Africa Future Lab for Innovation and Policy

Background Note: Food and Agriculture in Africa

July 28, 2022 | 11:00-14:30m (GMT+3) | **Digital**

About the Africa Future Lab

The Africa Future Lab for Innovation and Policy – a collaborative partnership between SEED and GO4SDGs – offers a platform for green SME stakeholders to develop future-proof solutions for challenges in the agriculture and food sector. The participatory lab process will connect policy makers, intermediaries and SMEs in a co-creation setting in order to develop tailored solutions in five action areas such as Innovation, Non-Financial Support, Finance, Policy and Market. The co-created solutions will provide concrete action items in how to better support African green SMEs applying circular technologies or business models operating in the agriculture and food sector.

The Africa Future Lab was designed to engage a community of 30-40 participants leveraging the expertise of key green SME stakeholders across the region. The Africa Lab is part of a Global Lab Series that engages green SME stakeholders in the Agri-Food and Textile-Fashion sectors across Africa, Asia, Latin America and West Asia. The practical insights of the regional labs will inform a New Green SME Action Agenda supporting the global advocacy efforts of the growing green SME community leading the way for future SME policies and frameworks.

The African Agriculture-Food SME sector context

The Agriculture-Food sector is a key driver of the Sustainable Development Goals. As the world's largest employer, changes in the agriculture-food sector have the potential to reduce poverty, promote social equity and improve livelihoods (UNEP, 2019). Over the past decades, huge progress in agricultural production has made it possible to feed a growing population, reduce real food prices worldwide and limit food-borne illnesses. This progress happened despite the added challenges of climate change-related effects on agriculture (FAO, UNDP and UNEP, 2021). However, today the agriculture-food sector is increasingly considered in terms of its own impact on the environment. Globally, food and agriculture are responsible for 26% of all greenhouse gas emissions. Moreover, 51% of all habitable land is used for agricultural purposes, as well as 70% of all freshwater withdrawals. Due to the use of pesticides and other harmful substances in agricultural practices, the sector is responsible for almost 80% of the global ocean and freshwater pollution (Ritchie & Roser, 2020).

While the threats of climate change and biodiversity loss impact the global ecosystem, the food and agriculture system is under additional pressure. These include the still growing population that will reach 9 billion people by 2050, increasing food demand by an estimated 60% globally. Additionally, chronic hunger persists, with roughly 10% of the population in developing regions suffering from hunger, while 30% of produced food is lost or wasted along its value chain (UNEP, 2017). These challenges have been exacerbated by the COVID-19 pandemic, which has disproportionately affected the world's most vulnerable groups (WHO, 2021).

There are 570 million farms in the world, 84% of which are smallholdings comprised of less than two hectares in size. These small- and micro-sized farms produce over one-Third of the world's food and even more in emerging economies (Ritchie, 2021). Throughout the remaining value chain, including

post-harvest, transport, processing and retail, agriculture-food SMEs play an important role, constituting over half of most food economies (ISF Advisors, 2021; Netherlands Food Partnership, 2021).

In sub-Saharan Africa, the agricultural sector employs 70% of the labour force and generates 20% of national GDP across the regions. In countries such as Niger and Chad, it stands as high as 38% and 46%, respectively (Pereira, 2017; World Bank, 2020). The agricultural sector is characterised by a large number of small- and micro-scale farmers, with 65% to 80% of the population depending on them as their primary source of livelihood (African Union & GIZ, 2012). While this trend continues, the number of medium-sized farmers has recently increased (Goedde et al., 2019).

The sub-Saharan African agricultural sector is under immense pressure from climate change and population growth. The region is expected to experience some of the harshest effects of climate change, with temperatures increasing as much as 3.5°C in some northern and southern parts of the region. The agriculture-food sector is particularly vulnerable to these challenges due to the weak (or complete lack of) infrastructure. Livestock and cropping systems are 95% rainfed, improved seeds and fertiliser remain limited, and 50% to 85% of farming work is done manually, without machinery or draft animals (Woetzel et al., 2020). The agricultural produce lost before and during the harvest could feed 250 million people. Poor processing and storage infrastructure leads to additional losses. Post-harvest food losses are estimated to be enough to feed almost 50 million people (UNEP, n.d.). Adding onto these challenges, sub-Saharan Africa has the fastest growing population in the world, putting even more pressure on the food system. The population of sub-Saharan Africa is projected to double in the next 30 years, leading to an even larger generation of young people (UN, n.d.). According to a recent study, two out of three young people outside urban areas in developing countries live near areas of high agroecological potential (Aduroja, 2021). Being home to the world's youngest population offers immense potential to connect the need for increased agricultural productivity with the creation of jobs for young people by promoting green and circular jobs in agriculture. Driven by the rising food demand, increased urbanisation and an emerging middle-class, there is already evidence that sub-Saharan Africa has embarked on an agricultural transformation. This transformation includes the growth of farmers' per-capita income, increased agricultural output and the emergence of commercially oriented African entrepreneurs who invest in the regional agricultural value chain (Ehui, 2019).

There are an estimated 33 million smallholder farms in sub-Saharan Africa who produce up to 70% of the regional food supply (IFAD, n.d.-a). SMEs are a crucial part of the regional agricultural sector. They provide a range of services, such as transport, logistics, sale of inputs (fertilizers, seeds, etc.) and improve market access for smallholder farmers (IFPRI, 2019).

Five Action Areas for the African Food-Agriculture SME Sector

1. Innovation

The sub-Saharan agriculture-food sector used to be characterised by stagnant and slow development processes. Limited agricultural education and training opportunities, inadequate access to technology, and lack of capacity building initiatives still hinder innovation. Small-scale farmers, who make up the majority of the regional agricultural sector, are especially affected (Dr Kirui & Festerling, 2022). However, the sub-Saharan agriculture-food sector has begun a transformation driven by the next generation, the digital revolution and the need to adapt to climate change. As said by Mike Nkhombo Khunga (2021), the Scaling-up Nutrition Global Youth Leader from Malawi, "*we do not farm like our parents and grandparents, nor do we eat the way our forebears ate*". Well educated and informed about the dangers of climate change and malnutrition that the region is facing, the next generation of sub-Saharan African farmers aims to drive innovation and develop future proof solutions. For instance, **a young women-led company began developing the fish farming industry at the Lake Toho in Benin to address the local issue of animal protein deficiency.** Furthermore, the need for sub-Saharan Africa's agriculture-food sector to become more resilient has increased due to the worsening environmental crisis. The digital revolution in the region has provided many tools to enable development and progress towards the adoption of technical, institutional and systematic innovations. Due to the improved access to digital technologies among small- and micro-sized farmers, synergies between top-down discoveries driven by research institutes and bottom-up innovation led by local

SMEs have emerged (Dr Kirui & Festerling, 2022). For example, **green SMEs such as ColdHubs in Nigeria and Purdue Improved Crop Storage (PICS) in Cameroon have found innovative tools to reduce food losses**. ColdHubs' storage centres, running on solar power, have helped farmers reduce food losses by 80%, while PICS' storage bags, by Purdue University in collaboration with smallholder farmers, have helped reduce the risk of pest and mould during storage (Fagundes, 2019).

Increased regional cooperation has helped to bring these innovations to scale. For instance, **the West Africa Agricultural Productivity Programme (WAAPP) facilitates sub-regional coordination among 13 West African countries, including Mali, Senegal and Burkina Faso**. The programme was launched with the support of the Economic Community of West African States (ECOWAS) and the African Union's New Partnership for Africa's Development (NEPAD). It has enabled innovation in the generation, dissemination and adoption of improved seeds across the sub-region and has the potential to be expanded across sub-Saharan Africa. Moreover, the programme helped raise average incomes of agriculture-food based SMEs by 30% (Ehui, 2019; WAAPP, n.d.).

2. Non-Financial Support

The agriculture-food sector in sub-Saharan Africa has not benefited sufficiently from the many advances in agricultural technologies. This is why 50% to 85% of farming continues to be done manually across the region (Woetzel et al., 2020). Indeed, finance has been a primary factor in this lack of access to these new technologies and techniques. However, non-financial support is of particular importance in this sector, as using these new technologies requires training and education on how, when and where to use them. A study conducted by the Jameel Poverty Action Lab in Western Kenya found that only 65% of farmers had used fertiliser over the past year. Only 24% reported being aware of the correct fertiliser dosage to maximise the effect while limiting environmental harm. This is despite previous research showing that the proper use of fertilisers can increase yields by about 48% (Robinson et al., 2017). According to current estimates, 37% of farmers across the region live on degraded soil farms due to the non-use or misuse of these products (FAO, 2022).

To improve the regional agriculture-food sector's efficiency, **AGRA, a farmer-centred, African-led and partnership-driven institution aims to transform smallholder farming, increase incomes and improve food security through capacity building and training** (AGRA, n.d.). Further capacity building and education will be crucial considering the ongoing transformation driven by the digitisation of the region. Online platforms and databases can be widely accessed easier than previous advances in agricultural technology. Thus, capacity building on the proper use of these tools becomes even more critical. Many programmes have emerged recently at the local and regional level to improve capacity building in the agriculture-food sector. For example, **the Programme for Capacity Development in Africa (P4CDA) works to support and promote the creation and implementation of open data platforms in the agricultural sector**. The organisation works directly with diverse stakeholders, including farmers, farmer associations, and public and private sector actors (FAO, 2022).

3. Finance

Access to better financial services is vital to empower the sub-Saharan agriculture-food sector. Financial products, such as loans and insurance, enable farmers to scale their activities, become more resilient and plan with more certainty. Unfortunately, the agriculture-food sector is associated with high risks, especially in the region. Thus, financial institutions have traditionally avoided dealing too closely with the sector. Only 10% of the portfolio of commercial banks goes to agriculture. Smallholder farmers, especially women-led farms, are even more disregarded, as they can rarely provide sufficient collateral. This lack of financing worsens due to the advent of climate change (African Union & GIZ, 2012). On the one hand, climate change makes it more necessary for farmers to access loans to invest in resilience or insurance to be protected. On the other hand, climate change increases the risk in the agricultural sector, which makes it even more challenging to access this financing.

A recent study by McKinsey estimates that in order to fulfil the agricultural potential of sub-Saharan Africa, investments of 65 billion USD are required for irrigation alone. Additional sums would be

needed for infrastructure, fertilisers and seed improvements (Woetzel et al., 2020). With increased attention paid to the agriculture-food sector in sub-Saharan Africa, there is a growing availability of funding for projects. The key challenge remains to improve the accessibility of finance, especially for smallholder farmers.

There are initiatives both from the public and private sector, as well as many newly emerging public-private partnerships, aiming to improve the financing for the agriculture-food sector in sub-Saharan Africa. For example, the African Development Bank currently hosts the *Making Finance Work for Africa Programme (MFW4A)*. ***MFW4A*** **aims to develop and implement risk management solutions for the agricultural sector as a means to improve access to finance and managing emerging risks.** The programme is a partnership between the African Union, the New Partnership for Africa's Development and the Comprehensive Africa Agriculture Development Programme (MFW4A, n.d.). Additionally, Mauritius-based investment company ***Lending for African Farming (LAFCo)*** **targets its finance to agricultural SMEs that work with smallholder farmers and improve food security**. LAFCo aims to provide finance for the day-to-day working capital needs of SMEs, to enable them to improve planning, reduce risk and provide growth opportunities (LAFCo, n.d.).

4. Policy

For a long time, policymakers did not sufficiently consider the agriculture-food sector. With the increasing impact of climate change, food crises have become more frequent again and the question of food security is rising to the top of policymakers. Additionally, the impact of the agriculture-food sector itself on the environment is receiving more attention. Therefore, the sector increasingly gains policy interest from local, regional and national governments, as well as from international organisations (World Bank, 2013).

International organizations, such **as the UN Environment Programme (2018) work to improve the policy environment for SMEs in the agriculture-food sector**. UNEP targets three policy levels: First, awareness-raising is directed towards producers and consumers, accompanied by knowledge management tools. Secondly, sustainable value chains are promoted and improved through better standards and assurances, access to technology and finance is enhanced and markets are made more accessible for farmers. Finally, the build-up of better ecosystem services is supported through policy partnerships at the local, national, regional and global levels.

Regionally, policies focus on food security, especially in the Sahel region, as well as economic competitiveness. To realise this, the policies aim to establish a supportive agribusiness environment across sub-Saharan Africa (African Development Bank Group, 2016). Additionally, current regional strategies, such as **the Feed Africa Strategy of the African Development Bank (2016), include considerations of the many SMEs in the sub-Saharan agriculture-food sector**. These considerations focus on establishing partnerships with and among SMEs and better access to finance and the market.

In a bilateral effort, a delegation from Ghana visited Nigeria to discuss research towards agricultural practices and engage in a dialogue on the first results of Nigeria's new National Policy on Science, Technology and Innovation. During the visit, **Nigeria's Minister of Science, Technology and Innovation, Dr Ogbonnaya Onu, urged to "*deploy indigenous innovations to boost food security*".** Instead of relying on foreign aid and external knowledge, the Minister hopes to utilize the vast and existing knowledge to improve food security and sustainable agricultural practices (Isaac, 2022).

5. Market

Improved market access presents a great opportunity for smallholder farmers. It boosts productivity, increases incomes and improves food security, thus reducing poverty and hunger. However, many producers, especially small- and micro-scale farmers from rural areas, face difficulties accessing markets and selling their goods. For instance, insufficient transportation infrastructure, and lack of business skills and bargaining power compared to more prominent actors on the market hinder smallholder farmers from realising their economic potential (IFAD, n.d.-b). Fortunately, the situation has improved over the past decades. Prices for agricultural products have increased and food markets are booming, especially in the urban areas (World Bank, 2013).

Several initiatives aim to improve market conditions for the agriculture-food sector. Following the Food and Agriculture Organization's (FAO) Regional Conference for Africa in Malabo, Equatorial Guinea, FAO Director-General Mr Qu Dongyu (2022) referred to **the African Continental Free Trade Area (AfCFTA) as a major opportunity to boost economic growth and transform the regional agriculture-food sector**. With 1.2 billion consumers, the AfCFTA is the largest free trade area in the world in terms of participating countries and enlarges the market for agricultural goods. Additional programmes hope to ensure small- and micro-scale farmers' access to this market. For example, the productive alliances approach has been applied regionally, particularly in Mali and Sierra Leone. **The productive alliances approach includes an investment from the public sector to smallholder farmer organisations to kick-start the scaling of their activities to better compete in the market**. By connecting farmers and buyers, producers better meet consumers' demand and enter into a virtuous economic cycle within dynamic markets (Sennhauser & Obreque, 2017).

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