrosoft Holdings	✓	AgroMall (2016) from Afrosoft. Is an e-Commerce platform whose origins were based on bringing together the agricultural ecosystem by way of interaction, information dissemination and buying and selling of all products and services within the value chain. The solution sits on an engine that is designed to allow versatility and adaptability of any ecosystem to meet the business requirements of any interested organization or industry. There are no registered users at present.	Zimbabwe
28	■	■	■	■	■	AgroMate/ AgriFusion	Chartered Systems Integration	X	AgroMate from AgroMate (Agri Fusion) have created a unique platform that links farmers with off takers and financial institutions which provides the risk management of farmers to guarantee delivery of the product to the off takers. This is the first platform of its kind that addresses financing of farmers, aggregating orders from off takers and allocating them to farmers to plant the crop and applying Agri VAS with Artificial Intelligence for the ongoing monitoring and evaluation of the farming activities. This allows the financier to use this data to calculate expected credit losses for each offtake agreement in real-time. Banks are now able to offer purchase order factoring to finance farmers with a high	Eswatini, Mozambique, Namibia, South Africa, Zambia, Zimbabwe

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									degree of predictability of the risk and outcomes. This data can also be used for crop insurance to reduce the risk of non-performance of the crop. This innovation has not been validated on the ground and did not fill out the survey.	
29				■		Agroportal AO	Agro Portal	X	Agroportal AO of Agroportal. This is a digital platform made up of complementary components (website, social networks and newsletters) and which serves as a vehicle for boosting Agribusiness in Angola, providing its users with several totally free services of great use and added value, as well as being a way to develop and promote business or a brand in this segment quickly and efficiently.	Angola
30	■	■	■	■	■	AgroTech Mobile Application (AMA)	AgroTech Smart Farming	✓	Launched in 2020 the Agrotech Mobile Application (AMA) is a mobile application designed with the aim to help Namibian citizens with crop farming, marketing and sales of farming products. As well as meet the government halfway in terms of food security and provide statistics concerning agronomic performance. It is to provide or currently provides digital advisory, agri-digital financial services, digital procurement, agri e-commerce and smart farming. Currently, the android version of the app is completed – and with the funding from Groupe MRP, an Indian-based company, they plan to create the IOS version and also expand to other countries. The app has also won an award from the MTC telecommunications Company under a UNDP Challenge Session on Agriculture and the IoT.Digital Agri advisory covering agricultural and livestock information, weather and climate information and information on market prices. Agri VAS are delivered via voice channels (IVR, helplines), text channels (SMS and USSD) and via apps., website, Portal, messaging platforms. 0Smart advisory: Data-driven advisory based on tailored, farm-level agro-climatic and crops- specific information to support decision making, maximize productivity and reduce costs. Filling predominant knowledge gaps. Technologies such as sensors, satellites and drones, as well as big data analytics and AI, underpin many of these services., Weather information: Specialist services that provide regional and localized weather forecasts. This	Namibia

#	■ Digital Advisory ■ Agri-Fina Services ☐ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									sub-category may include weather-adaptive and climate-smart advice, Pest and disease management: Digital tools that help farmers diagnose plant disease and develop strategies to treat diseased plants as well as mitigate future outbreaks. Most of the services are accessible via mobile applications and require a farmer to upload a picture of the infected plant for diagnosis. Some services are also accessible via USSD. Also includes national and regional-level pest and disease early warning systems., Record keeping: Digital tools that enable farmers to keep detailed records of livestock, including health and feeding data, to help mitigate diseases and avoid missed conceptions. Record keeping tools are also used to keep details of input usage, procurement, cost and revenue and sales records. Equipment monitoring: The smart monitoring of equipment such as irrigation systems that enable farmers to remotely control, track and look after their equipment and farming operations, leading to a reduction in water consumption and wastage., Smart shared assets: Digital tools that enable the sharing economy for assets such as tractors, drones and other mechanized farming equipment. They provide smallholder farmers an opportunity to mechanize processes such as crop spraying, crop monitoring and land preparation. The outcomes include improved access to markets, increased efficiency and post-harvest loss, agronomy services within accessible range for farmers. It requires basic and feature phones, computers, cloud-based databases and cloud-based SaaS. Challenged by data collection issues, operational constraints and translation into local languages. Dealing mostly with planning, inputs and on-farm production, post-harvest processing and access to markets. Still at the R&D stage of development. Charge individual business subscription fees, advertise, monetize data, transaction fees, Corporate CSR and government funding. Technology has taken explicit actions to ensure it is inclusive.	
31		■			■	Airtel Money	Airtel Seychelles	X	Airtel Money of Airtel Seychelles. Is a mobile money service that allows you to send and receive money, buy airtime for yourself or others, and make payments using airtel money (e.g., utility bills, good and services). Implemented in	Seychelles

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									Seychelles only but Airtel Seychelles is a subsidiary of Airtel Africa which operates in other countries.	
32			■	■		AkokoMarket	Agro Innova Company Limited	✓	This is an e-commerce online marketplace developed by the Agro Innova Company Limited. Agro Innova Company was established in 2019 in Ghana and operates in Ghana and West Africa and is a private company. This e-commerce online marketplace for farmers) that connects smallholder poultry and livestock farmers. It can also be accessed by dialling to the USSD short code *713*83# or by using the AkokoMarket mobile App. It operates in Mozambique and was also established in 2019, with 364 active users and 246 registered users. It provides agri inputs and sale of inputs to farmers. It also enables farmers to aggregate demand and place bulk orders. Linked to these inputs is an output platform to enable farmers to sell to consumers (B2C) or businesses to sell to enterprise customers (B2B). The combined offering enables farmers to buy inputs from input suppliers and sell their agricultural produce to consumers and businesses.	Mozambique
33	■			■	■	Alfa Sementeira Limitada	Alfa Sementeira Limitada	✓	Alfa Sementeira Limitada of Alfa Sementeira Limitada. The use of drones and other information technology and GIS in the monitoring and development of agriculture.	Angola
34				■		Alternative Exchange (trading platform) in Eastern and Southern Africa,	Escrow Group	X	Alternative Exchange (trading platform) in Eastern and Southern Africa from the Escrow Group for Tanzania, Zambia and Zimbabwe. This is a registered alternative exchange (trading platform) in eastern and southern Africa. The platform enables members of the public to access financial markets using mobile phones / USSD platforms and apps to shop and choose what they want to invest in, including mobile retail bonds (Government and Corporate), securities, and commodities (piloting).	Tanzania, Zambia, Zimbabwe

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
35	■			■	■		APMIS	Food and Agricultural Research & Extension Institute (FAREI)	X	The Agricultural Production and Market Information System (APMIS) also developed by the Ministry of Agro Industry and implemented by FAREI (above) is an electronic resource for entrepreneurs, Producers, Traders, Input and Service Providers involved in agricultural production, agribusiness and value addition. It provides pricing and market trends in the agriculture sector in a range of commodities, and also research studies, resources and facilities. It was created by the Ministry of Agro Industry and Food Security and is implemented and maintained by the Food and Agricultural Research and Extension Institute (FAREI). Current commodities include Garlic, Groundnuts, Brinjal and Aubergine varieties and pricing information for retail and wholesale for a range of crops such as Banana, Bean, Brinjal, Cabbage, Calabash, Carrot, Cauliflower, Chilies (large and small), Chouchou, Cucumber, Ladies Finger, Pawpaw and Pomme d'Amour. They have graded and ungraded produce and retail pricing including a very wide range of vegetables. The platform also presents input service providers by location cited including their contact details. In summary the portal was launched in 2010, has 57 listed crops, 3 retail and wholesale markets and 15 years of trends and statistics on areas under cultivation, business opportunities and local resources and facilities in Mauritius.	Mauritius
36	■				■	■	Aquacheck	Aquacheck	X	Aquacheck is an established company which supplies premium quality soil monitoring equipment that has been designed to optimize the management of water. All products including software are manufactured in South Africa, using specialized, premium quality components. \n\n This company has a global footprint, supported by some of the world's biggest names in agriculture, we're the producers of soil moisture monitoring equipment and irrigation management software of choice. \n\n An all-inclusive package consisting of soil moisture probes, telemetry, software, and agronomy support – AquaCheck provides a fully integrated system to help farmers make the best irrigation decisions. Telemetry devices are manufactured	South Africa

#	■ Digital Advisory ■ Agri-Fina Services ▧ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									in South Africa. Rugged and robust, they offer three key telemetry options which can accompany your soil moisture probe, depending on location and needs. An example is the AquaLink S-200 & S-300: Solar Powered 2G & 3G Option. It is robust and designed to withstand most weather conditions. The unit is attached to each soil moisture probe and works on cellular technology – 2G and 3G – to automatically transmit data from the probe to soil moisture management software (such as AquaCheck).	
37	■		▧		■	Avagro	Shalom Farm	X	AvaGro is an agricultural solutions provider for smart or precision agriculture and grow flowers and vegetables on a commercial basis using tailor-made solutions under different climatic conditions. They offer solutions based on partnering with farmers and appropriate technology such as greenhouse infrastructure and provide training.	Namibia
38			▧			Botswana Animal Information and Traceability System (BAITS)	Ministry of Agricultural Development and Food Security	X	Botswana Animal Information and Traceability System (BAITS) of Ministry of Agricultural Development and Food Security. BAITS is used for animal registration, transfer of ownership, arrival of livestock, veterinary drug treatments and removal of dead/fallen stock. The technology is used with ear tags. Implemented in Botswana only.	Botswana
39	■				■	Carbon Calculated	Carbon Calculated	X	The Carbon Calculated team helps companies understand their carbon footprints as the first step. They provide business leaders with appropriate tools they need to reduce the impact of greenhouse gas (GHG) emissions and, at the same time, provide the business-side advantages of carbon management.	Botswana, South Africa
40					■	CGARD	Center On Geoinformatics Applications in Rural Development	✓	Centre on geoinformatics applications in rural development (CGARDS) of Ministry of Agriculture, Livestock and Fisheries. It is a decision support system based on satellite images. For the Ministry of Agriculture, the tele detection applications of this project will allow to evaluate the agricultural areas; to establish the land use map; to monitor the crops and to predict the agricultural production / yields by	Madagascar

#	■ Digital Advisory ■ Agri-Fina Services ░ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									using the vegetation indices with other types of data (agro-meteorology, cultivation practices, soil properties,...); to evaluate the damages in case of natural disasters; to improve the planning of the cultivation seasons according to the information obtained thanks to the monitoring system.	
41	■	■	░	■		Chiweto Insurance	Enterprise Innovation Hub	✓	Chiweto Insurance from Chiweto for Malawi is in the development phase but intends to launch in 2022 to provide livestock insurance services (life and health insurance).	Malawi
42	■					Chiweto SMS platform	Enterprise Innovation Hub	✓	Chiweto SMS Platform from Chiweto for Malawi is an interactive digital service for sourcing and delivering information such as advisory and agricultural extension service in real time via SMS.	Malawi
43			░			ComCashew	Competitive Cashew Initiative	X	The GIZ project Competitive Cashew initiative (ComCashew) is part of the GIZ program on the "Broad-scale Promotion of Agricultural Value Chains in Africa". ComCashew (previously known as African Cashew Initiative (ACi) is funded in its third phase by the German Federal Ministry for Economic Cooperation and Development (BMZ). Jointly with private and public actors, ComCashew constitutes a new era of multi-stakeholder partnership aiming to achieve a sustainable poverty reduction in the project countries Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mozambique and Sierra Leone, by enhancing the competitiveness of African cashew smallholders, processors and other actors in the value chain. The cashew value chain offers an important potential for employment and wealth creation, climate change mitigation through climate smart agriculture and the economic empowerment of women and youth, especially in vulnerable rural areas. Therefore, the adoption of a value chain approach to promote all the actors along the cashew value chain is key to a sustainable development of the sector. ComCashew provides support in areas ranging from research, to production, processing, marketing, capacity development and policy advice. Ultimately, new opportunities for employment, especially for women, along the value chain have been created, specifically in	Mozambique

#	■ **Digital Advisory** ■ **Agri-Fina Services** ■ **Digital Procurement** ■ **Agri e-Commerce** ■ **Smart Farming**					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									rural areas, thereby ensuring an increase in and diversification of income. Traceability software. High-volume transactions like farmer registration, prepayment, purchase, logistics and payments are recorded and synchronized in the field in real time via smartphone. An intuitive laptop application supports data analysis, facilitates operational field support and ensures traceability. SAP Value chain management/ traceability.	
44	■					Communication Platform	Farmers Union of Malawi	X	FUM Communication Platform by Farmers Union Malawi is an internet-based product that can send bulk short messages to farmers that have their mobile phone numbers uploaded into the system. FUM is managing the platform in partnership with Agriculture Commodity Exchange for Africa (ACE). Information ranges from crop production techniques such as plant spacing, fertilizer application, storage; market information related to input suppliers, prices of inputs. The platform bridges the information gap that has existed between farmers and other value chain actors like private companies and extension advisory service providers. The platform is cheap and easy to verify. The Platform has contacts of leaders of farmer organizations representing major commodities such as legumes, dairy, cotton, coffee, tea, sugar, beef, and others and District Farmer Unions (DFU) leaders from all Extension Planning Areas (EPAs)in Malawi.	Malawi
45	■	■	■	■	■	Crowd Funding Platform for Poultry Farmers	iFarming	X	iFarming (formerly trading under the name of Namasiku Bainga). Their website is under development and are an emerging agribusiness focused on digital advisory, agri digital financing through crowdfunding, digital procurement, agri e-commerce and smart farming. iFarming has a two-pronged strategy, which includes processing and marketing facilities at key areas across the country, here we will consolidate, process, grade, package and market chicken products from small to medium scale farmers. Via their crowd farming platform, anyone from anywhere in the world can invest in these farmers who will turn have working capital to continue farming and to expand operations. They have included have sensors monitoring the vital	Namibia

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									conditions and environmental conditions to reduce mortality and increase production. They bring farmers, investors and markets together on one platform, and go into contract with small farmers, who will supply broilers and eggs and they will market the eggs and meat.	
46					■	Culturafresh	Cultura Fresh Pty Ltd	X	The company uses its water-efficient growing technology where it uses 10% of the water required for conventional land-based agriculture. Culture Fresh is a Western Cape based hydroponic vegetable producer supplying major national retailers with a range of high-quality fresh produce and using smart and precision tools for cauliflower, lettuce and other leafy greens.	South Africa
47	■					DAES v1	Ministry of Agriculture	✓	DAES v1 is an Android App that is designed to target farmers, extensions workers and other government workers and stakeholders. The app provides: agricultural advisory services, extension worker contacts, marketing information and climate and weather forecasts. The app is fully funded by the Government of Malawi Ministry of Agriculture. It is a free service that is available to all, with a smartphone. The innovation has reached sustainable scale with most farmers and extension agents using it, but further scaling is necessary to increase the usage of the app across the whole country so that it can be used by every farmer and agriculture agent.	Malawi
48	■					Dial a Mudhumeni/Advisory Helpdesk	Cassava Smartech (Vaya Digital Farmer/EcoFarmer)	✓	Dial a Mudhumeni/Advisory Helpdesk (2017) from Cassava Smartech (Vaya Digital Farmer/EcoFarmer). Through the Dial-a-Mudhumeni advisory call centres, customers with an Econet line can call 144 to talk to a farming specialist for FREE on any of the following helplines hosted by EcoFarmer's specialist partners (for market prices and horticulture information, tobacco as well as livestock. It is key to note that this service is being reworked by the VDF Team, and they aim to relaunch it with more on offer for their farmers. It was accessible/available to all their 1.4 million farmers.	Zimbabwe

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
49					■	Diaspora Agriculture Finance Plan	[Cassava Smartech (Vaya Digital Farmer/EcoFarmer)](#)	✓	Diaspora Agriculture Finance Plan from Cassava (Vaya Digital Farmer/EcoFarmer). The Diaspora Agriculture Finance Plan allows Zimbabweans that are based in the diaspora to buy agricultural inputs and pay for tillage services for their loved ones back home. It is a one-stop-shop for agricultural inputs such as seeds, chemicals and fertilizers. The number of registered users is unknown as the team is reworking the service at present.	Zimbabwe
50	■					Digital Grow	[Fondation Ondjyla](#)	✓	Digital Grow. This innovation from Fondacion Ondivia was established in 2017 is a tool with 2 components active in Angola and Mozambique. It has 1,500 active users and 2,300 registered users and deals with digital advisory through AgriVAS: One to many advisory covering agricultural livestock information and addressing knowledge gaps leading to low productivity. A resource centre - digital library, free access with technical documentation to support family farming, including books, technical articles, videos or practical exercises, being found in 4 languages: Portuguese, Spanish, French and English. The contents of the Digital Library are tailor-made, essentially for the most disadvantaged regions and a virtual Platform that, in partnership with universities and research centres in Africa and Latin America, promotes training at different levels, promoting transfer of know-how and South-South relations. Digital Grow develops technical training tailored and adjusted to the local reality, especially suitable for geographies with weak internet and less sophisticated devices, operating offline. The contents of this training allow the farmer a deeper knowledge of the entire production process and value chain, a better use of resources, a reduction in production costs and an increase in production and income. They use smartphones, a website and dashboard and portal, both local and cloud-based software. Their challenges are understanding the market, and user needs, accessibility, digital literacy and use by marginalized groups. Their funding has come from impact investors and donors and is dependent on them.	Angola, Mozambique

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
51	■	■	■			Digital Insurance Solution for Index/Parametric Insurance	CelsiusPro	✓	Celsius Pro is a Swiss Insurtech company specializing in index solutions to mitigate the effects of adverse weather, climate change and natural catastrophizes. Since 2016, they are registered private sector company with presence in Mozambique, South Africa and Zambia. End-to-end digital platform to structure and administer index/parametric solutions (e.g., agriculture insurance). Includes an Environmental Monitoring System that sources all relevant remote-sensing (satellite) data for weather, climate and natural disasters. Also digitalizes insurance policy documentation and payments. They provide specialist services that provide regional and localized weather forecasts. This sub-category may include weather-adaptive and climate-smart advice. Digitally enabled agricultural insurance services that help smallholder farmers mitigate the risks associated with external shocks such as weather events and pest and disease outbreaks. Agricultural insurance includes weather index, area yield index, multi-peril, livestock and livestock index insurance products. The solution enables improved efficiency of parametric agriculture insurance processes including access to rural regions basing products on satellite data. Increasing financial inclusion and resilience to climate related natural disasters and crop yield losses. The innovation uses computers, smartphones and basic feature phones, and channels including SMS, smartphone Apps, Website, dashboards, and a portal. Challenges include user affordability, digital literacy and farmer uptake/use/behaviour change, and regulatory and policy environment factors affecting the operational environment. Scaling stage to other geographies.	Mozambique, South Africa, Zambia
52	■					Digitization of agriculture	HOREB (Hygiène, Organisation et Restauration de l'Environnement et de la Biodiversité)	X	Digitization of agriculture of HOREB (Hygiène, Organization et Restauration de l'Environnement et de la Biodiversité). The HOREB initiative, together with CRS and Orange Madagascar, launched a pilot project in the rural communes of Milenake and Ankililoaka, district of Toliara II in the Atsimo-Andrefana region. The beneficiary communities are equipped with smart TVs and an internet connection to interact and exchange directly with agricultural technicians	Madagascar

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
53	■		■	■	■	Dipar Systems	Dipar Systems	X	Dipar Systems is a technology solutions provider. This private business has been in operation since 1992, and as an independent company since 2002. Focusing mainly on tailor-made solutions for the Fruit Industry. They are experienced in many different aspects of the Fresh Produce Industry, although focused mainly on Information Systems. They have pioneered the use of offline capable, database driven mobile applications in the South-African fruit industry. Their Mobile & Web applications are being used from the development of new varieties all the way through the supply chain including conducting overseas arrival inspections. DiPAR Systems has a number of systems that combine Web, Mobile and Dynamic Reporting to give clients ultimate flexibility with regards to remote access as well as online and offline access. Their Dynamic Reporting Tool further supports the flexibility provided by their applications. They also do customized development for individual clients on request. DiPAR Systems provides system solutions to Farms, Pack-Houses, Cold Stores, Marketing Agents (or Exporter), Quality Inspectors, Inspection Agencies, Breeders, PPECB, Nurseries, Sterile Insect Technologists, Importers and Variety Evaluators or Developers, with electronic data flow between many of these supply chain players and agents.	South Africa
54	■		■	■	■	Drone Crop Spraying Services	Alley Capital Group	✓	Drone Crop Spraying Services (2018) from the Alley Capital Group. They provide pesticide management services using advanced drones for crop spraying. Their solution is climate friendly and more effective as a tool for protecting food systems compared to traditional methods. Unknown registered users.	Zimbabwe
55	■				■	Drone for Development	Farming and Technology for Africa	✓	Drone for Development Madagascar of Farming and Technology for Africa (FTA). Drone for Madagascar (D4D) wants to combine technology and rural development. Through the use and processing of data provided by a drone, D4D wants to provide quick and effective solutions in several areas: agriculture, environment, sanitation, land use, forestry, tourism, etc.	Madagascar

#	■ Digital Advisory ■ Agri-Fina Services ▨ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
56					■	Drone Survey	Alley Capital Group	X	Drone Survey from the Alley Capital Group. The drone survey provides high resolution maps for aerial survey services applicable to agricultural surveys, general mapping, infrastructure inspections and project or site assessments.	Zimbabwe
57			▨			E- Licence application for Exporters of Agri-products and Agricultural ERP	Twenty Third Century System	✓	This is a private sector company operating in Malawi, Mozambique, Namibia, Tanzania, Zambia and Zimbabwe. They are a software solutions company providing services to businesses including agribusinesses and farmers for digital certificates. Their innovation is an e-License application for Exporters of Agri-products and Agricultural ERP where Farmers apply for export licenses online using a clean and friendly user interface was launched in 2020. They have135 active users of which 85 are registered. These licenses enable access to export markets. They use smartphones and computers and have a website and use spreadsheets and cloud-based software. They address a knowledge gap and face challenges around understanding the market, user needs and accessibility by users, language and literacy levels, digital literacy, data collection and the inclusive nature of their application. They are in a scaling stage of their innovation and have used impact investors to develop the innovation but currently rely on donor subsidies and will continue to do so.	Malawi, Mozambique, Namibia, Tanzania, Zambia, Zimbabwe
58			▨			EAN 128 & PMA SCANNING	Innodis Poultry Ltd	✓	Innodis Poultry Production Dashboard. Innodis is an agri e-commerce wholesaler and smart farming large-scale company which is using digitalization for its internal value chain processes to identify bottlenecks and monitor production. It is also a Poultry production company and is part of the Grocery and Related Product Merchant Wholesalers and was started and incorporated in 2015. From survey information this e-commerce platform seems to have been launched in 2020 and looking carefully at it is focused on imported livestock, seafood and fish, fruit and vegetables and cereals as well as dairy products etc. which are both fresh and frozen. There are many different enterprises and companies under the Innodis brand including importation, distribution and warehousing facilities. They have 10 active users and 15 registered users. They require computers, basic and feature	Mauritius

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming	Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
					phones and smartphones, including a website, dashboard, portal and use Excel and cloud-based software SQL. They are challenged with limited traceability, procuring from technology vendors, a lack of technical capacity and operational constraints. They address planning, storage, post-harvest processing, transport and access to markets and are transitioning to scale. The reason for its inclusion is that is has an internal dashboard adapted software from their Chick Supplier partner which enables them to monitor their chicken production platform, but this is at an early stage. They also recently won an award for COVID-response adaptation. (Their survey responses were focused on their e-commerce marketplace product).	
59	■ (Agri-Fina Services)	Ecocash mobile payment platform	Cassava SmartTech	X	Ecocash mobile payment platform from Cassava SmartTech. EcoCash is an innovative mobile payment solution that enables customers to complete financial transactions directly from their mobile phone.	Zimbabwe
60	■ (Digital Advisory) ■ (Agri e-Commerce)	EcoFarmer Bulk SMS	Cassava Smartech (Vaya Digital Farmer)	✓	EcoFarmer Bulk SMS (2013) from Cassava Smartech (Vaya Digital Farmer/EcoFarmer). EcoFarmer's Advisory and Advertorial Bulk SMS service allows farmers to keep in touch with existing and potential suppliers and buyers. It is a service that allows agribusinesses to communicate with farmers producing specific commodities in specific regions, advising them on the best production practices and giving them offers via SMS. There are 1.4 million farmers on the platform.	Zimbabwe
61	■ (Digital Advisory)	EcoFarmer SMS Advisory Tips	Cassava Smartech (Vaya Digital Farmer/EcoFarmer)	✓	EcoFarmer SMS Advisory Tips (2015) from Cassava Smartech (Vaya Digital Farmer/EcoFarmer). EcoFarmer SMS Advisory Tips is a subscription-based advisory service offering tips to farmers. Farmers have access to the following tips: Maize, Groundnuts, Tobacco, Cattle, Goats, Bees, Sorghum. Tips on each commodity are payable daily, weekly or monthly. It has 6,000 registered users.	Zimbabwe
62	■ (Agri e-Commerce)	e-Farmers	e-Farmers Consultancy	✓	e-Farmers (2018) from e-Farmers Consultancy (2018). e-Farmers mobile platform seeks to address farmers' needs, foster productivity and performance of	Lesotho

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									individual farmers, including members of the agro-value chain, through digital marketing, farmers profiling and advisory services. It operates in Lesotho only.	
63		■		■		eKilimo	Master Card	X	eKilimo from Mastercard. A mobile solution developed by the Mastercard Lab for Financial Inclusion. eKilimo is a digital platform accessed via a smartphone that will help introduce efficiency, security and transparency in the agriculture supply chain. eKilimo will help to make transacting faster, safer, and easier for all stakeholders including the farmer, the buyer and the agent. Using a digital platform developed by the Mastercard Lab, eKilimo helps by providing price transparency and more direct access to buyers.	Tanzania
64	■		■		■	Electromagnetic Induction Soil Scanning Services	Revolute Systems	✓	Electro-magnetic Induction Soil Scanning of Revolute Systems. EMI soil scanning, launched in 2017 involves an innovative method of creating highly detailed maps of soil variation. This is done by dragging an EMI scanner behind an ATV across the soil surface, creating maps of variation in soil electrical conductivity, in return indicating where changes in soil texture exist. Used to created target soil sample positions and drainage designs and improve irrigation block planning. Also used to help with soil moisture probe placement and targeted mulching. There are 30 active users and 140 registered users of this technology which focuses on digital advisory, digital record keeping replacing paper-based systems and digitizing transactions between farmers and agribusinesses and smart farming applications. Their digital advisory is Agri VAS based one to many, they also provide climate and weather information on IVR and helplines and text SMS and USSD. The smart advisory is based on tailored farm level agro-climatic and crop specific information and decision support to maximize productivity and reduce costs. Sensors, satellite and drones as well as AI are utilized. Increased productivity by creating detailed map of soil variation, to be used in from planning new developments, and management of existing ones. Can be used for targeted soil samples, drainage design, probe placement, irrigation block design and mulching. The innovations rely on computers, sensors (weather stations, IoT, satellite geodata) and channels include website, dashboard and portal with clous	South Africa

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming	Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
					based and Ai platforms and software as a service. Challenges include understanding the market and user needs, affordability, digital literacy, lack of technical capacity within and outside the company and systemic factors such as regulatory policy, lack of mobile coverage, and product translation into local languages. The innovation has reached sustainable scale and widescale adoption. Wide adoption by some of the biggest agricultural co-ops in table and wine grapes, apples, citrus industries in South Africa, with yearly returns by them to do more surveys of their production areas. Challenges include understanding the market and user needs, procurement of technology vendors, digital literacy, data collection issues, operational constraints, trust, and product development into local languages for greater understanding by end users.	
65	■ ■ ■ ■	eMKambo (eMarket)	Knowledge Transfer Africa Private Limited	✓	eMkambo (eMarket) (2012) from Knowledge Transfer Africa Private Limited. eMKambo is an interactive platform comprising a knowledge centre situated at Mbare Market agriculture market for aggregation and coordination of knowledge and information for sharing. Also: · A call centre (with 16 lines of NetOne, Telecel & Econet) situated at Mbare Agriculture Market, Mbare Harare; · Bulk SMS system; · Mobile App; · social media – WhatsApp, twitter & Facebook v. Website (www.emkambo.co.zw) · Weekly Newsletter – eMKambo Vibe (https://emkambo.wordpress.com) · Local newspaper with weekly columns (Newsday and Herald) targeted at decision makers. · Radio programme –National FM every Monday, Wednesday and Friday at 8:05am. The wide range for physical, mobile phones and internet approaches ensures the	Zimbabwe

#	■ **Digital Advisory** ■ **Agri-Fina Services** ■ **Digital Procurement** ■ **Agri e-Commerce** ■ **Smart Farming**					**Name of innovation**	**Name of the company**	**Survey ✓/X**	**Description of innovation**	**Operational Countries in SADC**
									interests of farmers and other value chain actors are met. 1.2 million registered users.	
66			■	■		E-Mola Mobile Money Service	M-Mola SA	✓	Movitel is an MNO with the most extensive fibre optic network in Mozambique established in 2011. It has resulted from a partnership between a Mozambican company SPI (Investment management) and Viettel Telecom (multinational Vietnamese Telecommunications company). They offer multiple services from mobile phone packages, to fixed internet and this includes Money Deposit, Money Transfer, Payments, Money Withdrawal and Credit Purchase. E-Mola is Motivtel's mobile wallet launched in 2016 allowing withdrawals and transfer of money, purchase of Credelec and credit and payment of water, TV, Internet and other bills. The App is available on Google Play and the App store. It enables transactions, easy bank transfers, savings and an opportunity to buy credit with a 120% bonus. Movitel have 184,8651 active registered users and facilitates digital records and digital payments with traceability between farmers and agribusinesses, digitizing transactions between farmers and agribusinesses, integrating digital payments as part of the crop procurement process and supporting traceability between 'farm to fork'. The service bridges a knowledge and financial exclusion gap and facilitates access to markets and is an alternative to poor internet. The solution facilitates input and output platforms to enable farmers to sell their produce and buy their inputs and facilitates B2C and B2B models. The service uses SMS, USSD, Websites, Dashboards and a portal. They use local MS Access databases and cloud bases SaaS services. Challenges include user accessibility, language and literacy levels, digital literacy limitations, lack of mobile coverage, electricity, and trust. The service has reached sustainable scale	Mozambique

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming				Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
								using a business model based on transactional costs. Enterprises and social enterprises have been engaged in the development of the product and is reported to be inclusive of underrepresented groups.	
67	■			■	eMsika	eMsika Services Ltd	✓	eMsika (2016) from E-msika Services Ltd. eMsika is an online agriculture marketplace for farmers and agro-retailers to Find, Buy and Receive farm inputs across the country. They have around 1500 registered users.	Zambia
68			■	■	Emtel Cash	Emtel Ltd	✓	This is an innovation from the Emtel Ltd company, a private company incorporated in Mauritius in 1987. It was the first mobile telephony operator and has now evolved into a one stop shop for ICT solutions including providing unlimited internet connectivity at the household level (Airbox) and the first 4G network in Mauritius. They also have invested in undersea Optical Fiber Cable and this has come into service in 2021 (Emtel is the only operator in Mauritius to own capacity on all three submarine cables going out of Mauritius – LION, SAFE and METISS). Launched in 2015 the MNO based Emtel Cash enables storage, transfer and receipt of money using a mobile phone through a digital and agri-wallet. The system has recently innovated to allow payments to be made to any other mobile phone, irrespective of the host mobile network provider. The initiative has played a role in changing payment habits from cash fuelled by the pandemic and social distancing. The system uses SMS, USSD, Smartphone Apps. They use spreadsheets such as Excel and Cloud-based databases such as SQL. They service all parts of the value chain where payments are needed. They have 3,600 active users and 6,800 registered users and have grown through private financiers. They charge subscription rates and address poor access to markets for farmers and cashless payment systems solutions. They are faced with challenges such as digital literacy, access to device (sharing between friends and family), product development or translation into a local language for greater understanding by end users. Their technology is inclusive of women, youth, the elderly and people with disabilities.	Mauritius

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
69		■	■	■		eShops	Multiple Internet Payment System (MIPS)	✓	This is a free commerce website with integrated payment solutions launched in 2020 which has a relationship with a number of online shops and thousands of users (visitors and customers) to increase the efficiency of selling products and receiving payments. Several of the operators on the local Food sector are hosted on the platform. This private company has 300 on-line shops (B2B) with thousands of users. They use cloud-based software as a service through third parties and address all parts of the value chain where payments are necessary. They charge transaction fees and deal with financial exclusion and cashless payment systems that are linked to banks. They have found understanding the market and user needs challenging as well as digital literacy, shared devices and farmer uptake/use/behaviour change. They believe their technology is inclusive.	Madagascar, Mauritius, Seychelles
70	■					Esoko Platform	Esoko	✓	Esoko was established in Ghana. It is an agricultural profiling and messaging service that provides automatic and personalized price alerts, buy and sell offers, weather information, agricultural tips and voice-based services. Its services have expanded to include data collection, biometric profiling, analytics, communication services, digital credit, insurance, and payment services. The aim of the innovation is to reduce the cost of communication and improve value chain management for stakeholders in the agricultural sector. Developed in Ghana the innovation is implemented in a number of African countries and is currently being used in Malawi by the Ministry of Agriculture.	Malawi
71	■			■		E-soweto	E-Soweto farmers market	✓	E-Soweto (2020) from E-Soweto farmer's market. E-Soweto Farmers Market is a social enterprise providing live online market price information to all stakeholders in the agriculture sector. They focus on fruits and vegetables. In the vegetable market they closely monitor market prices for Tomatoes, Onions, Carrots, Cabbages, Cucumbers and Potatoes. In the fruits Market updates on Apples, Bananas, Pineapples and Watermelons. User numbers are not available.	Zambia

#	■ Digital Advisory ■ Agri-Fina Services ▢ Digital Procurement ■ Agri e-Commerce ■ Smart Farming	Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
72	■ (Agri-Fina Services)	eSusFarm	eSusFarm Eswatini	X	eSusFarm is an Agri-fintech the specializes in tracking and providing advanced agricultural statistical data to smallholder farmers and the entire Agri-value chain for the purpose of increasing agricultural productivity, smallholder market and credit access and increase the efficiency of the Agri-value chain. The have a Facebook page in Eswatini, which highlights a USSD String *700# which utilizes the Eswatini Mobile Network. eSusFarm collects agricultural data through a mobile feature phone and enables linking farmers to market, credit provider and an existing track record and enabling them to link to other stakeholders such as tractor services and Transport, Input suppliers (e.g., fertilizers), buyers of produce, banks and insurance companies, development partners, governments, IoT providers and drones and satellite services. The farmer gets connected without the need for Wi-Fi, mobile data or a smart phone. eSusFarm declined to fill in the survey tool.	Eswatini, South Africa
73	■ (Digital Advisory) ■ (Agri e-Commerce)	eVetcare Livestock e-Extension	eVetCare Limited	✓	eVetcare Livestock e-Extension (2020) from eVetCare Limited. eVetCare is an online platform that links veterinarians and veterinary input suppliers to farmers that do not have ready access. The underlying principle is to make veterinary services and input accessible to all farmers available all the time (24/7). They have around 160 registered users.	Zambia
74	■ (Agri e-Commerce)	E-vokatra	Tranoben'ny Tantsaha Mpamokatra (TTM)	✓	e-vokatra of Tranoben'ny Tantsaha Mpamokatra. This is a producer's association. E-Vocatra is an e-commerce platform for producers. It is in a concept phase.	Madagascar
75	■ (Agri-Fina Services) ■ (Agri e-Commerce)	E-Voucher System	FAO	✓	This is a UN FAO in conjunction with the Mozambique Government Subsidy scheme. The e-vouchers component aims at increasing smallholders' farmers' access to agriculture inputs (seeds, fertilizers, agrochemicals) and at improving their knowledge on the cost-effectiveness of their use. The logic of intervention address both farmers and agro-dealers with a twofold approach: 1) provide farmers through e-vouchers with direct capital transfer, as a subsidy contribution for the co-payment of input supply; and 2) supporting the establishment of a network of inputs agro-dealers that could reach farmers in most remote areas.	Mozambique

#	■ Digital Advisory ■ Agri-Fina Services ▢ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									This was established in 2015 and has 5,500 active users, although 109,000 households are registered within the e-voucher intervention (including both emergency and development projects). The innovation uses Smartphones, Smartphone App, website, dashboard, and portal and relies on Excel and proprietary MIS. It addresses low productivity and poor access to markets by providing inputs, advisory to access markets. The challenges are digital literacy and efficient data collection and is in the process of scaling to other geographies. There is also a dominant culture of free input provision and distribution through government projects and works against getting farmers to pay towards these acquisitions. There is also not the volume of agro dealer networks to respond to farmers demands in terms of diversification and quality of inputs. The innovation services primary user and has been developed through donor and government grants and continues to rely on this support. The innovation was developed through national government and international philanthropic programmes including local and national government actors, commercial agriculture companies. The technology has been developed with deliberate actions to make it inclusive of underrepresented groups. There are good results obtained through FAO on increased in sales and improved use of agricultural inputs and their availability, increased customers in the form of farmers and greater trust between agro-dealers' farmers and other trading partners	
76	■					Extension Suite On-line	Manstratais Agricultural Inteligence Solutions	X	Extension Suite Online is an internet-based application developed by Manstrat Agricultural Intelligence Solutions (Pty) Ltd to provide an important linkage and information transfer mechanism between Agricultural Research and Extension Services, and the farmers that they serve. As such the system facilitates and enhances the transfer of information between these parties by collecting, collating, interpreting, and transforming scientific agricultural related data into useful and user-friendly formats for use by Extension Practitioners and Farmers. The information and content in Extension Suite Online is well organized allowing the Advisor to find the relevant information quickly and respond to farmers' requests within a short period. There is direct access to experts through Extension	South Africa

#	■ Digital Advisory ■ Agri-Fina Services ▢ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									Suite Online and if you cannot find a solution on the system you will find a solution from an appointed expert in the relevant field. Manstrat has, through Extension Suite Online, developed the means to, not only reduce the many constraints in the dissemination of relevant and timeous information to farmers via Extensionists, but to do so cost effectively. The online application specifically aims to facilitate easy access to, and the effective dissemination of; agricultural related information and best practices to break down informational, geographical, and political borders and constraints that currently hinder growth. The core system is automatically available as part of any system tailored to the specific needs and requirements of a client and contains a wide range of component	
77	■				■	FAMEWS	FAO	X	FAMEWS of FAO. The FAW Monitoring and Early Warning System (FAMEWS) is a free mobile application for Android cell phones from the Food and Agriculture Organization of the United Nations (FAO) for the real-time global monitoring of the Fall Armyworm (FAW). This multi-lingual tool allows farmers, communities, extension agents and others to record standardized field data whenever they scout a field or check pheromone traps for FAW.	Democratic Republic of Congo
78	■			■		FAREI Digital Repository	Food and Agricultural Research and Extension Institute (FAREI)	✓	The FAREI Website provides advisory on agricultural production and markets in general, publications on the key research agenda areas, agro processing information, promising potato varieties, on-farm trials and information on potato cultivation as well as onion germplasm through e-newsletters. They also provide a video channel where farmers can learn about production system for different crops, biological control for key pests in Mauritius and dairy production. They provide severe weather forecasts warning. Digital innovation is mostly undertaken to support the farming community and stakeholders in agriculture. Since Mauritius is digitally well connected and farmers have access to internet and mobile device, the environment is conducive for innovation. Information, service provision and payment platforms are in the outreach of over 90% of users of the agricultural sector. Web and mobile application are easily accessed and	Mauritius

#	■ Digital Advisory ■ Agri-Fina Services ▨ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									used by most people in Mauritius. It has 3,500 active users and is a Public, Private Partnership Initiative.	
79	■	■	▨	■	■	Farm City Agripreneur Hub	Farmcity	✓	A private sector social enterprise launched in 2020 providing digital advisory, agri e-commerce and an educational programme for youth. The Agripreneur Hub where this is based has physical infrastructure to host young entrepreneurs on site and provides advisory support. They have a 9,500 m2 organic farm on site and open workspace and training facilities and incubate a number of different businesses including Ti Karo, Fish and Veggies and Oyas of Mauritius. They also have tenants and work with Partners including Beau Plan Aquaponics, ICHTHYS Aquaponics and Just Natural. All are working towards a sustainable food system. Farm City have 2 active users and 5 registered users and deals with agricultural advisory through Agri VAS, smart advisory and record keeping. It also provides crowdfunding, input financing and digital and agri wallets, digital records for digital solutions and input and output opportunities for e-commerce, as well as smart farm options with equipment monitoring. They use basic feature and smartphones, website and portal, social media platforms (Fb, Twitter) and messaging (WhatsApp and Messenger). They use Excel and SQL. They address low productivity, financial exclusion and poor access to markets and have been challenged by user affordability. They allege they are at sustainable scale, but the numbers do not bear this out and the Agripreneurs Hub that host them has struggled during Covid lockdowns. They charge individual subscription fees, transaction fees and are also dependent on donor subsidies. FarmCity has also innovated with the promotion and sale of urban agriculture kits through its online shop. The concept, which originated in Mauritius, has been upscaled and marketed in the Singapore branch of the Hub.	Mauritius
80	■				■	Farm Pin	Incubated by Afro labs and Agro Innovation Lab	X	FarmPin is a small start-up with a big vision to help farmers pinpoint plant performance using satellites the cloud and very smart Agri experts. Incubated by AfroLabs and Agro Innovation Lab they are based in Cape Town. Using their plant health and moisture maps issued every five days and covering the past two	South Africa

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming	Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
					seasons, Farmers have already started to see, Crop stress area, Plant moisture distribution zones and where clogged nozzles may be. These services are currently being charged as an annual subscription of ZAR9000 pa.	
81	■ ■ ■ ■	FARM4TRADE Namibia	The Namibia Agronomic Board	X	FARM4TRADE Namibia of the Namibian Agronomic Board has a website and promotes the agronomic industry enabling facilitation of production, processing, storage and marketing of staple products in Namibia. They provide regulatory services and permits, agronomy with market pricing information, horticultural and research and development services. They have regulatory services to ensure a sustainable crop industry in Namibia. They undertake Board Control and Farms and Facilities Inspections. This is necessary for local marketing mechanisms for agronomic and horticultural crops to ensure that produce imported into or exported out of Namibia is safe and of good quality. They also provide agronomy services on white maize, pearl millet and maize as staples and despite farmers having a secured market through grain trading and marketing mechanisms, Namibia imports these crops. NAB issues permits and marketing mechanisms and information to enable farmers to produce these crops and import any that are necessary. Similarly, Namibia imports fresh fruit and vegetables, but traders must buy 47% of produce produced locally. NAB provided services geared at facilitation production and marketing and implements the market share scheme. They undertake continued research and produce market intelligence reports and enterprise budget guides. The facilitate opportunities for commodity trade and e-commerce although these offerings are not digital at present.	Namibia
82	■ ■	Farmer Radio Programs	Farm Radio Trust	✓	Farm Radio Programs by Farm Radio Trust for Malawi is a radio program that educates, informs and equip farmers with required knowledge about sustainable agricultural practices.	Malawi

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming	Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
83	■ _ ■ ■ _	Farmers Online Marketplace	National Institute for Science, Technology and Innovation Seychelles	✓	Farmers Online Marketplace of the National Institute for Science, Technology and Innovation (NISTI) for the Seychelles. An innovative digital marketplace giving Seychelles local producers a new home to connect and build personalized relationships with consumers. This is currently under development.	Seychelles
84	■ _ _ ■ ■	Farmforce	Paltrack	X	Paltrack is a leading supplier of software solutions, product coding and integration services to the South African agricultural industry. Its focus is on supply chain visibility from producer to port and building and source software solutions that meet unique customer's needs through all market verticals. Paltrack's primary clients are in the fruit and aquaculture industries, but the software is agile and customizable for many traceability requirements. Farmforce is a cloud-based platform for managing farming activities, establishing traceability, and ensuring compliance. With the Farmforce app installed on their smartphones or tablets, users in the field can quickly and accurately record information about farming activities – including planting, fertilizing, harvesting, selling and more. This information, and the visibility it is providing, can be shared with other authorized users on their mobile devices or personal computers. Farmforce integrates with Paltrack's farm, packhouse and exporter solutions. The PALFARM features software functionality is intended to satisfy the farmer's requirements with regards to label printing and document generation.	South Africa
85	■	Farmio	Qurima (Pty) Ltd	✓	An ecommerce platform where agricultural buyers flight their requirements and invitations to tender, and producers bid to supply.	South Africa
86	■ ■ _	FBSInnova mobile app	Agro Innova Company Limited	✓	AgroInnova Company was established in 2019 in Ghana and operates in Ghana and West Africa and is a private company. FBSInnova is a functional, modular smartphone application that helps smallholder-farmers have on-demand access to Farmer Business School (FBS) tools and information, plan and efficiently manage their crops and diversify their production for increased profitability and improved livelihoods. It was established in Mozambique in 2021 with 436 active users and 619 registered users and is a clear digital advisory VAS service provider.	Mozambique

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									The advice covers agricultural and livestock management information, weather and climate as well as market prices. The tech is being used across 8 countries (Ghana, Cote d'Ivoire, Mali, Burkina Faso, Cameroon, Nigeria, Mozambique, and Tunisia). Agri VAS are delivered via voice channels (IVR, helplines), text channels (SMS and USSD) and via apps., Smart advisory: Data-driven advisory based on tailored, farm-level agro-climatic and crop specific information to support decision making, maximize productivity and reduce costs. Technologies such as sensors, satellites, and drones, as well as big data analytics and AI, underpin many of these services., Weather information: Specialist services that provide regional and localized weather forecasts. This sub-category may include weather-adaptive and climate-smart advice, Record keeping: Digital tools that enable farmers to keep detailed records of livestock, including health and feeding data, to help mitigate diseases and avoid missed conceptions. Record keeping tools are also used to keep details of input usage, procurement, cost and revenue and sales records. There is some value in terms of enabling farmers to view farming as a business by enabling them to track farm expenses and revenues to build their creditworthiness, which would lead to greater access to finance although this is not provided with the application. The solution enables smallholder farmers to use digital technologies to maximize their production efficiently, track, learn good production practices, diversify their crops to maximize their returns. The application bridges data gap and maximizes supply chain efficiency. It uses smartphones and has a Smartphone App. It uses spreadsheets such as Excel and MS Access and bridges the knowledge gap, promotes greater financial inclusion. Common challenges are language, literacy and digital literacy level, and the uptake by farmers and behaviour change amongst farmers. The lack of connectivity, network coverage is also challenging as is the financial sustainability of the business model. They are transitioning to scale, and work closely with primary users, tech providers to enable provision of the service to	

#	■ Digital Advisory ■ Agri-Fina Services ▢ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									end users and the application has been developed through donor and government support.	
87	■					Films pédagogiques	FIFAMANOR	✓	Films pédagogiques of FIFAMANOR. The technical sheets of the several themes have been digitized in video and shared with the internal and external network of FIFAMANOR	Madagascar
88	■	■		■	■	FINCLUDE	Centre for Financial Inclusion	X	The Financial Inclusion and Cluster Development Project (FINCLUDE) is a pilot project that is being tested in selected areas of Eswatini. It is through an agreement with IFAD and the Government of Eswatini which commenced in 2019 for a period of 6 years to increase the profitability and sustainability of rural economic activities through a comprehensive and multi layered set of interventions. The Centre for Financial Inclusion is a semi-autonomous body under the auspices of the Ministry of Finance to facilitate access to financial services for micro-entrepreneurs and the un-banked population through creating an enabling environment for the sector. FINCLUDE will provide support to stakeholders to develop profitable value chains and support entrepreneurship in commodity-based clusters in different locations that have competitive advantage. The project seeks to increase returns from sustainable farm and non-farm enterprise. The former includes key commodities red meat (beef/goats), piggery, indigenous chicken, vegetables, and legumes. Non-farm enterprises include those which enhance or promote operations of the agricultural value chain such as transport, cold chain storage and hire of tractors. The locations of the project are Manzini and including selected areas in Tiers 1+2, Hhohho including selected areas in Tiers 1+2, Lubombo and selected areas in Tiers 1+2 and Shiselweni and selected areas of Tiers 1 and 2. They did not fill out the survey.	Eswatini
89			▢			Food Processing Software	Matrix Software	✓	Matrix Software is a meat and food matrix software solution for stock control, yield management, traceability, productivity, and cost margin management. Matrix Software is a service-led private company that provides software services predominantly to the livestock and meat industry and established in 2019. These	Botswana, Eswatini, Lesotho, Mauritius,

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									are digital, mobile and tablet-based systems for yield and stock control and statistics leading to costings and profitability. Matrix software utilizes android mobile scanners and their associated applications, RFID integrated solutions, automated weighers, and third-party integration. This reduces the initial capital outlays and good implementation support for feedlots, abattoirs, deboning plants, and meat processing plants including others such as fish, poultry, butcheries and retail outlets. Matrix Software has been located/incubated in the AgVentures Hub in South Africa. This regional solution is deployed in 10 SADC countries (Botswana, Eswatini, Lesotho, Mauritius, Namibia, Seychelles, South Africa, Tanzania, Zambia and Zimbabwe), but also in counties as Australia and New Zealand. Matrix Software solutions have reached a stage of replication and adaptation in other geographies and are in the Scaling state of development.	Namibia, Seychelles, South Africa, Tanzania, Zambia, Zimbabwe
90	■			■	■	Fruitlook	eLeaf BV	✓	FruitLook in South Africa is a web-based portal with near real-time data based on satellite and remote sensing data modelling for the Western Cape agricultural sector. The FruitLook portal delivers weekly remote sensing data year-round for subscribing farmers. FruitLook incorporates a suite of data products covering crop growth, evapotranspiration deficits, and crop nitrogen status provided on a near real-time basis updated weekly. These data products are relevant for orchards, vineyards, pastures, range lands and field crops. The quantitative and spatial information on water, vegetation, and climate is designed to enable farmers to better understand the effects of their water use and their farm management decisions. The FruitLook data and team inform farm operations on management decisions relating to irrigation scheduling and crop production. The service is free of charge and funded by the Western Cape Department of Agriculture and provides metrics such as biomass production, evo-transpiration, water use efficiency which are provided weekly for the largest part of the Western Cape throughout the year. They launched the FruitLook service in 2010 and have 500 active users and 2000 registered users and provide smart data driven advisory based on tailored, farm-level agro-climatic and crop specific information to support decision making, maximize productivity and reduce costs. Technologies	Malawi, South Africa, Zambia

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									such as sensors, satellites and drones, as well as big data analytics and AI, underpin many of these services., Weather information: Specialist services that provide regional and localized weather forecasts. This sub-category may include weather-adaptive and climate-smart advice. They enable resource use optimization and asset management (e.g., irrigation equipment). They use computers, satellite information and earth observation and technologies such as sensors, satellites and drones, as well as big data analytics and AI, to address a knowledge gap by farmers. Record keeping: Digital tools that enable farmers to keep detailed records of livestock, including health and feeding data, to help mitigate diseases and avoid missed conceptions. Record keeping tools are also used to keep details of input usage, procurement, cost and revenue and sales records., Information for farms to develop, manage, measure and report a sustainability strategy for their business. The channels are principally computers, cloud-based databases, website and dashboard. As a private company they have supported themselves, with support also from the Western Cape government. Their challenges include levels of digital literacy, farmer uptake and behaviour change and address pain points around planning, inputs and on-farm production. They are at the level of sustainable scale Implementing on over 300,000 Ha and resulting in water savings on farms and in catchments on average of 10% with as high as 30% in some cases. An integral part of the Western Cape Department of Agriculture's climate change response strategy. Their technology has been developed in conjunction with others and, has taken active approaches to ensure its inclusivity particularly for disadvantaged groups.	
91		■				Fundkiss	Fundkiss Technologies Limited	✓	Fund Kiss is a crowdlending platform to enable Mauritian SMEs to borrow directly from individual and institutional investors through a Regulatory Sandbox License (RSL) from the Economic Development Board of Mauritius.

In April 2021 with an official Peer-to-Peer lending license from the Financial Services Commission (FSC) of Mauritius, they are offering financing and good customer experience to their borrowers and their investors. They have funded 178 | Mauritius |

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									projects to date, some of the operators in the agriculture and food sector. Improve access to finance. Fundkiss provides unsecured loans that do not require collateral or personal guarantee. Services are offered through a website: provision of short-term financing for SMEs including agricultural operators.; Crowdfunding: Online platforms that enable investment in smallholders by sourcing funds from individuals (investors or sponsors) following a simple KYC process with an ID card and a Utility bill to start lending. The innovation deals with all parts of the value chain, and uses website, dashboard and social media platforms. They use spreadsheets and have reached a level of sustainable scale with both a government grant and private funds. They have 252 active users and 2622 registered users. They address access to finance for SMEs with a good business plan but without collateral or personal guarantee. They have overcome challenges such as understanding the market and user needs, digital literacy, data collection and the financial sustainability of the business model. Their technology is inclusive of women.	
92	■		■		■	GeoFarmer	GEOTERRAIMAGE (Pty) LTD	✓	GeoFarmer at GEOTERRAIMAGE Ltd is established in 2017 and has combined innovations in smart farming and digital advisory and e-commerce and are regional in their deployment across the entire SADC region. Whilst GeoTerraImage is a private sector company which provides actionable intelligence through monthly crop monitoring through GeoFarmer-©-Crop monitoring platform to support precision farming, and accurate information to map crop trends and statistics by using a dashboard in a cloud-based environment. The innovative solution provides through the use of computers, satellites and Earth Observation visual maps and illustrations, statistics and trends for each field or farm being analysed (crop type, crop growth stages, land suitability, crop irrigation) and guiding decision making around farm management and practices for more efficient and sustainable production. GeoTerraImage have reached wide scale sustained adoption and operate in Angola, Botswana, Comoros, DRC, Eswatini,	Angola, Botswana, Comoros, Democratic Republic of Congo, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia,

#	⬛ **Digital Advisory** 🟦 **Agri-Fina Services** 🟩 **Digital Procurement** 🟩 **Agri e-Commerce** 🟥 **Smart Farming**					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia and Zimbabwe. Through specialized software, proprietary algorithms and application GeoTerraImage use remote sensed data to create spatial information. They combine advanced information and reporting to enable analysis, quantification and monitoring to support key decision making. They charge business subscription fees for their fully commercial product and believe their technology is inclusive of underrepresented groups.	Seychelles, South Africa, Tanzania, Zambia, Zimbabwe
93	⬛	🟦		🟩	🟥	Global Farmers Connect	Global Farmers Connect	X	Global Farmers Connect operates in South Africa, Zambia, Zimbabwe. Global Farmers Connect is an artificial intelligence tool used to provide farmers with a platform to reach and sell their agricultural products directly to end consumers. Farmers also have access to information about their daily requirements such as farm equipment, greenhouse needs, animal farming, fertilizers, feeds and qualified agronomists' advice.	South Africa, Zambia, Zimbabwe
94					🟥	Green Excel	Future Vision	X	GreenExcel is a liquid bio-stimulant that can be applied through drip, Micro and other irrigations for irrigated plants or as a drench or in furrow at plating for dry land cultivated plants. The application of GreenExcel as part of a biological farming strategy enables the farmer to improve fertilizer use to increase the root zone.	South Africa
95	⬛		🟩	🟩	🟥	Greenery S	Freight Farms Inc	✓	Green Agro Farms - IoT Freight Farm System – imported precision agriculture system of Freight Farms Greenery Agro vertical hydroponic farm designed and built inside a shipping container with 320 square feet. This has a state-of-the-art controlled environment system with control of air, light, watering, spacing and management using the Greenery S integrated farmhand software which relies on IoT-connected sensors and auto-updating camera feeds for full visibility and transparency. The system has been used for 500+ crop varieties of leafy greens and provides an annual harvest of 2-4 tonnes. The farmhand shops provide everything necessary for a farming operation including tools, seed, grow plugs, nutrients and cleaning supplies either as individual products or through a	Mauritius

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming	Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
					subscription service. The objective is targeted production of pesticide-free high value leafy greens available throughout out the year, independent of the season and requested by niche markets such as restaurants. Launched in Mauritius in 2020 it is a private agribusiness utilizing computers and sensors (weather stations, IoT) and uses smartphone App, website, dashboard all focused on farm production. They are transitioning to scale and have been financed by private sources. They have 300 users and produce pesticide free high-quality product for niche and premium markets using traditional markets. They have been challenged by raising capital for new imported technology products, procurement of technology vendors, and systematic factors in the operational environment such as regulations and the sustainability of the business model. Their technology is inclusive of women and youth but may be inaccessible for low-income farmers and low literacy audience.	
96	■ ■ ■	GreenFingers Mobile	GreenFingers Mobile	X	GreenFingers Mobile from GreenFingers Mobile in Tanzania, South Africa, Zambia and Zimbabwe. GreenFingers Mobile is a mobile-first Software-as-a-Service (SaaS) technology platform, to manage and finance large groups of smallholder farmers. Developed by a team of agricultural value chain experts, the platform easily adapts to different crop types and use cases.	South Africa, Zambia, Zimbabwe, Tanzania
97	■	GSMA	Lecofruit	X	GSMA AgriTech programme of Lecofruit. A digital solution for farmer registration, procurement and mobile money payments in the green beans value chain.	Madagascar
98	■	Hippocampus	Hippocampus	X	Hippocampus Education launched in 2020 use machine learning to fine tune learning through adaptive and improving difficulty. Their solution is available on-line and delivered through mainstream channel for students particularly. It is effectively a personal digital tutor and an ed-tech chatbot that incorporates active learning using AI to keep improving.	South Africa

#	■ Digital Advisory ■ Agri-Fina Services ◻ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
99		■				Holo	Comorian Development Bank	X	Holo from the Comorian Development Bank was launched in 2019 as a mobile banking solution and as an advancement for digital financial inclusion. It has the support of TagPay its technology partner. The service offers all its customers and users a full range of banking services accessible from any type of mobile phone, regardless of the telecom operator or with or without internet. The solution enables deposits and withdrawals of money instantly, transfers, payment or receipt of wages, payment of bills, safe purchasing transactions, reload of phone credit. This electronic account is attached to a phone number and are available on Android and iOS systems or using a simple first-generation phone. The service requires contact with an agent and registration. 7Holo already has 10,000 registered users. The bank has modified their minimum requirements to encourage users to open accounts, have built a broad network of agents and merchants and are adapting their offerings to provide more relevant services. Services are being used for salary disbursements, bills and tier payments, cashing In and Out or money transfers to other Holo clients or to other accounts. Their intention is to introduce QR codes to address merchants who do not want to have terminal POS for accepting payments.	Comoros
100					■	Humbitec	Humbitec	X	Humbitec of Humbitec. This is an EO company focusing on digital image and GIS processing. The company make use of satellite data to address challenges in various sectors including the health sector, management, agriculture, urban management and governance.	Angola
101		■				Huri Money	Comoros Telecom	X	Huri Money was launched by Comoros Telecom in 2021 (sole provider of wireless, broadband and fixed line services in Comoros since 2016 and mobile services in 2003) with a mobile platform to enable their customers who were already supported by internet, fixed line and mobile phones with an opportunity to conduct banking transactions. The approach ensures significant efficiencies for all citizens who had to travel even between islands to access physical banks. Now the services will be provided by concessionary organizations on site. The mobile money account enables cash transfers between individuals, payments for	Comoros

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									products and services and B2B transactions, cashing out, and paying for credit for mobile accounts. The formal launch of Huri Money took place in 2021 together with a mobile platform to enable Comoros Telecom customers to easily conduct banking transactions. The approach will reduce travel times for users since the services will be provided by concessionaries on site. This mobile money account enabling transfers, cashing out, recharging telephone credit and payment services. Their SIM card is at 2,000 KMF without credit. Top-ups are widely available. With Huri you need to add a 50 KMF fee to every 500 KNF face value in all stores, except CT agencies. To top up, enter *123* followed by the voucher code. Check balance by #123#.	
102	■		■		■	iDrone4ag	iDrone Services	✓	Idrone4Ag (2017) from iDrone Services. iDrone Services is a start-up company providing Agriculture mapping services using Drones. They are working with commercial farmers and private companies in the use of drone for precision agriculture applications. iDrone Services provides drone-enabled crop imagery database and analysis services to the Zambian farmers. The main application platform is to build a Digital Farmers Profile Database (Aerial Image Capture and Data Portal for Agriculture and Food Security in order to Strengthen District Governance). They have 12 users.	Zambia
103	■	■	■	■	■	iFarm App	iFarm	X	iFarm App by iFarm. iFarm is an agricultural ICT, logistical and tech services company based in Zimbabwe. The iFarm app has been developed to link farmers to markets and other key stakeholders, including the government of Zimbabwe, banking sector, outgrower schemes, agricultural boards and farmers' unions, seed houses and agricultural input suppliers, processors, research institutions and insurance companies in the agri-ecosystem.	Zimbabwe

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
104	■		■			InfoHighway	Ministry of Information Technology, Communication and Innovation	✓	Info Highway is a secured infrastructure that shares information over the Government Intranet Network. The function is to provide the infrastructure for sharing of data amongst Government Agencies and is designed as the service platform, which allows multiple Government agencies to share data via E-Services to other agencies. The Info highway uses the publish and subscribe model whereby an agency willing to share data is the publisher and the one requesting data is the subscriber. Only the data that has been allowed to be shared can be transferred to the subscriber. Launched in 2016 it provides digital advisory through Agri-VAS on weather information and digital records enabling data sharing across organizations facilitating decision making. It utilizes computers and smartphones, a website, dashboard and portal and cloud-based databases and software. It has fond digital literacy, product translation into local languages for greater understanding challenging. It is focused on planning and inputs and is transitioning to scale. It has been financed by host country government funds and will remain dependent on this for some time.	Mauritius
105	■				■	In-Services training App	Welthungerhilfe Zimbabwe	X	In-Services training App from Welthungerhilfe. The "In -Training App" is focused on the Ministry of Agriculture extension officers with regards to training and knowledge transfer and thus enhancing the training and development.	Zimbabwe
106					■	InteliSeeds	InteliSeeds	X	Intelliseeds is an integrated brand of InteliChem group, offering complete integrated crop solution service. They are seed suppliers, and advice on disease treatment. They are a local distributor for Syngenta vegetable seeds and also canola, pasture, maize and soy crop market seeds. The supply sunflower, soy and canola through dedicated partnerships. Their IntelliGro Crop Solution specialists complement this work. They also provide seed treatment solutions and their specialists support growers countrywide.	South Africa

#	■ Digital Advisory ■ Agri-Fina Services ▢ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
107	■					Intelligent Monitoring Systems-IMOSYS	IMOSYS	X	Intelligent Monitoring Systems by iMoSyS for Malawi. iMoSyS provides software, hardware and engineering services to enable connectivity for remote monitoring of Industrial processes, infrastructure, health issues and environmental aspects. iMoSyS provides Farm Management Services and have deployed Smart Irrigation Systems that apply sensor technology and soil analytics.	Malawi
108	■					Iringa – Mitigation, Adaptation, Productivity for Climate Smart Agriculture (IMAP4CSA)	Kilimo Trust	X	Iringa – Mitigation, Adaptation, Productivity for Climate Smart Agriculture (IMAP4CSA) from the Kilimo Trust. Part of Enable's Digital for Development (D4D) programme called Wehubit on scaling up digital solutions in Iringa region, it targets to benefit 12,000 smallholder paddy farmers by mapping in Iringa region. IMAP4CSA is a 2-year project (2019 – 2021) that aims at mitigating and adapting to climate change and increasing rice productivity by providing farmers with actionable information services, based on digital data systems, supporting them in better decision-making in risk management. It is funded by the Belgian governmental cooperation through their development agency Enable and Implemented by Kilimo Trust and Rikolto. The project's aims: · to strengthen farmers' rice-related climate change mitigation practices, · to support farmers in their adaptation to climate change and · to sustainably increase smallholder rice farmers' agricultural productivity and income by scaling-up digital knowledge and information services in combination with the Sustainable Rice Platform standard to smallholder farmers in Iringa region.	Tanzania
109	■			■		Jambo Maisha	Anglican Church Diocese of Morogoro (ACDM)	X	Provision of agricultural extension to smallholder farmers. The innovation makes use of drones for crops management. It is funded by Norwegian Church Aid (NCA)	Tanzania
110					■	Jardins da Yoba	Jardins da Yoba	X	Jardins da Yoba from Jardins da Yoba. Jardins da Yoba is an agribusiness company located in the province of Huila in Angola. Jardins da Yoba uses sustainable production systems with integration of the agricultural and livestock	Angola

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming	Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
					component is strongly committed to environmental sustainability and adequate use of resources. The production and multiplication of seeds is the core activity of our company, as well as the production of vegetables and fruit trees. The production of honey and bee products, as well as, the organic production of sweets and jams, constitute the present and future potential for export and commitment to excellence.	
111	■	Jembe	Agrinfo	X	Jembe from Afrinfo A precision ag-tech platform that offers a full stack solution for high precision aerial surveillance imagery to pre-emptively avert crop yield loss due to insects, crop disease, weeds and nutrient deficiencies.	Tanzania
112	■	JuicePro	The Mauritius Commercial Bank Limited	✓	MCB-Juice is an innovation of the Mauritius Commercial Bank established as far back as 1838 with a single bank and now a Group with assets worth 16B $US and 60 branches or kiosks nationwide and active in Madagascar, Mozambique, Reunion Island Mayotte, Paris, Seychelles and the Maldives with a wide network of correspondent banks across the world. Launched in 2020 in Mauritius (and 2019 in the Seychelles), Juice is a mobile based banking system for businesses providing ready access to bank accounts and transactions. The Pro version enables multiple signatories to access and sign/approve as part of the workflow. Smartphone App is available on the App Store, Google Play and the AppGallery. Juice has 4,400 active users and 9,200 registered users and utilizes a subscription model. It is a private company at a sustainable scale in its development. It addresses financial exclusion, cashless payments, and has been challenged both by digital and financial literacy and sustainable business models but its technology is inclusive.	Madagascar, Mauritius, Seychelles

#	Digital Advisory	Agri-Fina Services	Digital Procurement	Agri e-Commerce	Smart Farming	Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
113		■	■			Jumo	Jumo	X	Jumo is a market leading banking as a service platform, launched in 2015, which enables real-time access to funds at the lowest possible operating costs. They offer high quality providers of financial services products to connect entrepreneurs to world's growing markets. They also offer loans, savings and a range of financial choices. They have a core next-to-end generation banking infrastructure. And unify which is a machine learning capability to analyse the data to reduce the cost and risk of lending by building accurate credit scores and target people who do not have a formal financial identity, collateral or credit record. They also use automated algorithms to ensure they don't overextend themselves and have built protective safeguards into the heart of our technology. They have served 18M+ individuals and small businesses, with 120M loans and $3.5b+ dollars disbursed. They are active in Ghana, Tanzania, Kenya, Uganda, Zambia, Cote d'Ivoire and Pakistan with an operational tech hub in Cape Town, Nairobi, Porto and London.	South Africa, Tanzania, Zambia
114		■	■	■		Just Fresh Group Online Market	Just Fresh Group Limited	✓	Just Fresh Group Online Market (2019) from Just Fresh Group Limited. A Food and Agro-inputs supply chain company. They have around 908 users.	Zambia
115	■					Keep an eye on Poultry Business	Agrinfo	X	Lay-Insight, Broiler-Insight, Turkey-Insight and Duck-Insight are strong, innovative management tools for the poultry industry, based on scientific self-learning algorithms, using your enterprise data to further improve and optimize your production and business process. They are designed to support managers in taking proper decisions concerning their daily business, as well as the strategic decisions they are facing.	Tanzania
116	■	■	■	■		Kepya Marketplace	Agro Marketplace	✓	Agro Marketplace from Kepya. Platform for the commercialization of products from the field, market information and logistics.	Angola
117			■	■		Khula	Khula App Pty Ltd	X	Khula Ecosystem comprises of three Apps (Khula Inputs App, Khula Fresh Produce Trader App, Khula-Funders Dashboard). Khula was founded in 2018. Khula provides small-scale and commercial size farmers with software and a	South Africa

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									marketplace to grow their business, unique solutions for Buyers, Farmers, and funders all under the Khula ecosystem. Khula is an online marketplace and ecosystem for agriculture products. It provides a platform for farmers to list out their products for sale and the consumers to place the order from preferred producers and suppliers. Khula marketplace includes seed, fertilizer, Agro-chemicals, animal health products and more than 3000+ Products and can compare over 3000 products from local and international suppliers. They have a network of 130+ Depots & 190+ Crop Advisors Nationwide giving them the ability to deliver in every province and even major agricultural regions in SA. Over 3000 farmers and 100 suppliers have signed up on the Khula Ecosystem. Khula wants to tackle issues faced by small scall and emerging farmer at once and provide farmers with liquidity, access, and a market. The platform is an ecosystem made with three products. The Inputs App allows farmers to access approved agricultural inputs and services from local and international suppliers.

The second is the Fresh Produce Marketplace, targeted at farmers with challenges low market prices, high transport and logistics cost and Expensive Middlemen. It allows farmers to sell produce directly to local and international formal bulk buyers. By allowing farmers to engage and negotiate prices with suppliers, the platform aims to reduce the access middlemen have that has led to the exploitation of farmers. Then, the Funder Dashboard connects institutional investors with farmers who meet their funding mandates. This year, the start-up was accepted into the Google for Start-ups Accelerator Class 6 alongside 14 other African companies. While the company is just announcing this investment, it closed the round last year. It was led by AECI, one of the continent's biggest agrochemical companies. South African impact investor E Squared Investments also participated. | |
| 118 | | ■ | ■ | | | Khusa (Village Savings App) | Angle Dimension | ✓ | Khusa (Village Savings App) by Angle Dimension for Malawi is an online platform that allows community savings groups to automate and connect to the formal financial sector. The platform aims to enhance trust and bridge the divide | Malawi |

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									between rural groups with banks, mobile money and Microfinance. Khusa provides real time information, calculates the portfolio and enables payments. It enables groups to digitize their transactions and securely save money.	
119		■		■		Kilimo Klub	Vodacom	X	Kilimo Klub from VODACOM It is about funding smallholder farmers through mobile phone money transfer. mobile innovative solution that will see smallholder farmers receiving support to improve their lives through Information and Communication Technology (ICT) on their phones. The initiative dubbed Kilimo Klub, is an exclusive service targeting smallholder farmers and will enable farmers to access M-Pesa and get empowered financially through the use of M-Pawa, which provides access to the safest and most convenient banking services giving them access to savings and loans facilities.	Tanzania
120	■	■	■	■	■	KRES	KRES Network (KRES with partners in Network in Netherlands, Angola, Mozambique including World Vision)	✓	KRES Network. KRES Network (KRES with partners in Network in Netherlands, Angola, Mozambique including World Vision). It is a network with a social enterprise as the operating entity to provide decentralized services. It operates in Angola and Mozambique. It was launched in 2021 and it has 250 smart phone users and 2,800 basic phone users. Empower farmers to adopt regenerative agriculture to improve productive resources (soil) and productivity through digital advisory and market linkage services using conversational engagement (voice Bot, chatbot) and geodata/AI. Realize Rural Agri Entrepreneurs (Farmer Business Advisors) through an industry/sector platform involving private and non-private sector partners acting as liaison between farmers and markets. Innovative digital/e-learning (drills on chatbots) are available and further development to develop capacity of remote Rural Agri Entrepreneurs. Smart advisory: Data-driven advisory based on tailored, farm-level agro-climatic and crop-specific information to support decision making, maximize productivity and reduce costs. Technologies such as sensors, satellites and drones, as well as big data analytics and AI, underpin many of these services., Weather information: Specialist services that provide regional and localized weather forecasts. This sub-category may include weather-adaptive and climate-smart advice, pest and	Angola, Mozambique

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									disease management: Digital tools that help farmers diagnose plant disease and develop strategies to treat diseased plants as well as mitigate future outbreaks. Most of the services are accessible via mobile applications and require a farmer to upload a picture of the infected plant for diagnosis. Some services are also accessible via USSD. Also includes national and regional-level pest and disease early warning systems., Agri-record keeping through Plan & Activity Tracker (voice and chat bot based). Accountability tool: Digital tools designed to help farmers view farming as a business by allowing them to track farming expenses and revenues and prove their creditworthiness., Liquidity Financing under design/development for different 'segments' involving FADA, BNI, BDA (Angola) and HUB, Casa do Agricultor (Mozambique). Inputs and outputs: Platforms that enable the sale of agricultural inputs to farmers from input suppliers, as well as the sale of agricultural produce from farmers to consumers and businesses., KRES is not a marketplace. Smart Digital Agent approach to link farmers to markets. Also uses remote sensing, geodata using satellites. The Kres Network was started under the Mavo Diami project in Angola.	
121	■		■			Kulima	Agricomm-media	✓	Kulima-academy (2020) from Agricomm-media. OnIine agricultural learning for anyone anywhere. They have around 200 registered users. They want to address Improved farm productivity via increased access to research based agriculture information.	Zambia
122	■	■	■	■		Kurima Mari (LimaMali)	Welthungerhilfe	✓	Kurima Mari (LimaMali) (2016) app from Welthungerhilfe (WHH). Kurima Mari is an android application that is designed to enable smallholder farmers access extension advisory and market linkages using a smartphone. It enables the smallholder farmer not to overly depend on extension officers and not to be stranded when seeking markets. It enables smallholder farmers to access the relevant information pre-production such that they can make informed choices about participating in agriculture value chains. The app, which includes Kurima Mari - Beef and Kurima Mari - Poultry, also provides digital support tools such as gross margin calculators and seasonal calendars that ensures farmers make the	Malawi, Zimbabwe

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									right choices with regard to input investments and production practices. Operational in Malawi and Zimbabwe, with 84,719 registered users.	
123	■					Kuza One	IDH Mozambique	X	IDH, in partnership with Kuza, has launched a digital microlearning toolkit for farmer capacity building in watershed management, animal husbandry and good agricultural practices in cotton, maize, tomatoes and cabbage under its Mozambique Climate Resilience Program. This toolkit is helping rural farmers on developing skills for planning their production activities, including budgeting. The innovation is being used in the northern region of Mozambique (Cabo Delgado and Nampula provinces) where cotton enterprises are based, and they are the main users. Currently, the digital toolkit is being translated into three local languages, Changana, Sena and Emakwa to cover the regions of the country south, centre and north, respectively.	Mozambique
124	■				■	KWIBI	Fox-Croft Holdings (Pty) Ltd	✓	KWIBI from Fox-Croft Holdings (pty) Ltd which is a private sector company active in Botswana and South Africa. Kwibi is a mobile tracking app that addresses problems facing modern conservation in situations of human-wildlife conflict. The App benefits local communities by providing livestock farmers with advance warning of predators in the area. The app also enables wildlife data collection, wildlife poaching and the illegal wildlife trade. This App is still in the research and development phase but also provides digital advisory particularly on pest and disease management, including plant disease and advisory on strategies to treat diseased plants and mitigate future outbreaks. Most services are accessible via mobile and require farmers to upload pictures of an infected plant for diagnosis. Some services are accessible by USSD, and the information provided also includes national and regional level pest and disease early warning systems. Smart applications using digital tools enable farmers to monitor herds remotely in order to determine their location and track their health including when in oestrus or about to calve. Also enabled are tracking and monitoring feeding habits of fish in aquaculture, disease detection, controlling water quality and automating feeding. The innovation uses Smartphones, a Smartphone App,	Botswana, South Africa

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									website, Dashboard and Portal and local databases (MS Access). The innovations address low productivity and mitigating climate change in on-farm production. The innovations are for the primary user and company revenue is based on individual subscription fees, business subscription fees and donor support (which will continue to be required). Stakeholders such as business, entrepreneurs have been involved in its development and the innovations have taken no specific actions to ensure the inclusion of disadvantaged groups so far.	
125			■			Lesotho Smallholder Agriculture Development Project	Ministry of Agriculture and Food Security Lesotho	X	Lesotho Smallholder Agriculture Development Project from the Ministry of Agriculture and Food Security Lesotho. The Project supports the increased adoption of climate smart agricultural technologies in Lesotho's agriculture, enhanced commercialization and improved dietary diversity among targeted beneficiaries.	Lesotho
126	■					Lesotho Soil Information System	Agricultural Research, Department of Soil Conservation, NUL and FAO	✓	Lesotho Soil Information System (LESIS) (2019) from the Department of Agricultural Research. LESIS provides soil maps and related information systems and constitutes the basis for assessing soil quality over time. LESIS further advocates for organized and systematic surveys and monitoring of soils in Lesotho with accurate and up-to-date soil information using state of the art methods and tools of digital soil mapping. It operates in Lesotho only.	Lesotho
127	■		■			Lima Links Farmer Platform	Lima Links Limited	✓	Lima Links Farmer Platform (2016) from Lima Links Limited. Lima Links is a social enterprise set up in August 2016 to connect smallholder farmers to the agricultural marketplace via its technology Platform. They have around 158,000 users.	Zambia
128		■		■		Livestock Wealth	Livestock Wealth (Pty) Ltd	X	Livestockwealth was founded in 2015, is led by South African born entrepreneur, Ntuthuko Shezi, and backed by an experienced advisory board. Livestock Wealth is a registered credit provider with the NCR and is also regulated as a registered agricultural producer agent with the APAC and SAMAC. They generate crowdfunded options to enable farmers to own assets. Livestock Wealth	South Africa

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming	Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
					introduced South Africa to Crowd farming back in 2015 and since then have been refining its product offering, streamlining processes, and helping investors grow their wealth the African way. The platform has helped clients to invest in tangible, growing assets at the click of a button. Livestockwealth aims to expand its product range and to become the foremost Crowd farming platform in the world. The crowd funding platform was made popular by their flagship product, an investment in pregnant cows. They have also diversified into: · Macadamia nut tree investments, 6-year tenure, ZAR2000 initial investment and a 95% profit margin · Free Range Oxen, 6 months Tenure, ZAR 11000 Initial investment, and a 5%-7% Profit margin · Connected Garden, 5-year tenure, ZAR8200 initial investment and 61% profit margin The returns on farming are competitive compared to conventional investment options. Investing in living, breathing livestock, and growing crops. These types of assets are always in demand.	
129	■ (Smart Farming)	LixoDex	LixoDex	X	LixoDex is a developer of fence sensor, PIR sensors, Guard Tracking Units, Trip Wire and Tactical PIR Sensors and RADAR that can be used to deliver critical operational information via mobile phones, tablets, and computers for real-time readings and security. Also used in marine farming systems.	South Africa
130	■ (Smart Farming)	Lynx Fruit Grading Systems	AME Fruit Sizers and Allied	X	Lynx Fruit Grading system are a distributor of Packline equipment for fruits. They offer a cost-effective way forward for a new sizer, retrofit upgrade or complete Packline at a lower cost than complete structural imports. They also offer complete Packline projects as required. Also, a prime distributor of Ellips of Holland Fruit grader weight and vision systems to which they provide online support and backup.	South Africa

#	■ Digital Advisory ■ Agri-Fina Services ▪ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
131					■	Maano Virtual Farmers Market	World Food Programme	X	Maano Virtual Farmers Market of World Food Programme. Virtual Farmers' Market (VFM) is an app-based e-commerce platform where farmers' surplus and buyers' demand for crops are advertised and traded. VFM provides a transparent, open and trustworthy space for smallholder farmers and buyers to negotiate fair prices and deals.	Zambia
132	■					Macho Sauti	SWISSAID Tanzania	X	Macho Sauti from SWISSAID Tanzania. E-extension in which smallholder farmers use smart phones with the app to collect information mainly through photos of their troubled crops and send them to extension officers/experts for solutions via an Internet platform. An online translator translates the comment from Swahili into English and vice versa. Experts in Tanzania or Switzerland can thus quickly provide personally tailored answers to the most pressing questions. Using GPS, the location of the affected field can be determined precisely so that a disease could for example be prevented from spreading to neighbouring countries.	Tanzania
133	■					m-Agri	Brastorne	X	Brastorne has developed a platform that gives users access to online applications through USSD technology, enabling simple phones to function as low-cost smartphones. There is need for a data connection, client software or SMS subscription; anyone can access advanced apps such as email, chat, Wikipedia, news and marketplaces from anywhere and at any time. Moreover, because agriculture is essential for poorer communities, this platform offers specific mAgri functionality for accessing agricultural information (advice, health book for animals, training opportunities, alerts, commodity prices and weather warnings), markets and short-term financing. It also enables users to sell products and services throughout the country as well as update their profile and run an online business. Brastorne's USSD platform has created harmonization between social good and profitability. The platform has performed well in Botswana generating over 500,000 users who have tried the service and is currently in the process of internalization into additional African markets. The company did not participate in the survey but provided a brochure to provide some answers.	Botswana

#	■ Digital Advisory ■ Agri-Fina Services ▢ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
134				■		Marakeng App and Marketing Information system	The Department of Marketing within the Ministry of Agriculture and Food Security	✓	Marakeng App and Marketing Information System (2020) from the Department of Marketing within the Ministry of Agriculture and Food Security. To improve smallholder farmers linkages through sustainable e-commerce solutions.	Lesotho
135	■					MauCrop	The School of Innovative Technologies and Engineering of the University of Technology	✓	MauCrop developed by The School of Innovative Technologies and Engineering of the University of Technology. MauCrop: An AI-Driven Interactive Mobile Application to Advise on Crop Selection and Cultivation for Small-Scale Crop Farmers in Mauritius. Mobile application (MauCrop) to recommend on selection and sowing of crops, give weather information, also allow farmers to monitor their yield and expenses. This initiative was launched in 2021 and is still at the proof-of-concept phase. It relies on machine learning approaches to recommend the best crop to be planted based on the location of the plot to provide best yield. The innovation is through the public university, is involved with on farm planning and production is at the R&D stage funded by government. They are working through challenges such as data collection, farmer use, and behaviour change as well as lack of mobile network coverage. Their technology is inclusive of women.	Mauritius
136			▢	■		Maupass	Ministry of Information Technology, Communication and Innovation	✓	MauPass. This is the implementation of the National Authentication Framework which facilitates access to e-services offered by the Government of Mauritius trough the National Computer Board. The MauPass enables the user to log in once and have access to a series of services, some with the security of a two-factor authentication to ensure secure transactions. Some of the services enabled through MauPass involve making payments for government e-services. Launched in 2020 it has 5,000 active users and 37,000 registered users and deals with traceability especially agricultural inputs. Maupass provides a trusted mode of authentication which is critical for access to services. So, one of the facets of anticipated outcomes is improved access to finance. It uses computers and smartphones, an App and website including cloud-based databases and software dealing with financial exclusion and poor access to markets and planning, inputs and access to markets in the value chain. They have been challenged by	Mauritius

#	■ **Digital Advisory** ■ **Agri-Fina Services** ▢ **Digital Procurement** ■ **Agri e-Commerce** ■ **Smart Farming**					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									understanding the market and user needs and digital literacy. They have reached a stage of wide scale adoption that is sustained. Supported by government grants they will remain dependent on these to provide the service.	
137	■					Mavo Diami	World Vision	X	Mavo Diami from consortium led by Worldvision Netherlands. The Mavo Diami project funded under the Geo Data 4Agriculture and Water of the Dutch Ministry of Foreign Affairs / Netherlands Space Agency. The aim of this project is to improve the food and income security of more than 100,000 smallholder farmers by accelerating their agri-business performance through informed decisions supported by the Mavo Diami services built on weather, water, soil, and crop signals and other relevant data and indicators. The project is called Mavo Diami, which means 'my land' in Angolan local language (Kimbundo). During the project the Kres network was formed as a social enterprise to carry on beyond the project.	Angola
138	■					M'chikumbe 212	Airtel Malawi	✓	M'chikumbe 212 by Airtel Malawi is a mobile agriculture service launched in 2016. Airtel Malawi with GSMA provides a platform where all agriculture related information can be accessed for free, with the aim to enhance the stretched agricultural extension network. M'chikumbe aims to transform farming using mobile technology and to increase Airtel's subscriber base, revenue and brand loyalty in rural Malawi. M'chikumbe 212 is an interactive voice response (IVR) and short messaging services (SMS) content platform that does not require any internet connectivity to be accessed. Farmers, cooperatives, suppliers, trades, government staff and agencies and NGOs are all considered the target audience and users. Since its launch in 2016, the platform was registered over 700,000 users with a reach of about 70% of Malawian farmers. The platform connects buyers with producers, connect farmers, cooperatives and even programs.	Malawi

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
139			■			Metajua	Metajua	X	Metajua of Metajua. This innovation provides a modular solution with the aim of covering all data flow needs for organizations buying agriculture products from and interacting with smallholder farmers.	Democratic Republic of Congo, Madagascar, Tanzania
140		■				mKesh	Moçambique Telecom, SA	X	This is a mobile money service from Carteira Movel SA and the mobile money service is licensed and regulated by the Central Bank of Mozambique. Carteira Movel has about 33% of market share covering all districts, 68% mobile coverage and about 7.1M subscribers. The current mKesh data base has 2,660,000 users and 475,000 registered with PINs. And 60,000active users. The Mobile money technology allows people to save, buy, transfer and receive money via a mobile phone, as well as payment of services such as TV, Power through using a mobile phone from Mobile Network Operator - Tmcel. The MKesh distribution network is based on 4,065 agents, 36,000 street vendors, linked to Interbank and almost 1,000 ATMs.	Mozambique
141	■					Mlimi Hotline (Farmer Call Centre)	Farm Radio Trust	✓	Mlimi Hotline (Farmer Call Centre) by Farm Radio Trust for Malawi is a direct response information service dedicated to help farmers with immediate support, by answering their questions, giving them advice and other information.	Malawi
142	■				■	Mlimi Manager	Agricentre	✓	Mlimi Manager by Agricentre is based on the Internet of Things (IoT) and Artificial Intelligence (AI). The innovation aims to collect different types of data on the field and save it in a central data warehouse. The data is on soil fertility, soil moisture and soil PH for farm management. The data housed in the central data warehouse will be used to train different AI models.	Malawi
143	■		■		■	Mobile Drone Crop Spraying Units	Precision Drones	✓	Mobile Drone Crop Spraying Units of Precision Drones Botswana. This is a solution with mobile drone spraying units around the country targeted at small	Botswana

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									commercial / emerging farmers and charging per hectare rates for specialist spraying services. They have 20 clients.	
144		■		■		Mobile Money (MoMo)	MTN Eswatini	X	MoMo Money by the MTN mobile network operator in Eswatini. The MoMo is a general branchless banking tool, it is not customized for agriculture, nonetheless it is very popular amongst farmers and people in remote rural areas in Eswatini. MTN Eswatini was the first MNO in Eswatini to introduce the product in the country. MoMo currently has more than 500 000 users nationwide, more than 80% of Swaziland's adult population. They did not fill out the survey.	Eswatini
145		■				Mobis	Agrinfo	X	Mobis from Agrinfo. A cloud-based microfinance management platform designed uniquely to help savings and loans cooperatives go paperless and become more efficient by digitizing how they manage customer data and transactions. Agrinfo works in partnership with farmers associations, financial institutions and input and output suppliers.	Tanzania
146	■					Mobiz	Mobiz	X	Mobiz was set up in 2014 by digital marketers to introduce a creative way of mobile marketing and by developing a platform that seamlessly integrates hyper-personalization into dynamic pages. This mobile communication engagement is at the next level particularly if SMS campaigns, with graphics and video, advocating sales or on-line payments and surveys are necessary. They work with large MNOs and portals and MS. They deal with digital agri-advisory, bulk SMS and communicate directly to farmers. They work with a marketing cloud that allows businesses to send out a multitude of personalized SMS messages to attract new customers.	South Africa
147	■		■		■	Modisar	MODISAR NET	✓	Modisar of Modisar, founded in 2016. This is a Precision Livestock Farming (PLF) platform that helps farmers to keep accurate records & to continuously monitor their farm animals. It has a mobile app with the following modules: Animal Management, Farm Management, Financial, Intelligent Farm Assistant (#IFA),	Botswana

#	■ **Digital Advisory** ■ **Agri-Fina Services** ■ **Digital Procurement** ■ **Agri e-Commerce** ■ **Smart Farming**				Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
								Inventory Management. The innovation addresses Knowledge gap, Low productivity, Poor access to markets and Poor access to internet. They use a subscription model (individuals and businesses) and have 2500 users.	
148	■		■	■		MoKaro	Food and Agricultural Research & Extension Institute	X	MoKaro is an App developed (and hosted by FAREI (see above)) and launched in June 2019 is the first of its kind developed by the Ministry of Agri-Industry and Food Security and the Ministry of Technology, Communication and Innovation in collaboration with the Food and Agricultural Research and Extension Institute (FAREI). It is a tool for farmers and planters to plan agricultural activities and manage their resources for maximum efficiency and minimizing losses. It provides advisory on planting, irrigation, field activities following crop analysis and assessment and farmers also receive information on climatic conditions in Mauritius, agricultural news and alerts. The tool also enables producers to communicate directly with suppliers of inputs such as fertilizers and pesticides. Another smart application is in the pipeline for the livestock sector. The App is available on Google Play here. Providing Agri-VAS, Smart advisory and record keeping, as well as agri e-commerce opportunities for sale of produce and outputs by farmers, improving farm productivity, incomes and market efficiency. It utilizes computers, basic and feature phones, smartphones using SMS, the App, Website, and messaging platforms. It uses Excel and MS Access and has been challenged by understanding the market and user needs, procurement of technology vendors, in house technical capacity and farmer uptake. They also have challenges related to the regulatory environment and financial sustainability of the business model. They are still at the R&D Stage and reliant on public funding or donor grants. The innovation was developed with the input of government as well as social enterprises and entrepreneurs. They have been challenged with creating trust to convince farmers to change their way of doing things.	Mauritius
149			■			MoKloud	Ministry of Information Technology,	✓	This is a government-hosted online space for a citizen to make sharable information, usually held by authoritative sources, about themselves accessible	Mauritius

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
							Communication and Innovation		to others. Launched in 2021, it has 200 users to date. Once an authenticated user is on the platform, the user can request for government services and monitor the status of process of the request. Examples of requests that are already available include requesting for recent extracts of a birth certificate or marriage certificate. The documents are made available are genuine, time stamped information about the citizen. The certificates are created through a payment for services. Although not exclusively agricultural, these digital solutions are available to the agricultural community by enabling digital records to be produced with traceability.	
150			■	■		More Than Cashews	YYTZ Agro-Processing	X	More Than Cashews from YYTZ Agro-Processing. Use of blockchain technology in cashew nuts farming for traceability. they developed a blockchain technology with a startup in the Netherlands where each pack of roasted cashews has a QR code that you can scan and see exactly which farmer it came from.	Tanzania
151	■	■	■	■	■	MovelCare	TABECH	✓	MovelCare is a mobile insurance platform that uses USSD and SMS technology to provide insurance access to marginalized populations (rural, low, and irregular income, unbanked, non-internet users, women) without depending on the internet or bank accounts. MovelCare makes insurance paperless, cashless, affordable, and timely whilst allowing for quick claims on any mobile phone. The platform was launched in 2019 and they have 2,000 active users and 3,500 registered users. Agricultural value-added services (Agri VAS): One-to-many advisories covering agricultural and livestock information, weather and climate information and information on market prices. Agri VAS are delivered via voice channels (IVR, helplines), text channels (SMS and USSD) and via apps. They rely on computers, basic feature phones, smartphones. They use channels of Radio, mobile voice (Radio, Mobile voice / IVR / call centres, SMS, USSD, Smartphone app, Video, Website / Dashboard / Portal, Social media platform (e.g., Facebook, Twitter), Messaging platform (e.g., WhatsApp, Messenger), Geo Data Analysis is reliant on Excel spreadsheets and SQL cloud-based databases. These Digitally	Mozambique

#	■ Digital Advisory ■ Agri-Fina Services ▪ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									enabled agricultural insurance services that help smallholder farmers with knowledge, increased financial inclusion, low crop productivity, and poor access to the internet. The insurance mitigates the risks associated with external shocks such as weather events and pest and disease outbreaks. Agricultural insurance includes weather index, area yield index, multi-peril, livestock and livestock index insurance products and aquaculture. The outcome is to ensure the farmer has reduced or eliminated the losses not only post-harvest instead during purchase or transit of seed and chemicals to their livestock and life. Challenges include understanding market and user needs, procuring technology vendors. For users' language, literacy and digital literacy are challenges including technical capacity and, in the teams, challenges with data collection and issues of farmer uptake and behaviour change. Operational constraints including policy enabling environment and lack of electricity, mobile coverage, electricity, and trust. The innovation is transitioning to scale having demonstrated small scale success based on a proof of concept. The technology benefitted from technology investors and revenue is generated via business subscription fees and transactional fees. The innovation was developed with input from entrepreneurs, social enterprises, and insurance companies. The specific challenges include technology and skills for improving the offering, especially for livestock insurance. Weather indexing is an extensive approach requiring an ecosystem of knowledgeable actors. The technology is designed with deliberate actions to make it inclusive of underrepresented groups.	
152	■	■		■		MukulimaSoko	MukulimaSoko	✓	This is an innovation from 2018 and is a digital agricultural trading centre that offers several advantages to the players in the sector including: Soko: E-commerce through the grouping of agricultural products for common sale through virtual and physical agricultural relay warehouses in the production environment. Their business model is via a small transaction fee in the market platform.	Democratic Republic of Congo

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming	Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
153	■ ■ ■	Mukuru App	Mukuru Africa	✓	Mukuru Money Transfer Limited is a private sector company operating regionally (Botswana, DRC, Eswatini, Lesotho, Malawi, Mauritius, Mozambique, South Africa, Tanzania and Zimbabwe). The application addresses a knowledge and access gap and provides access to markets and financial services. The Mukuru App was launched in 2019 and allows customers to create orders for remittances individually and initiate a payment for the transfer to happen. The app can also be used to self-register a customer on the platform and verification takes 24 hours. This enables efficient access to financial services through smartphones. The innovation uses SMS, USSD, a Smartphone App, Website, Dashboard, Social Media Platform, and (Fb, Twitter, WhatsApp, Messenger). The platform uses local and cloud-based databases (Excel, MS Access, SQL) and AI platforms (IBM Watson) for Machine learning. Regionally it has 500,000 users and 1M registered users. Also enables farmers to sell to consumers (B2C) and to enterprise customers (B2B) such as hotels, restaurants and market retailers. Challenges include digital literacy, device sharing, lack of mobile coverage, and financial sustainability of the business model in different locations. The application has reached sustainable scale and is focused on individual users. The business was supported by friends and family and development support and training grants. The revenue model is based on transaction fees and the in-house development of the App and platform which is believed to be inclusive of disadvantaged groups.	Botswana, Democratic Republic of Congo, Eswatini, Lesotho, Malawi, Mauritius, Mozambique, South Africa, Tanzania, Zimbabwe
154	■ ■ ■	Mulimi Apunzile	E-msika Services Ltd	✓	Mulimi Apunzile (2020) from E-msika Services Ltd. From the same company as eMsika. This is an online advisory information to farmers using live and on demand videos from experts, it is like a Udemy for agriculture. They have around 900 users.	Zambia
155	■ ■ ■ ■	Mutasa Auction Floor (MAF)	Farmers Intersection Pvt. Ltd	✓	Mutasa Auction Floor (2016) from Farmers Intersection Pvt. Ltd. The provision of centralized marketplaces to bring buyers and products to the one space in a competitive transparent environment and to facilitate the flow of market	Zimbabwe

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									information to promote market responsive agricultural production via the mechanism of online `Dutch Clock' auctions. 355 users have used the service at some point. Many thousands have expressed an interest.	
156		■				Mvola mobile money service	Telma Mobile	X	Telma Mobile is a Madagascar-based telecommunications company provided with a license in 2015 and they began rolling out their network in 2016. They recently rolled out the Mvola Avance and Epargne products, which offer loans and savings services, respectively, through the pre-existing Mvola mobile money service. This is newer market player since 2016 and has provided real competition to the monopoly provided by Comoros Telecom previously. By the end of 2016 60% were already covered by 4G and they promised to cover all islands by the end of 2017. Telma doesn't block VoIP providers like Skype or WhatsApp calls. They also feature very cheap calls to neighbouring French Mayotte. They might be the smarter alternative once they have full coverage now. At least they brought the incumbent to cut prices. 5With Mvola Avance, customers can borrow from MGA 1,000 to MGA 500,000 (USD 0.30 to USD 157) for 30 days with a flat interest charge of 9 percent. Mvola Epargne allows customers to save between MGA 100 and MGA 10 million (USD 0.20 and USD 3,200) and earn annual interest of 2 percent. These services were developed in partnership with BNI Madagascar, which is controlled by Mauritius-based holding company Ciel Group. As of 2016, Mvola had 2 million customers performing: (1) mobile payments for Telma services; (2) cash uploads; (3) transfers to individuals; and (4) cash withdrawals through partner bank machines and branches. Also as of 2016, Telma Mobile reported 3 million subscribers and annual turnover of MGA 360 billion (USD 112 million). Founded in 2006, Telma Mobile is a member of the Telma Group, a private firm providing mobile phone, internet and infrastructure services. BNI Madagascar reported outstanding loans of MGA 882 billion (USD 273 million) in 2016. Founded in 1977, Ciel operates in 11 African and Asian countries and	Comoros

#	■ **Digital Advisory** ■ **Agri-Fina Services** ■ **Digital Procurement** ■ **Agri e-Commerce** ■ **Smart Farming**					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									reports a group profit of MUR 1.5 billion (USD 44.5 million) before tax and non-recurring items as of 2017. Their SIM card is at 2,000 KMF without credit. Top-ups are widely available. They sell one combo bundle called Karibu. It contains 60 minutes to Telma, Mayotte, India, China, Réunion, Saudi Arabia, US and Canada plus 100 SMS and 1 GB in Comoros. It valid for 1 month and sold for 4,000 KMF. Activation is by *445*50#. They sell a reduced welcome package for a 5,000 or 10,000 KMF recharge card with 180 dom. minutes, 15 SMS and 100 MB plus the recharge value. There are data packages called TelmaNet are offered and can be added to the basic service.	
157	■	■	■	■	■	My Bank App	Sir Hackson Processors	✓	My Bank App by Sir Hackson Processors is an app in development that will enable farmers to transact their finances and access other financial services, as well as providing agricultural practices. Sir Hackson Processors currently provides information on agricultural products and vaccinations schedules through SMS. This has not yet launched	Malawi
158		■				MyTMoney	Mauritius Telecom	✓	MyTMoney is an innovation from Mauritius Telecom incorporated in 1998, and in 1996 they have two fully owned subsidiaries Cellplus Mobile Communications and Telecom Plus Limited to offer mobile and internet services respectively. In 2000 France Telecom (now called Orange S.A.) acquired 40%share of the company. The company has a customer base of 1.3M subscribers and has made a successful transition from a state-owned entity to a fully private company. They offer high speed greater bandwidth. Their international network operates vis optical submarine cable SAFE/SAT3 through South Africa to Europe, LION/LION2 EASSy – EIG to Europe and SAFE to India and Malaysia. They provide fixed line, mobile, internet, TV and mobile money services, all their products and services were regrouped under a single commercial brand my.t. Mobile Operator based wallet to store, send & receive money using your mobile phone aiming to change the payment habits by cash specially to avoid contact during pandemic; operator has established linkages to most commercial banks in the country and offers a	Mauritius

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming				Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
								payment card as well to accompany mobile payment. Existing wide network of merchants to clients. Potentially a model for democratising mobile payments from peer to peer. The My.t wallet launched in 2019, is a fast payment service with a My.t money card, or using one's smartphone, utility bills can also be paid, and money transferred digitally, bills can be shared a up to four subaccounts can be added. This wallet can be linked to a bank account, and cash received from the bank account, cash can also be received with a my.t money card or a QR code, transactions can be viewed. For businesses and merchants, they can receive point of sales devices to accept payments and track sales with instant SMS notifications for all transactions. A number of marketing relationships have been established offering deals such as for the University of Mauritius offering special payment offers for students, or retail and food outlets. The widespread accessibility of the My.t payment system, which is operated by an MNO linked to a set of banks shows potential for registration of small-scale agricultural producers onto an electronic payment system. The service is MNO based and delivered through Smartphone App using local databases such as MS Access and addressing all parts of the value chain where payment transactions are needed. They have 200,000 active users and 300,000 registered users. They charge a subscription model and address financial exclusion, cashless payment, payment system linked to banks and provide a mobile/payment card combination for transactions. They also struggle with digital literacy, sharing of devices, and the use of local languages but believe their technology is inclusive of all disadvantaged groups.	
159				■	NAAT APP (Netherlands Alumni Association of Tanzania App)	NAAT	X	NAAT App from the Netherlands Alumni Association of Tanzania. It is an application that will link farmers and livestock keepers with the market It is a new innovation in Tanzania being supported by the Netherlands embassy in Tanzania.	Tanzania

#	■ Digital Advisory ■ Agri-Fina Services ▨ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
160			▨			National Plant Health Inspectorate Services Portal (NaPHIS Portal)	National Plant Health Inspectorate Services (NaPHIS), Ministry of Agriculture	✓	National Plant Health Inspectorate Services (NaPHIS) system is set up by the Government of Eswatini National Plant Health Inspectorate Services that has the responsibility to protect plant resources from pests. They provide science based regulatory services assuring plant health, food security and safe trade of plant products. They aim to prevent the introduction and spread of plant pests and promote appropriate measures for their control and to facilitate safe trade of plants and plant products in accordance with the provisions of the International Plant Protection Convention (IPPC). The work is funded by the European Union. They provide four main services through web access of their site where one can register and apply for the permits or services. Their main role and service offerings include information System and Policy Analysis, Pest Risk Analysis (PRA) and Permits (Import, Re-Export, Transit and Phytosanitary Certificates)., Pest Surveillance, Quarantine and Diagnostics (SQ&D) and Regional Coordination and Inspectorate. NaPHIS was launched in 2020 as an Agri-VAS service with 300 active users of their website and 600 registered users. They are a web-based system for the issuance of phytosanitary certificates, regulated plants, plants products, soil and biological articles with traceability for payment. People and businesses requiring phytosanitary services, documents such as phytosanitary certificates, plant import and transit permits apply online and get the different documents online at the comfort of their home or offices. The platform is accessible through smart phones, tablets, desktops computers and laptops as long they are connected to the internet. The platform has two modules, one for the user (applicant) and the module is for the regulator (government officers). Through the platform, turn-around time has been reduced to few minutes from several day or weeks and both clients and government has saved more in terms of travelling costs. NaPHIS has also enabled a very successful transition from paper based to digitized records both at government level but also for primary users.

NaPHIS enables access to markets by providing the necessary certification and phytosanitary clearance for produce. This has the benefit of reducing the cost of doing business for farmers, improved ease of selling produce in Eswatini and in | Eswatini |

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									neighbouring countries and improved records of export and import information for the government as well as occurrences of pests and disease outbreaks threatening Eswatini's production systems. The service was developed through the provision of either donor funding or central government funding and will remain reliant in the short to medium term on these subsidies. It was developed through extensive consultation in government, with commercial companies, entrepreneurs and social enterprises following digital design principles as far as possible. As suggested the service will continue to operate on a public goods business model where some degree of public subsidy will be required. For NaPHIS challenges have included digital literacy amongst users, the lack of mobile coverage and Wi-Fi/internet across the country due to electricity or power supply failures and the expensive cost of data for cell phones. NaPHIS is a service that provides pest and disease management and weather information as well as providing certification for produce for trade, NaPHIS was designed to fill knowledge gaps, combatting low productivity, and improving quality of produce for trade. NaPHIS has demonstrated its model with small-scale success.	
161	■				■	NDVI field surveys	Precision Drones	✓	NDVI field surveys of Precision Drones Botswana. Provide regular NDVI field surveys to farmers to assess crop health. They have 30 clients.	Botswana
162		■				Nomanini	Nomanini	X	Nomani is a fintech platform that connects financial service providers and consumer goods companies to retail medium and small and medium enterprises. Their digital platform enables digital banking and supply chain financing mechanisms which enable cash collections, merchant credit and savings, and cash deposit, supplier payments and prepaid and bill payments. These aspects are particularly useful for agribusinesses and Agrovet and Agro-input dealers in the agricultural value chain. They are able to leverage value chain relationships to ensure rapid deployment and low-cost acquisition of retail business banking customers and provide digital solutions for banking. Their embedded supply	South Africa

#	■ Digital Advisory ■ Agri-Fina Services ▢ Digital Procurement ■ Agri e-Commerce ■ Smart Farming				Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
								chain financing solution enables financing of stock onto the shelves of traders and pairs stock advances with data to optimize supply chain management.	
163				■		Obus	Obus Digital company Limited	✓	An app where buyers can order rice (Grade I) from the nearest shop registered in app selling grade I rice (delivery not exceeding 0.5USD fare by motorcycle). The delivery is by motorcyclist registered in the app.	Tanzania
164		■				One Money Mobile Wallet platform	Net One	X	One Money Mobile Wallet platform from Net One. OneMoney is a mobile payments solution service provided by NetOne to its subscribers. OneMoney provides a service ecosystem that entails the exchange of money between individuals (peer to peer), businesses (business to business), individuals paying businesses (consumer to business), and businesses paying individuals (business to individual). This service offering provided by OneMoney makes it possible for individuals and businesses to transact in a secure, cashless, and seamless manner.	Zimbabwe
165	■			▢		Online Import and Export License System	Ministry of Agriculture Lands and Rural Resettlement	X	Online Import and Export License System from the Ministry of Agriculture Lands and Rural Resettlement. The Import and Export License Management System automates the application and issuance of licenses to importers and exporters of agricultural products, thus replacing the manual paper-based system.	Zimbabwe
166	■					Online seed verification system	Common Market for Eastern and Southern Africa (COMESA)	X	Online seed verification system from COMESA. COMESA has become the first regional trading bloc to launch an online seed label verification system in Africa and globally. The system will assist the region eliminate cases of fake seed and boost trade in quality and improved certified seed.	Democratic Republic of Congo
167				▢		Pay Today	Pupkewitz Holdings (Pty) Ltd	X	PAY TODAY is a leading mobile payment solution in Namibia which enables payment receipts, payments, airtime, payment of utility bills and parking. It is the product of Nedbank and works with any Namibian bank. Using an App from Apple or Google play, a debit or credit card can be added to your account from which payments can be made straight from the mobile phone, for shopping	Namibia

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming				Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
								transactions, booking events and bank details can be entered to enable friends and family to make direct payments to you, and from the e-Wallet created it can be used to may bill payments or pay for parking. A PCI DSS Level I compliant card and tokenization system stores card details. The Merchant Account is at Nedbank Namibia and the Paygate ltd is the payment service provider. Works on all devices running IoS version 8 upwards and Android (4 and upwards) operating systems. They have a website and portal, and Facebook page, and also have a dashboard login and sales on-line or payment gateway for businesses. 1400 businesses are linked to PayToday.	
168	■				PIF-TIC (Point d'Information et de Formation utilisant les TIC)	PIF-TIC	X	PIF-TIC (Point d'Information et de Formation utilisant les TIC) of PIC-TIC. In partnership with the Malagasy government, the PIF-TIC centres aim to train farmers and youth in the use of digital tools (computers, smartphones, tablets, etc.) to improve their ability to access information and the market.	Madagascar
169				■	Plaas	Plaas	X	Plaas of Plaas. Plaas is a platform that enables the virtual market for agriculture that empowers the farmers of Africa to seamlessly trade their animals and crops at market price, that will boost their income and information provided by farmers to enrich the crops will help others to match the standards. The app will help empower the farmers of Africa to seamlessly trade their animals and crops at market prices, which in turn, will boost their income.	Botswana
170			■	■ ■	Plan-A-head	Plan-A-head Software	X	Plan-A-head is a private company that develops and supports software management for the agricultural and commercial sector. They offer administration, livestock, and Crop management software solutions. Their systems assist farmers to make more informed management decisions based on their actual data. By linking hardware and apps they streamline the collection of data to avoid unnecessary administration. They provide Farm vehicle	South Africa

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									management software as an administrative package. Various Livestock packages that include beef, pig, sheep, and dairy management software. The Crop management package offers management solutions on sugar cane, macadamia, vegetables, citrus, grain, and timber management software. Besides south Africa, these services are also provided to other countries including Zambia, Mozambique, Swaziland, Nigeria, Namibia, Sierra Leone, and Kenya.	
171		■			■	Planet42	Planet42	X	Planet42 provides rent to buy vehicle rental to South Africans, of pre-owned cars and vehicles. They charge monthly payments and can organize payment terms according to budgets. Rental rates include third party insurance and trackers. The service enables mobility for people who cannot secure loans and are able to buy vehicles through a subscription service increasing accessibility and transport options. These options whilst not specifically designed for rural or agricultural customers often enable them to pursue transport options, they would otherwise not have access to.	South Africa
172					■	Portable hydroponic beds	Innovative Green Hands	✓	Innovative Green Hands at the University of Namibia in conjunction with AvaGro and Jayden Nashe Enterprises of South Africa (Portable Hydroponic Beds). This is a very new private sector company in Namibia which was launched in 2021 and deals with Smart AgriTech dealing with Equipment monitoring. The innovation enables crop production under the harshest conditions through a controlled environment, artificial planting media system, precise water and nutrient applications and including crops such as Spinach, Tomatoes, Peppers, Eggplants, watermelons and Cucumbers. The smart monitoring of equipment such as irrigation systems that enable farmers to remotely control, track and look after their equipment and farming operations, leading to a reduction in water consumption and wastage. The approach enables reduced water footprints in horticulture (esp. button and oyster mushroom) in otherwise arid production systems. The company has been working to address user affordability and a lack of technical capacity. They have received support on training and practical agriculture from Avagro and best practice models to develop their idea into an	Namibia

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming				Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
								investible business. To date, the young agripreneurs have designed a prototype portable hydroponic unit capable of producing fresh vegetables for family's that live in towns where space and land are limited. They are now marketing this as part of their product basket.	
173				■	Portal da Divulgação Nacional de Produção	Government Angola	X	Portal da Divulgação Nacional de Produção of Government Angola. This is a government e-commerce portal.	Angola
174			■	■	PRESAN (Programme Régional de Sécurité Alimentaire et Nutritionnelle) plateform	Indian Ocean Commission	X	PRESAN -The Indian Ocean Regional Programme on Food Security and Nutrition (PRESAN) provides a framework for strategic collaboration and implementation of joint activities which include outreach and communications, information sharing, resource mobilization and technical support to improve food and nutrition security amongst IOC Member States Comoros, Madagascar, Mauritius, Reunion and Seychelles. It is supported by FAO and IFAD and enables FAO to provide technical support necessary to respond to urgent needs in the region, such as the reduction of the deficit of the agricultural trade balance. There is opportunity for join resource mobilization activities and technical support for Small Island Developing States (SIDS)	Comoros, Madagascar, Mauritius, Seychelles
175	■			■	■	ProFood App	ProFood	X	ProFood App is a multistakeholder e-commerce platform which is led by a women's-only team and supported by UNDP in partnership with the Namibia University of Science and Technology (NUST) and Green Enterprise solutions. The ProFoodApp digitizes local and traditional food system flows by enabling us to map, visualise and monitor Small Scale Producers (SSP) to understand who is producing what, where and in which quantities. The APP maintains a database of all the SSP nationally, enabling State and Non-State actors to procure directly from the SSP. This creates an appetite for increasing production of local and traditional foods and empowers communities and producers at the local level. The APP also responds to at least five of the Sustainable Development Goals	Namibia

#	■ **Digital Advisory** ■ **Agri-Fina Services** ■ **Digital Procurement** ■ **Agri e-Commerce** ■ **Smart Farming**					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									(SDGs). This is a private sector company, but their innovation is at a very early stage of development.	
176		■	■	■		QuickPay	Multiple Internet Payment System (MIPS)	✓	Quick Pay System of Multiple Internet Payment System (MIPS) is a private sector fintech payment ecosystem established in 2019 which is compatible with third parties, shops and enables a quick pay system by allowing businesses to create a payment ticket and send a link, when the link is clicked, then a payment can be made by a card. This aspect includes digital and agri wallets and an accountability tool and enables acquisition of inputs and outputs as a sub use case. This is a free hosted e-commerce website with integrated payment solution towards increased efficiency for selling and receiving payments.	Madagascar, Mauritius, Seychelles
177	■		■		■	RevScout Mapping Technology	Revolute Systems	✓	RevScout Fruit Load Mapping of Revolute Systems is a real time and Fruit Sizing Software for Pack House Planning. Revolute Systems is a private company in South Africa. Real time fruit mapping launched in 2020, is done through mounting two cameras on ATV/Tractor and driving through orchard rows. The cameras recognise fruit and maps counts with GPS. All data is automatically transferred after the survey to our RevToolbox online platform to view results, compare to other data layers like soil EC and crop health maps, as well as create yield estimations. They currently have 15 active users and 25 registered users and is focused on digital advisory, digital procurement solutions and smart farming. Their digital advisory is Agri VAS based one to many, they also provide climate and weather information on IVR and helplines and text SMS and USSD. The smart advisory is based on tailored farm level agro climatic and crop specific information and decision support to maximise productivity and reduce costs. Sensors, satellite and drones as well as AI are utilised. Digital tools also enable farmers to keep detailed records of livestock, including health and feeding data, to help mitigate diseases and avoid missed conceptions. Record keeping tools are also used to keep details of input usage, procurement, cost and revenue and sales records. Equipment monitoring includes remote control of irrigation systems and farming operations leading to a reduction on water consumption and wastage.	South Africa

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									The smart tools also enable asset sharing such as leasing of tractors, drones or other mechanised farming equipment. The innovations rely on computers, sensors (weather stations, IoT, satellite geodata) and channels include website, dashboard and portal with clous based and Ai platforms and software as a service. Challenges include understanding the market and user needs, affordability, digital literacy, lack of technical capacity within and outside the company and systemic factors such as regulatory policy, lack of mobile coverage, and product translation into local languages. The innovation is at the scaling stage of replication in other geographies and relies on individual subscription, business subscriptions and premium services to generate revenue. They are struggling to procure processors for the equipment to seal more units. Medium scale field trials have been conducted in Western Cape fruit growers with efficacy. Their innovation was developed together with Adagin, and engineering technology company simplifying precision technology for all to use and creating innovative solutions for the agricultural industry.	
178	■				■	RevToolbox Data Portal	Revolute Systems	✓	RevToolbox of Revolute Systems is an orchard management software through creating insights and actionable tools for farmers from orchard data. The platform has an advanced satellite monitoring system, giving a near live feed of variation in orchard health. This data is combined with our other services like EMI soil scanning and Fruit variation mapping. Combining this data, farmers can investigate factors effecting yield and effectively intervene. The innovation was launched in 2019, has 30 active and 50 registered users and focuses on digital advisory, smart farming, and Increased efficiency, through high detail mapping of orchard variation in canopy and fruit, as well as digitizing soil and terrain data, effective problem identification can be done interventions plan zone specific. Their digital advisory is Agri VAS based one to many, they also provide climate and weather information on IVR and helplines and text SMS and USSD. The smart advisory is based on tailored farm level agro climatic and crop specific information and decision support to maximise productivity and reduce costs. Sensors, satellite and drones as well as AI are utilised. Equipment monitoring	South Africa

#	■ **Digital Advisory** ■ **Agri-Fina Services** ■ **Digital Procurement** ■ **Agri e-Commerce** ■ **Smart Farming**					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									includes remote control of irrigation systems and farming operations leading to a reduction on water consumption and wastage. The smart tools also enable asset sharing such as leasing of tractors, drones or other mechanised farming equipment. The innovations rely on computers, sensors (weather stations, IoT, satellite geodata) and channels include website, dashboard and portal with clous based and Ai platforms and software as a service. Challenges include understanding the market and user needs, affordability, digital literacy, lack of technical capacity within and outside the company and systemic factors such as regulatory policy, lack of mobile coverage, and product translation into local languages. The innovation has reached sustainable scale and widescale adoption. Wide adoption by some of the biggest agricultural co-ops in table and wine grapes, apples, citrus industries in South Africa, with yearly returns by them to do more surveys of their production areas. Challenges include understanding the market and user needs, procurement of technology vendors, digital literacy, data collection issues, operational constraints, trust, and product development into local languages for greater understanding by end users. The parent company has relied on private funds from bootstrapping and friends and family. The innovations enable them to generate revenue through business subscriptions fees and they developed their innovations with entrepreneurs and commercial agriculture companies and research institutes. There is wide adoption by Western and North Cape fruit producers and their toolbox is seen as the most user friendly and holistic platform available.	
179					■	ROBOTECH LAB	ROBOTECH LAB	X	Robotech Lab of Robotech Lab. A robotics lab in Tanzania that focuses on training and education and research and development various sectors Farming & Agriculture. They use technologies such as censors to solve smallholder farmers challenges and have worked for World Food Program (WFP) to solve smallholder farmers challenges using censors.	Tanzania
180				■		Roque online	Roque online	X	Roque online from Roque online. This is an Online platform that connects informal markets of the world with empowering technologies. They did not want	Angola

#	■ Digital Advisory ■ Agri-Fina Services ▢ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									to participate to the survey, because they receive too many surveys already, without any feedback on the result.	
181				■		Rovert Foods	Rovert Foods	X	Rovert Foods of Rovert Foods Convenient and safe fresh and dry foods delivery service within Lusaka, Zambia.	South Africa, Zambia
182	■					SAGCOT Integrated Knowledge and Information for Agriculture (SIKIA)	Kilimo Trust	X	SAGCOT Integrated Knowledge and Information for Agriculture (SIKIA) from Kilimo Trust. SAGCOT was a 3-year project (2014-2016) that employed the latest technology to provide reliable information on Weather forecast, Agribusiness support, plot specific crop advice and SAGCOT database to increase production and productivity of 125,000 rice farmers and 400 other VC actors in the Southern Agricultural Growth Corridor of Tanzania. The project was implemented in partnership with TechForce Innovations B.V, Netherlands; Milan Innovincy B.V., Netherlands; Kadaster International, Netherlands and Alliance for a Green Revolution in Africa (AGRA), Kenya. The achieved project goals included the delivery of actionable information services, acquired from satellite geodata (e.g., environmental, crop status via Synthetic Aperture Radar (SAR) and plot boundaries information), augmented by more detailed data acquisition under the clouds (multispectral agronomic information) and web-based information.	Tanzania
183	■					Seasonal Forecast	Lesotho Meteorological Services	✓	Seasonal Forecast (2012) from Lesotho Meteorological Services. The purpose of the Agrometeorology sub-section is to support and provide advisories to agricultural production and food security activities in the country. The sub-section assists stakeholders in the provision of meteorological and related services to the agricultural community to help develop sustainable and economically viable agricultural systems, improve production and quality, reduce losses and risks, labour and energy, and decrease costs. It operates in Lesotho only.	Lesotho

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
184	■			■	■	Seedco Mobile App	SeedCo Group	X	Seedco Mobile App from SeedCo Group. SeedCo has developed a digital platform to disseminate product descriptions for their seed products and related Good Agricultural Practice (GAP) information. The platform can be accessed through a basic feature phone (using USSD), or smartphone app. Farmers are on-boarded to the platform through radio, TV, newspapers and farmer field days. Information can be accessed offline and refreshed when farmers are able to connect, with free Wi-Fi services occasionally provided by Seed Co through mobile units used during their field engagement with farmers. Farmers are able to interact with the platform through sending SMS or photos to Seed Co for a response.	Zimbabwe
185	■	■	■			SEGIA - (Serviço de Gestão de Informação Agrária/ Agricultural Information Management Service)	Iniciativa para Democracia e Cidadania (IDC)	✓	The Agricultural Sector Information Management Service (SEGIA, in Portuguese) is a combined service, conceived by the Iniciativa para Democracia e Cidadania (IDC), an NGO operating in Mozambique since 2013. This is an innovation launched in 2019 in the District of Maxixe, Inhambane Province/Mozambique, when IDC implemented the project for the implantation of "agro-entrepreneurs' incubators", in the lower part of the Inhanombe river. It emerged as a response to the challenge that local communities face in the agricultural and livestock sector. The lack of information and advance notification about natural effects affects production and productivity levels, mainly aggravating food insecurity at local and national level. Their system addressing planning, on-farm production, storage, post-harvest processing and access to markets. This Agri-VAS digital advisory system developed with the aim of mitigating food insecurity by improving production advice to Mozambican communities of small producers and breeders. They use voice channels (IVR, helplines) text (SMS, USSD) and apps. They provide data driven advisory tailored to farm level agroclimatic conditions and crops for decision making and maximizing productivity. They also use sensors, satellites, and drones to provide regional and localized weather forecasts. The provide digital tools to help farmers to diagnose plant diseases and advise on strategies for control and to prevent future outbreaks. Services are accessible via mobile phones, and USSD and enable farmers to keep digital records of livestock, including health and wellbeing, reduce disease and track	Mozambique

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									input use, procurement, revenue and sales. They also provide input financing for seeds, fertilizer, agrochemicals, through subsidies from government and organise farmers to group purchase at discounted prices. They would like to use wearable devices and GSP sensors and smartphones, but currently use smartphone Apps, website, dashboards and social media and messaging platform (Fb, twitter, WhatsApp, Messenger) and expect to use radio in the future. Their challenges include understanding the market and user needs, affordability, digital and language literacy, lack of technical capacity, data collection pressures and farmer uptake and behaviour change. They are still at an R&D stage in development of this start-up idea, and primary users use their applications based on individual subscription fees but currently not a profitable model. They have been supported by their own funds, incubators but fundraising is an issue. Their database needs further development and is currently not available on a platform, but their services have taken into account explicitly the needs of disadvantaged groups. They have 53 current users and 213 registered users.	
186	■		■			SHERPA	Blue North Sustainability	✓	SHERPA from Blue North Sustainability is a specialised consulting company supporting businesses in the agriculture and food sectors in proactive clarification, development and implementation of sustainability strategies. SHERPA was launched in 2019 and expertly guides and supports businesses on the challenging & complex journey to achieve true and lasting resilience, viability & sustainability. It is operating in Malawi, South Africa and Zambia. Developed by Blue North Sustainability, SHERPA is an integrated on-line management system specifically designed to support & empower business owners, managers and management-teams within agricultural supply-chains, in the development and implementation of proactive, relevant and impactful sustainability strategies for their businesses. It has 52 active users and 305 registered users providing them with Smart advisory: Data-driven advisory based on tailored, farm-level agro-climatic and crop-specific information to support decision making, maximise productivity and reduce costs. Technologies such as sensors, satellites and drones, as well as big data analytics and AI, underpin many of these services.,	Malawi, South Africa, Zimbabwe

#	■ Digital Advisory ■ Agri-Fina Services □ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									Record keeping: Digital tools that enable farmers to keep detailed records of livestock, including health and feeding data, to help mitigate diseases and avoid missed conceptions. Record keeping tools are also used to keep details of input usage, procurement, cost and revenue and sales records., Information for farms to develop, manage, measure and report a sustainability strategy for their business. SHERPA is designed to enable farmers to take full ownership of the sustainability strategies for their farms, to be in a proactive position in relation to market access requirements and to be able to comprehensively report to their stakeholders. Sherpa is a bottom-up approach and an alternative to the prescriptive "top down" approaches most often used. It puts the control of the sustainability agenda in the hands of the farmer/business management. It covers all aspects of sustainability in a holistic and integrated way, allowing the business to "see", measure and improve the whole system towards greater resilience and viability. The innovation helps build greater resilience and viability and uses computers, landlines, a website, GeoData and cloud-based databases. The advisory addresses a knowledge gap and helping farmers through reporting on multiple prescriptive standards. They have been challenged by digital literacy limitations, access to device, data collection and farmer uptake and behaviour change as well as lack of mobile coverage. They facilitate planning, on-farm production, post-harvest processing and access to markets. They are scaling towards replicating this in other countries, have funded themselves using their own resources and charge individual subscription fees, business subscription fees and an aggregated reporting service vis MS PowerBi over and above SHERPA licenses. They have not taken specific actions for inclusivity. They have worked with Hydrologic based in the Netherlands that also uses ICT solutions to ensure water systems are more weather resistant and climate adaptive. They have also worked with Pixofarm that have developed an App based system to monitor accurate yields on farms. They use noise resistant image processing, machine learning for forecasting and AI for enabling accurate fruit analysis.	

#	■ Digital Advisory ■ Agri-Fina Services □ Digital Procurement ■ Agri e-Commerce ■ Smart Farming	Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
187	■ □ ■ ■	SIEL ((Système d'Information Economique sur les Légumes) /	Ceffel	✓	SIEL (Système d'Information Economique sur les Légumes) of Ceffel. SIEL is a platform for farmers, collectors and buyers to meet. It allows to identify the price trends on fruits and vegetables, to allow the producers to choose their market, to know the needs in fruits and vegetables and thus to program the cultural calendar.	Madagascar
188	■ □ ■	SIEL+	Ceffel (Conseil Expérimentation Formation en fruit et légume)	✓	SIEL + of Ceffel. It is a tool for bringing together supply and demand.	Madagascar
189	■ ■	Simulation de dynamique spatiale avec Ocelet	CIRAD	X	Simulation de dynamique spatiale avec Ocelet of CIRAD. Used for several years to simulate the spatio-temporal dynamics of landscapes. This method is based on interaction graphs to simulate the interdependence between landscape elements and allows to integrate this interdependence in the manipulation of spatial information such as mapping. It has contributed to improve the robustness of the mapping of agricultural plots, and to simulate their spatio-temporal evolution according to different scenarios based on farming strategies.	Madagascar
190	■	SKAN - Sharing Knowledge Agrifood Networks	INOVISA	✓	SKAN This is a Sharing Knowledge AgriFood Network - INOVISA - Associação para a Inovação e Desenvolvimento Empresarial. This emergent innovation is created by INOVISA (established in 2013) which is an NGO and includes a platform sharing knowledge between the Portuguese speaking countries on agrifood, forestry and the environment. They have 260 active and registered users and share information on good practices to increase efficiency and productivity using computers, a dashboard and portal but currently face operational constraints.	Angola, Mozambique
191	■	Skudu Exact	Skudu.co.za	✓	This is an innovation implemented in Malawi, Mozambique, Namibia, South Africa and Zimbabwe. Skudu Exact launched in 2019 provides smart advisory: Data-driven advisory based on tailored, farm-level agro-climatic and crop specific information to support decision making, maximise productivity and reduce costs.	Malawi, Mozambique, Namibia,

#	■ Digital Advisory ■ Agri-Fina Services ▨ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									It addresses planning, inputs and on-farm production. Technologies such as sensors, satellites and drones, as well as big data analytics and AI, underpin many of these services. It enables farmers and agronomists to effortlessly automate and expedite plant nutrition guidelines for multiple blocks and fields and product guidelines are issued specific to crop growth state and ordering and application for soil correction. Skudu's algorithm generates the requirement for lime, gypsum, fertiliser and foliar feed specific to the crop, growth stage and region based on provided soil and leaf sample analyses. They have 400 registered users and 50 active users. Their challenges include bridging time and technical capacity to generate plant nutrition guidance (content). They have also had constraints on farmer uptake and technical usability of the platform. They are transitioning to scale, have been funded by technology investors and charge business subscription and transaction fees.	South Africa, Zimbabwe
192	■	■	▨			Small-Scale farmer seed production	Good Nature Agro	✓	Small-Scale farmer seed production from Good Nature Agro (2014). This is an integrated agriculture digital tool that can monitor production, logistics and supply of the legume value chain products and services. It has 15,000 users in Zambia and Malawi.	Malawi, Zambia
193		■	▨	■		Smart Identity e-KYC	Angle Dimension	✓	Smart Identity e-KYC by Angle Dimension for Malawi aims to address know-your-customer (KYC) issues that are prevalent in the financial sector. The innovation is aimed at industries such as banks, telcos, government agencies, insurance companies and NGOs. The Smart Identity solution helps businesses simplify the onboarding of customers and enables the use of a digital ID through facial recognition, fingerprint reader, and QR code scanning.	Malawi
194					■	Smart Solutions for Agriculture by HMT	Harel Mallac Technologies (HMT)	✓	Smart Solutions for Agriculture by Harel Mallac Technologies (HMT). Rapidly emerging technologies that capture, manage, communicate, and use information in digital form are dramatically transforming the way that farming and agribusiness are done across the globe, especially for large commercial farms. Through the Mauritius Research and Innovation Council (MRIC), Harel Mallac	Madagascar, Mauritius

#	■ Digital Advisory ■ Agri-Fina Services ▪ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									Technologies (HMT) has developed an AgriTech platform to unleash the power of IOT and AI for farmers thus accelerating the development of its innovative business solutions in the agriculture sector. The platform supports IoT enabled systems to monitor critical parameters like water content and NPK in the soil medium, automate irrigation and fertilization whilst considering weather forecasts, and monitoring intrusion in real time. The AgriTech platform is powered by an intelligent engine able to forecast yield of the cultivations by consolidating live and statistical data. The platform was launched in 2020. The platform uses computers, sensors (weather stations, IoT of things devices, website, dashboard, Portal RaWAN network. Smartphones and websites are being sued and cloud-based software as a service. The initiative deals with planning and on-farm production. It is currently at the proof-of-concept phase but aiming to start commercialising and has receive a government grant and committed internal resources. They charge individual subscriptions and business subscription fees and have currently piloted with 5 users. The equipment monitoring involves irrigation to enable farmers to remotely control and track and maintain equipment for farming operations and leads to a reduction in water consumption and waste. They have awaited approval by the ICTA regulatory body of the frequency allowed since their sensors are LoRa (long range, low power wireless based). They have also been challenged in understanding the market and user needs. Procurement of vendors has been challenging as is user affordability, internal technical capacity and data collection. Farmer uptake and behaviour change remain challenges. The technology is believed to be inclusive of women.	
195	■	■	▪	■	■	Smart Village Agri hubs	UjuziNet Edtech Limited	✓	Smart Village Agri hubs from UjuziNet Edtech Limited. They partner with entrepreneurs, agronomists and innovators to convert local agro inputs shops into Smart Village AgriHubs that function as Agricultural Support Centres with all farmers' support tools under-one-roof by using their farm management software integrated to all Village Agri Hubs. With this partnership, they join hands together	Tanzania

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									to incubate small scale and emerging farmers into fully- fledged, future-fit, sustainable enterprises attaining higher improved quality yields, participating in commercial supply chains and enabling multinationals in the food and beverage sector to source a reliable supply of high-quality raw materials from their network of small-scale farmers registered in their Smart Village AgriHubs (Kliniki za Kilimo). They provide value through integrated agronomic support services that combine technology and latest research developments to ensure current farming demands are met with knowledge and confidence.	
196	■	■	■	■	■	SmartFarmer	Riskflow DBS	✓	Smart Farmer of Riskflow DBS. This is a private sector company and this innovation was launched in 2019. Smart Farmer is an agriculture value chain connector, linking agricultural communities to value adding services through networks with markets, suppliers, service providers, other farmers and relevant government departments. It achieves this through the provision of user friendly, efficient, and flexible ICT-based services which cut across many functions and access channels. The value of Smart Farmer is in assisting farming communities and other stakeholders in doing things smarter, with transparency, accountability and efficiency, while driving profitability. As a response to the problems faced by agricultural communities, Smart Farmer provides the following services: Peer-to-Peer communication for Farmer-to-Farmer Interaction, Funder-to-Farmer Communication, Government-to-Farmer Communication, Price tracking and reporting, Agricultural alert systems (sending and receiving), Commodities offer and bid facilitation, Location services for service providers, Production information systems e.g., best practices, planning, e-Extension services. The Agri-VAS service assist farmers throughout the production cycle and livestock information and market prices – from planning to sale stages, whether locally, regionally or globally. Smart Farmer offers a new way through which information systems in agriculture are vastly improved. Agri VAS are delivered via voice channels (IVR, helplines), text channels (SMS and USSD) and via apps., Smart advisory: Data-driven advisory based on tailored, farm-level agro-climatic and crop specific information to support decision making, maximise productivity and	Botswana, Lesotho, Malawi, Mozambique, South Africa, Tanzania, Zambia, Zimbabwe

#	■ **Digital Advisory** ■ **Agri-Fina Services** ▢ **Digital Procurement** ■ **Agri e-Commerce** ■ **Smart Farming**					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									reduce costs. Most of the services are accessible via mobile applications and require a farmer to upload a picture of the infected plant for diagnosis. Some services are also accessible via USSD. Also includes national and regional-level pest and disease early warning systems., Record keeping: Digital tools that enable farmers to keep detailed records of livestock, including health and feeding data, to help mitigate diseases and avoid missed conceptions. Record keeping tools are also used to keep details of input usage, procurement, cost and revenue and sales records. The other product is the CashFlow Optimiser to deal with open integrated and adaptive web based platform with details of dealers, counterparties, making use of Intelligent Financial Performance Monitoring components. a) The Primary Outcome of this Innovation is improved access to Finance through providing each farmer an Income statement balance sheet and cashflow, to assist them in accessing loans as well as keeping their Bio Data digitally and open for appraisal to Financial Institutions. b) Improved Yields through use of 3rd Party software that we have partnered with on our Platform such as Skudu to provide fertiliser and Insuring Yields through an Area Yield Index based Insurance model from PULA, our insurance partner. The regional initiative is active in Botswana, Lesotho, Malawi, Mozambique, South Africa, Tanzania, Zambia, Zimbabwe with 15,000 active users and 300,000 registered users and is in the transition to scale stage.	
197					■	SmartFarming SA	SmartFarming SA	X	SmartFarming SA deal with greenhouses, hydroponic systems, aquaculture, aquaponics, poultry farming and horticultural systems such as strawberry and lettuce farming. They deal with the application of modern technologies including	South Africa

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									systems and computers to manage temperature, humidity, water spray systems, water flow control.	
198				■		Soweto Uber	Soweto Uber	X	Soweto Uber of Soweto Uber. This is a webshop for all groceries and food stuff in Lusaka, Zambia. Soweto Uber is linking farmers and consumers.	Zambia
199			■			Survey 123	ESRI (Environmental System Research Institute)	✓	Survey 123 is a mobile application from ESRI (Environmental System Research Institute), a privately held company that invented the GIS (Geographic Information System) software concept. For a quick overview of the product, Survey123 for ArcGIS is a simple and intuitive forms-based data collection solution. It allows you to create, share and analyse data taken in the field.	Madagascar
200	■					Swaziland Livestock Information and Traceability System (SLITS)	Eswatini Government, Ministry of Agriculture	X	The implementation of the identification of livestock included a first stage that involved branding cattle with the country identification mark (shield) and a herd mark (dip tank of origin number). The second stage refers to SLITS which is the computerized identification system funded by the Government and supported by FAO. This system is currently under development by the Ministry of Agriculture, as part of the government's endeavour to transition from manual paper-based records to a system of digital records and to create a computerized livestock identification and traceability system that will control and monitor animal diseases, inhibit cross-border thefts of livestock as well as track livestock movements. The combination of first and second stage will combine brand marks with ear tags and will be monitored through a network of veterinary offices, registration, movement and animal health and brands database. Accompanying this will be a computerized system to track all movement and health information of cattle from birth to death. The system is expected to improve access to markets of livestock and livestock products, assist with the recovery of stolen animals or in disputes of ownership, contain animal diseases where there are outbreaks, production management and improve efficiency of Government controlled movement permits. They did not fill out the survey.	Eswatini

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming	Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
201	■ ■	SwiftVee	Swif Tech Law	X	Swiftvee' s mission is to reinvent agriculture through technology because the future is food and finding better ways to produce it. They pride themselves in being pioneers of online livestock trading in South Africa and the largest independent livestock trading platform. They are a Google Launchpad company bringing award winning technology to your operation. Our passion is to serve others. SwiftVEE (Livestock) is an Agri-platform addressing water scarcity, food security and market efficiency for the livestock sector. It brings the Agri-sector into industry 4.0. by offering substantial profit margins that facilitate sustainability and social impact. SwiftVEE has been recognised internationally for technology innovation and shortlisted as one of South Africa's top 100 most innovative companies (TT100). Its solution provides intuitive data and analytics with capacity to scale globally. The agricultural technology for industry 4.0 has arrived. SwiftVEE is a proudly South African solution for the global economy. As the world moves towards a digital reality the agricultural industry remains unchanged. Populations continue to rise which intensifies resource scarcity, food security and trade vulnerability. SwiftVEE provides technology to meet these challenges and enhance market efficiency. Through competitive innovation SwiftVEE ensures business is done better with higher profit margins and wider social impact.	South Africa
202	■ ■	The SunExchange	The Sun Exchange	X	The SunExchange which was formed in 2015 is the world's first peer-to-peer solar leasing platform, where one can own solar-energy producing cells and build an enterprise by leasing these cells to power businesses, with installations and maintenance taken care of by one of Sun Exchange's carefully selected installation partners. They leverage financial innovation through crowdsourcing to drive sustainable energy to enable social and economic benefits of accessible and affordable energy for all. They have 40+ solar crowd sales achieved and members across 180 countries, with over 1m solar cells sold totaling 5.2GW of clean energy. P2P solar leasing marketplace, where businesses, schools, and even	South Africa

#	■ Digital Advisory ■ Agri-Fina Services ▢ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									some individuals can benefit from the use of solar power, without paying the potentially crippling installation fees themselves.	
203	■		▢	■	■	ThirdEye	ThirdEye Mozambique	✓	This innovation is established by a Dutch NGO called FutureWater and operates in Central and Southern Mozambique, Kenya and the Netherlands. It is now a private commercial company in Mozambique. The company received support from bilateral donors (USAID and SIDA) and the Dutch Government of Foreign Affairs to pilot flying sensors in Mozambique. Over the three years of support, they transferred the skills to local operators who provide services to 3,500 farmers over 1,600 ha and support 400 small scale farmers. They use drones for mapping and subsequent technical advice based on the results of each flight. Flying with special drone cameras, processing the data on the computer, and uploading the already processed maps to the tablet for subsequent crop condition advice to the farmer concerned. These drones are low-cost, high resolution flying sensors at a height of 100 meters and take overlapping images to cover 100s of hectares accurately. The cache of images can be sent through Bluetooth and Wi-Fi. The sensors also measure the reflection of near-infrared light and visible red light so can produce a Normalized Difference Vegetation Index (NDVI) illustrating the photosynthesis of the vegetation and indicating biomass and reflecting values correlated with crop stress due to lack of water, lack of fertilizer, pests, or abundancy of weeds. They have 1,000 registered users. Smart advice: Data-driven advice based on agro-climatic and Agri-climate information tailored to specific farms and crops to support decision-making, maximize productivity and reduce costs. Technologies such as sensors, satellites, and drones, as well as massive data analytics and AI underpin many of these services., Pest and disease management: Digital tools that help farmers diagnose plant diseases and develop strategies to treat diseased plants and mitigate future outbreaks. Most services are accessible through mobile apps and require the farmer to upload a photograph of the infected plant for diagnosis. Some services are also accessible through the USSD system. It also includes early warning systems on pests and diseases at national and regional levels.	Mozambique

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									Equipment monitoring: Smart monitoring of equipment such as irrigation systems that allow farmers to remotely control, track and monitor their equipment and farming operations, resulting in reduced water consumption and waste., Shared smart assets: Digital tools that enable the economics of sharing assets such as tractors, drones, and other mechanized farming equipment. They offer smallholder farmers the opportunity to mechanize processes such as crop spraying, crop monitoring and land preparation. They offer training at different levels, piloting the drones, office skills related to processing imagery and advisory to farmers as well as e-Training modules. The challenges faced include understanding the market and user's needs, accessibility, lack of technical capacity and adoption or behavior change by farmers. They are in a scale up phase adapting their offering to other geographies and their business model is based on data usage charges, personalized services charges and they were funded by donations, business support and training and networking opportunities	
204		■		■		Tigo Kilimo	Tigo (Mobile phone operator - Telco)	X	Tigo Kilimo from Tigo. Tigo Kilimo is an agricultural value-added service (Agri VAS), operated by the mobile network operator Tigo. The service offers farmers relevant, timely and actionable information via mobile phones across three domains: agronomic practices on major crops, market price information, and weather forecasts. Content can be accessed via three mobile channels: Supplementary Service Data (USSD), Interactive Voice Response (IVR) and helpline.	Tanzania
205	■					Tsetse Control Mapping and Habitat Modelling	Scientific and Industrial Research and Development Centre (SIRDC)	X	Tsetse Control Mapping and Habitat Modelling from Geo-Information and Remote Sensing Institute (GRSI) (part of the Scientific and Industrial Research and Development Centre (SIRDC)). This entailed modelling the Tsetse habitat for the Matusadona area based on mapped Tsetse trap-sites.	Zimbabwe

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
206		■	■	■		Ubia Soko	AGRIInsight/Twigalpha	✓	Ubia Soko from AGRIInsight/Twigalpha. Ubia Soko is a unique multi-service platform developed by AGRIinsight Ltd where existing and new technologies/algorithms are combined in an innovative way to build a comprehensive business-support solution for farmers' families and servicing businesses	Tanzania
207					■	Vaya Tractor	Cassava Smartech (Vaya Digital Farmer/EcoFarmer)	✓	Vaya Tractor (2019) from Cassava Smartech (Vaya Digital Farmer/EcoFarmer). The Vaya Tractor platform allows farmers to hire, book and pay for farming equipment on their mobile phones by simply dialing *902#. Farming equipment available for hire on the platform includes, tractors, rippers, sprayers, spreaders, planters and disc ploughs, harrows and combine harvesters. This service is accessible to the over 1.4 million subscribers on the Vaya Digital Farmer platform.	Zimbabwe
208					■	Very Small Aperture Terminal (VSAT) for farmers	Botswana Telecommunications Corporation	✓	Very Small Aperture Terminal (VSAT) of Botswana Telecommunication Corporation (BTC). Very Small Aperture Terminal (VSAT), is a small telecommunication earth station that receives and transmits real-time data via satellite information that could be used by farmers	Botswana
209	■					Viamo platform	Viamo	✓	Viamo 321 Platform from Viamo. The Viamo platform is implemented in Democratic Republic of Congo, Madagascar, Malawi, Mozambique, Tanzania, Zambia. Viamo is a global Mobile for Development (M4D) organization that aims to improve lives via the power of mobile technology. With a presence in more than 20 major markets in Africa and Asia, Viamo is a global social enterprise that specializes in mobile engagement and Information and Communication Technology for Development. Viamo works in partnership with organizations to connect them and individuals through digital technology, in order for everyone to make better decisions. Viamo uses IVR technology for Agri-VAS for information dissemination and data collection. It also helps provide market linkages between farmers and consumers. It assists farmers with climate smart information hosted on a hotline that farmers can access on-demand and also provides market price information. Agri VAS are delivered via voice channels (IVR, helplines), text	Democratic Republic of Congo, Madagascar, Malawi, Mozambique, Tanzania, Zambia

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									channels (SMS and USSD) and via apps. Launched in 2017 it has 300,000 smartphone users and 8.5M registered users in the SADC region. The challenges they face, relate to understanding the market and user needs, device sharing, uptake by farmers especially women and girls, lack of mobile coverage, electricity. They have reached sustainable scale and charge commercial rates as a social enterprise. Development partners can use the platform for a fee to develop content and disseminate this to the subscribers of the platform.	
210	■					Video to increase the efficiency and effectiveness of agricultural advisory services and extension	Farming and Technology for Africa (FTA)	X	e-Extension video from Farming and Technology for Africa (FTA). The video is to increase the efficiency and effectiveness of agricultural advisory services and extension. Videos of Access Agriculture were translated in local languages.	Madagascar
211	■		■	■	■	Virtual ranching farming program	VIRTUAL FARMING PTY LTD	✓	VRFP app of Virtual Ranging Ltd. Virtual Ranching Farming program (VRFP)mainly is an app-based e-commerce platform where Individuals get in farming via mobile phone application and get to own and trade Livestock and Farm produce – Horticulture products. Through Agribusiness Insurance in reputable Insurance companies these farm products will be insured to avoid any loses and cover all risk through this program. This app manages Farmers produce' sellers and buyers' demand for livestock and Horticulture farm produce. Quality cows and farm produce will see Botswana becoming self-reliant on the national food security and international markets.	Botswana, Malawi, South Africa
212		■				Yoco	Yoco	X	Yoco is an African technology company providing payment applications mainly meant to create opportunities for entrepreneurs to get paid and be more successful. It is establishing new markets; building business tools and financial services that work for entrepreneurs. Offers mobile card machines that work with 3g Data, on-line cardless payments, on-line link payments. Also used as a business tool, as a source of capital and allows use of portal and POS integration. It also assists by making payments accessible for small businesses – often for the	South Africa

#	■ Digital Advisory ■ Agri-Fina Services ■ Digital Procurement ■ Agri e-Commerce ■ Smart Farming	Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
					first time. and has raised over $100M from some of the world's leading technology investors, who have backed companies like Nubank, Square and Stone. Yoco is popular with rural farmers in south Africa who use their services to transact at local Spaza Shops (convenient shops), which are used as last mile delivery for inputs by large retail and wholesale companies. Yoco has bridged the gap of the unbanked Market specifically in the farming communities.	
213	■ (Agri-Fina Services)	YouFarm	YouFarm	X	YouFarm is a Start Up enterprise and provides farmers with access to finance by getting people to crowdfund and invest in crops and livestock and share the profits with the farmers when the produce goes to market. This enables people without access to land to earn money by partnering up with farmers to engage in the agricultural value chain and production system. The platform is completing beta testing and has over 100 registered farmers and 600 registered crop and livestock investors in South Africa. They provide finance for farmers through an agent model, and through their digital platform, many from all parts of the world can invest. There are three revenue streams, the agents have an annual agency fee of which 20% profit margin is made by the business and a 3% success fee for every project that earns a profit. Profits are shared when produce is sold, farmers take 40% of the profit, investors share 20% and YouFarm Agents take 20% of the profit. They are looking for investment capital.	South Africa
214	■ (Digital Advisory) ■ (Digital Procurement) ■ (Agri e-Commerce)	Zaulimi	ACE	✓	Zaulimi by the Agricultural Commodity Exchange for Africa (ACE) is an inclusive mobile application which assists farmers and extension officers with essential production and marketing information for selected crops, livestock and baobab. Farmers are presented with detailed crop information on climate and soil requirements, planting, manure and fertilizer application, weeding, pest and diseases control as well as harvesting and storage. The crops featured currently include groundnuts, maize and soya. The content can be accessed offline. Market price information for major crops that are traded through ACE are also featured in	Malawi

#	■ Digital Advisory ■ Agri-Fina Services ▢ Digital Procurement ■ Agri e-Commerce ■ Smart Farming					Name of innovation	Name of the company	Survey ✓/X	Description of innovation	Operational Countries in SADC
									the app. The app also contains contact details of ACE field officers, government extension officers and public service providers.	
215	■	■		■		ZFU EcoFarmer Combo	[Cassava Smartech (Vaya Digital Farmer/EcoFarmer)](#)	✓	ZFU EcoFarmer Combo (2016) from Cassava Smartech (Vaya Digital Farmer/EcoFarmer). ZFU EcoFarmer Combo is a bundle of services, including EcoFarmer Maize or Cattle Tips and Weather Indexed Insurance, ZFU Membership, and EcoSure Funeral Cover, which farmers pay a subscription fee towards. They have 6,500 registered users.	Zimbabwe
216	■		▢	■		ZimAgrihub knowledge portal	[Welthungerhilfe](#)	✓	ZimAgriHub from Welthungerhilfe (2020). An interactive platform that provides a one-stop knowledge portal whereby all agricultural literature, video and audio files can be accessed by all stakeholders of Zimbabwean agriculture. Such stakeholders involve academia, corporate entities, development institutions and government entities. 600 active users (no registration required to use the Hub, so no total of registered users is kept).	Zimbabwe