

Access to Inputs for Agricultural Exports in Sierra Leone

Improving policies and regulatory frameworks for access to seeds, fertilizers and essential machinery

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About the paper

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Acronyms

Unless otherwise specified, all references to dollars (\$) are to United States dollars, and all references to tons are to metric tons.

AGOA	US African Growth and Opportunity Act
AFCFTA	African Continental Free Trade Area
AU	African Union
CET	Common External Tariff
DTIS	Diagnostic Trade Integration Study
EBA	Everything But Arms (EBA)
ECOWAS	Economic Community of West-African States
EPA	Economic Partnership Agreement
ESG	Environment, Social and Governance
ETLS	ECOWAS Trade Liberalization Scheme
FTA	Free Trade Agreement
GDP	Gross domestic product
FDI	Foreign Direct Investment
ITC	International Trade Centre
NTM	Non-tariff measure
SME	Small and Medium Sized Enterprise
TSI	Trade Support Institution
WTO	World Trade Organization
SLeCAD	Sierra Leone Chamber of Agribusiness Development
MAF	Ministry of Agriculture
MTI	Ministry of Trade and Industry
PMB	Produce Monitoring Board
IFDC	International Fertilizer Development Centre

Executive summary

Access to agricultural inputs continues to pose a severe challenge to agricultural exports, including cocoa, palm oil and cassava, in Sierra Leone. Stakeholders highlighted difficulties in accessing seeds, fertilizers and essential machineries. If access constraints for these inputs can be overcome, agricultural output and ultimately farmers' incomes would be improved.

Stakeholders indicate that the domestic marketplace for agricultural inputs is underdeveloped in Sierra Leone, despite recent policy efforts to transition from an underperforming public-provision model to private sector-led supply chains. Agricultural inputs are often either unaffordable or completely unavailable. When they are available, quality standards are poorly enforced, leaving farmers with adulterated, mislabeled, or defective seeds and fertilizers. The expertise and spare parts needed to operate and maintain essential processing machinery is often unavailable, leaving farmers reliant upon poor quality locally fabricated tools or antiquated, unhygienic and unproductive traditional processing methods.

Recommendations suggested by stakeholders for agricultural inputs were grouped into four types: i) cultivating demand, ii) public good complements, iii) support to private-sector provision, and iv) support to policy design and implementation. Stakeholders agreed, for instance, with the need for interventions to support farmers with the awareness, knowledge, and skills to effectively utilize inputs and to provide public good complements, like the design and enforcement of quality standards on inputs. Most stakeholders agreed with the direction of government policy but argued that greater effort must be put into implementation.

The purpose of this Position Paper is to provide a background to the challenges faced in accessing agricultural inputs in Sierra Leone and to collate recommendations by stakeholders for subsequent policy development.

1.0 INTRODUCTION

A lack of affordable access to agricultural inputs continues to severely constrain farmers in Sierra Leone. Government and private sector stakeholders identified improvements in agricultural inputs – specifically seeds, fertilizers and essential machinery – as a key priority in initial public-private dialogues held in 2020. This Position Paper builds on those and subsequent dialogues and stakeholder interviews to provide an overview of the challenges faced in accessing agricultural inputs in Sierra Leone and collates preliminary recommendations by stakeholders on possible ways forward.

A supportive use of quality seeds and fertilizers, as well as essential production machinery, has been proven to be a key factor in realizing reliable yields and trade competitiveness. Good quality seeds, fertilizers and essential machineries may also contribute to better quality of the agriculture produce, resisting weather changes, and showing better resilience to disease threats. Overall, it can be said that productivity-level inputs determine yield volumes, prices and ultimately farmers' incomes.

Based on consultations held with key stakeholders, it is clear that farmers in Sierra Leone experience important challenges in gaining access to seeds and fertilizers, as well as machinery and equipment for processing produce. As a result, businesses face burdensome delays and considerable costs that undermine the development of the agricultural sector and the potential of cocoa, palm oil and cassava exports.

Continuous dialogue and exchange of perspectives between the government and the private sector and other stakeholders, is crucial. Firstly, to create mutual understanding, and identify and address gaps in domestic legislative frameworks and processes. And secondly, to ensure that upcoming reforms and policy-changes incorporate the right balance and mix of policy instruments chosen.

This Position Paper is based on stakeholder interviews through a semi-structured interview methodology covering key stakeholders elaborated in Annexes A and B with recommendations that were validated by stakeholders in a dedicated public-private dialogue held in Freetown in March 2023. It articulates the challenges faced in accessing agricultural inputs across three priority value chains: cassava, cocoa and palm oil. Policy issues are described and key challenges are analysed, before a set of recommendations are provided on the basis of stakeholder feedback for policy reforms aimed at improving access to seeds, fertilizers and essential machinery.

These efforts were supported by ITC under the EU-funded WACOMP Sierra Leone programme. This programme supports trade-related advocacy and dialogue as a tool for improving the competitiveness of Sierra Leone's agri-business sector, targeting both supply-side and demand-side constraints and opportunities.

2.0 POLICY AND MARKET OVERVIEW OF KEY AGRICULTURAL ANPUS

2.1 Description of key agricultural inputs: seeds, fertilizers and essential machineries

The agricultural inputs considered in this position paper are seeds, fertilizers and essential machinery. These were identified by stakeholders comprising representatives of both the public and private sector in public private dialogues held successively in Sierra Leone between 2020 and 2023. Each of these inputs were considered by stakeholders to entail severe access or availability challenges that inhibited productivity in the cassava, palm oil and cocoa sectors.

These findings were consistent with existing research on agricultural challenges in Sierra Leone. The 2015 Sierra Leone Comprehensive Food Security and Vulnerability Assessment reported that the most commonly cited constraints faced by farmers were the unavailability of improved seeds (cited by 45 percent of farmers), lack of access to credit (cited by 41.5 percent), insufficient household labour (31.5 percent), pests or crop disease (27.7 percent), lack of tools (24.7 percent), and the unavailability of fertilizer (19.1 percent) (World Bank, 2021). Access to seeds, fertilizers and essential machinery amounted to three of the top six cited constraints.

As a result of access constraints, agricultural input utilisation remains low in Sierra Leone. The use of improved varieties of seeds by farmers is low for most agricultural commodities. Fertilizer use - at 4kg/ha in Sierra Leone, compared to 9kg/ha for sub-Saharan Africa - is low due to high prices and a lack of commercial markets for fertilizable commodities. Land preparation, cropping, harvesting and threshing is largely done by hoe, cutlass and bare hands, and farm labour is remains largely unformalized own-account employment or otherwise relatively expensive, and dominated by women. There is a lack of processing facilities, and markets for machinery maintenance and spare parts.

Low inputs utilisation contributes in turn to low crop yields. Yields remain low at 5.5mt/ha for cassava, 100-200kg/ha for cocoa, and 4t/ha for oil palm. In comparison, yields of 35mt/ha for cassava (Adiele, et al, 2020), 400-530kg/ha for cocoa (Bymolt, 2018), and 32mt/ha for palm oil are feasible in other West African countries (Rhebergen, 2019). This feeds an uncondusive spiral in which low productivity undermines market opportunities which in turn undermine investments into inputs to boost productivity. Farmers ultimately face conditions in which they can extract less value from their farms.

2.2 Policy and institutional context

The Medium-Term National Development Plan (MTNDP, 2019-2023) has served as the overarching policy strategy framework for the Government of Sierra Leone to steer the country towards improved economic growth and development impact. Economic diversification was an important policy objective under the Medium-Term National Development Plan 2019-2023, including diversifying through the agriculture, fisheries, and tourism sectors.

The main policy direction for the agricultural sector in Sierra Leone is guided by the National Agricultural Transformation Programme 2023, which details plans for achieving the agricultural objectives of the MTNDP. The NATP focuses on developing agricultural value chains by improving the availability of inputs (seeds and fertilizers), increasing productivity and production, and establishing crops and livestock processing zones across the country. This strategy intends to address high post-harvest losses, improve linkages between agriculture and industry, and access to financial services and markets. It targets rural communities, particularly women, the youth and farmer-based organizations, as well as improving rural institutions and infrastructure aimed at revitalising rural communities. Implementation of these policy directions has been partial, with policy bottlenecks and constraints undermining effective delivery in many instances.

The most significant policy change for access to inputs in Sierra Leone has been the gradual shift from an underperforming centralized government-led model of procurement and distribution to a private-sector led model since 2017. Several new agriculture institutions are in different stages of being established, to regulate private sector players within this new model. These include the National Fertilizer Regulatory Agency Act

2018, the National Fertilizer Policy 2017, the Seed Policy 2017, and the Sierra Leone Seed Certification Agency Act 2018. For essential machinery, a Machine Rings initiative was designed involving lease-to-own public-private partnerships with operators leasing machinery from the government. In most instances, these policy changes have not yet been fully implemented. The MAF maintains the responsibility to provide government-led agriculture advisory/extension services to smallholder farmers.

2.2.1 Seeds policy

Seed policy changed with the introduction of the Sierra Leone Seed Certification Agency Act (SLeSCA) 2018 (Act No. 5 of 2018) and the Sierra Leone Seed Certification Agency Regulations (2020). These seek to regulate a private sector driven seed value chain that will replace the former centralized government-led seed sector, which relied on state subsidies and was found to be ineffective (World Bank, 2021). The SLeSCA will govern seed certification, quality declaration, seed sampling, packaging, labelling, seed storing and testing. It requires seed growers to be registered and determines the conditions and fees under which licenses are granted for seed inspectors, samplers, analysts, testing, processing and selling.

In accordance with the SLeSCA, the importation of seeds requires approval by the Controller of Seeds based on compliance with seed standards and is restricted to actors with seed seller licenses. The Seed Certification Agency Regulation is aligned with the ECOWAS Harmonized Seed Regulations ensuring access to varieties already listed in the West Africa Catalogue of Plant Varieties and Species. Beyond this, seeds for plant varieties are released only after two years of testing by the Seed Certification Agency and the national varieties catalogue needs more frequent updating. The Government of Sierra Leone policy is for domestically grown seed varieties to replace the need to imported varieties (Sierra Network, 2022).

The SLeSCA aims to improve the availability, affordability and standards of quality-certified seeds. However, the SLeSCA is a relatively recent policy development and the formal private seed sector remains in its nascency (Mabaya, et al, 2021). Most farmers continue to rely on the informal sector for access to seeds and face substantial issues with seed quality and mislabelling.

The seed sector is in theory supported by the Sierra Leone Agricultural Research Institute (SLARI). The Institute was established in 2007 through an Act of Parliament as the sole government agricultural research and agricultural technology generating body, for the benefit of the farming, fishing and forestry sectors in Sierra Leone. SLARI's work is guided by its strategic and operational plans that are aligned to those of the West and Central African Council for Agricultural Research and Development and based on the integrated agricultural research for development (IAR4D) paradigm.

SLARI intends to relaunch a Seed Multiplication Programme to focus on seed availability, access and quality. SLARI is currently the major breeder and supplier of cassava cuttings country-wide, providing the domestic breeding varieties of SLCAS 4, 5, 6, and 7, with a scaling-up supply program to achieve seed security. However, SLARI is reportedly seriously underfunded and struggling.

Private sector participation in seed sourcing remains in its nascency. Seeds are mostly accessed through Government programmes like AVDP (Agricultural Value Chain Development) and through INGOs such as Solidaridad and FAO. Large private estates such as Gold Tree, Planting Naturals and Natural Habitat also provide seeds as pre-finance planting materials to smallholder and out-grower farmers. Cocoa seeds (2 years hybrid first generation) are mainly sourced from Ghana while three oil palm varieties (Dura, Pisifera and Tenera) are mainly sourced from Malaysia and Ghana.

2.2.2 Fertilizers policy

The Ministry of Agriculture (MAF) developed and adopted its first ever national fertilizer policy in 2017, which shifted from a government-led fertilizer strategy to a private-sector-led strategy and set a goal of a fertilizer application rate of 50 kg/ha by 2029 (Tillen, 2019). To ensure continuity, this strategy was incorporated into the five-year plan (National Agricultural Transformation Programme 2023) of the current government's New Direction Agenda. The policy was harmonized with the 2012 ECOWAS Regulation on fertilizer quality control C/REG.13/12/12, the purpose of which was to harmonize the rules governing quality control of fertilizers across ECOWAS member states. To implement the policy, Sierra Leone's Parliament passed the National Fertilizer Regulatory Agency Act 2017.

The National Fertilizer Regulatory Agency (NaFRA) is now a new government agency in charge of regulating the fertilizer sub-sector, but is yet to be operational. When fully operational, the NaFRA will be responsible for:

- Regulating and supervising the packaging of fertilizer
- Inspecting and analyzing fertilizers distributed in the country (quality control)
- Regulating the importation and exportation of fertilizers
- Maintaining a National Fertilizer Registry
- Issuing licenses to importers, exporters, and manufacturers of fertilizers

The primary goal of the NaFRA is to improve fertilizer quality control through the regulation of a licensed private sector for fertilizers. It aims to promote a functioning market by facilitating the removal of trade barriers that impeded national and international trade in fertilizer. Currently, the market struggles with poor quality fertilizers, underweight bags and nutrient deficient fertilizer (Conteh, 2020). There is little quality control of fertilizers in the market and labs at SLARI and Njala University are not properly equipped for fertilizer analysis (Conteh, 2020). Adulteration of fertilizer with filler is common. Labelling is unregulated and farmers cannot be certain that bags of fertilizer contain the specified fertilizer at the weights advertised (Conteh, 2020).

NaFRA is yet to fully operationalized due to delays in the deployment of much needed resources for building capacities in its technical and administrative labour forces. It faces financing challenges with competing priority activities at the Ministry of Agriculture and Forestry.

The Ministry of Agriculture and Forestry were procuring as a centralized body agricultural inputs as seeds fertilizers and crop protection chemicals/materials and machineries/tractors (ploughing, harrowing and ridges services). The NAT 2023 transformation drive has led to the establishment of SLeSCA and NaFRA in a bid to decentralize the procurement system of GoSL into private sector-led participation through imports and supplies of cash and food crops across the country.

The major role and mandate of SLeSCA and NaFRA are to provide regulatory services to ensure seeds and fertilizers and other agro-chemicals being imported, sourced with the appropriate quality and quantity to meet demands.

2.2.3 Essential machinery policy

The policy to boost access to essential machineries involves engaging fourteen private sector operators to lease and manage fourteen 'Machine Rings' across the country. This approach replaced a previous centralized-procurement system and marks a new approach to promoting agriculture mechanization. The government has reportedly made available 410 machines worth Le168 billion to farmers through the public private partnerships. This new lease-to-own public-private partnership (PPP) arrangement intends to be 'business-oriented', and self-sustaining, with each Ring Operator paying the government for the full cost of the Machine Ring by the end of a lease period. Operators are expected to build profitable businesses that will allow them to make annual repayments to the government.

The approach is supported by an Agriculture Mechanisation Fund, that intends to be resourced from machine operators' annual repayments. The private sector will access this fund at concessional-interest rates to replace machines and grow their fleet. The Fund also intends to be used to train and certify operators to support mechanisation growth in the country.

The Government in the past used to source machines ranging from on-farm activity tractors to processing plants at community levels. These were managed by rural authorities without a business model, resulting in a lack of technical staff to offer maintenance, repairs and services. The non-availability of spare-parts and poor leadership of the management of these assets frequently resulted in damage to these machines. The advent of the NAT 2023 aims to encourage the participation of private sector-led initiatives in the agricultural machinery sector with well-structured business organizations, access to capital and business resources, and with the aim of developing a business climate to serve the agricultural space in doing business better.

2.2.4 Trade integration policy

To govern its overarching approach to trade the Government of Sierra Leone had developed a National Trade Strategy (NTS) in 2021,¹ which equally serves as a National Implementation Strategy for the AfCFTA Agreement. Many of the priority products identified in the NTS are agricultural goods. These comprise priorities with “unmet potential”, including cashew, coffee, cocoa, cassava, palm oil, lime, and ginger. Alongside priorities for “export diversification”, including coconut oil, groundnut oil, cocoa paste, sesame seeds, natural honey, pineapples and mangos, and bovine meats.

Sierra Leone’s trade policy entails a comprehensive set of complementary policies with a wide range of goals, as underlined in the WTO Trade Policy Review of Sierra Leone (2017), including inter alia, goals to; develop a transparent trade-regime; build the required capacity and infrastructure for increased participation in global trade; promote competition; protect consumers; and encourage inflows of aid, private investment, and migrant remittances. Furthermore, the Government supports initiatives that can contribute to eliminating trade-distorting measures, such as through WTO, and promoting trade with other African and ECOWAS countries.

Nevertheless, trade integration remains limited in Sierra Leone. Businesses from Sierra Leone do not currently take sufficient advantage of benefits from trade arrangements. Several underlying causes appear at play from a lack of information and awareness amongst all actors (business, customs and government), structural weaknesses in trade documentation and processes, and supply side constraints.

2.3 Market access conditions for key agricultural inputs

Access to agricultural inputs involves supply side dynamics that depend on government provision, domestic supply and imported supply conditions, often to differing extents. For instance, locally fabricated machinery is available in some cases, but may face quality and consistency constraints. Imported machinery can also be available, sometimes both from regional suppliers and suppliers outside of the continent, but often subject to availability and cost constraints.

The following tables show import access conditions for seeds, fertilizers and essential machinery. HS Codes are identified for each input at the four digit level or, where necessary, at the more detailed six-digit level. Import tariffs applied in Sierra Leone (usually) follow the ECOWAS common external tariff book and are at the same rate across ECOWAS countries. However, imports from other ECOWAS would (in theory) be duty-free, provided that they satisfy the ECOWAS Trade Liberalization Scheme conditions. The AfCFTA will see tariffs reduced on imports from other African countries.

As shown below, all of the input products identified are part of the ECOWAS AfCFTA schedule A products that will be liberalized most rapidly (between 5 and 10 years) under the implementation of the AfCFTA. After this point, Sierra Leonean importers will be able to import these goods from other African countries (beyond ECOWAS) duty free. Even when imported from elsewhere in the world, import tariffs on the identified agricultural inputs are reasonably low, varying from zero to five percent for fertilizers and five to 10 percent for agricultural machineries.

Cassava stem cuttings, cocoa beans, and palm oil seeds are used for variety multiplication to improve the yield or other characteristics of the crop. Import tariffs are low on each of these, with the exception of cassava for which customs codes do not distinguish between cassava for consumption and cassava cuttings for multiplication. In practice, palm oil seeds and cocoa beans are often sourced from other West African countries, such as Ghana, and may therefore benefit from duty-free preferences under the ECOWAS Trade Liberalization Scheme.

Figure 1. Seeds or varieties

HS Code	Description	Import tariff (%)	AfCFTA schedule
1207.10 (Palm nuts and kernels)	Palm oil seeds	5	AfCFTA schedule A
0714.10 (Manioc cassava)	Cassava stem cuttings	20	AfCFTA schedule A

¹ <https://repository.uneca.org/bitstream/handle/10855/49089/b1201736x.pdf?sequence=1>

1801.00 (Cocoa beans, whole or broken, raw or roasted)	Cocoa bean	5	AfCFTA schedule A
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Tariffs on fertilizers into Sierra Leone are low. Either a zero percent tariff or at most a 5 percent tariff is applied on fertilizers entering into Sierra Leone.

Figure 2. Fertilizers

HS Code	Description	Import tariff (%)	AfCFTA schedule
3101 (Animal or vegetable fertilizers)	Fertilizers	5	AfCFTA schedule A
3102 (Nitrogenous fertilizers)	Fertilizers	0-5	AfCFTA schedule A
3103 (Phosphatic fertilizers)	Fertilizers	0	AfCFTA schedule A
3104 (Potassic fertilizers)	Fertilizers	0	AfCFTA schedule A
3105 (Mineral or chemical fertilizers containing two or three of nitrogen, phosphorus and potassium)	Fertilizers	0	AfCFTA schedule A

Import tariffs on essential machinery are also low in Sierra Leone. Most agricultural machinery items face import tariffs of 5 percent. A small number of items, such as ploughs, face higher tariffs at 10 percent.

Figure 3. Essential machinery

Light/specific machinery			
HS Code	Description	Import tariff (%)	AfCFTA schedule
8479.20 (Machinery for the extraction or preparation of animal or fixed vegetable fats or oils)	Palm oil extraction machine	5	AfCFTA schedule A
8432.80 (other agricultural/horticultural machinery)	Palm oil mill structure & machine	5	AfCFTA schedule A
8437.80 (other machinery for cleaning, sorting or grading)	Cassava processing machine	5	AfCFTA schedule A
Heavy/general machinery			
HS Code	Description	Import tariff (%)	AfCFTA schedule
8701 (tractors)	Tractor	5	AfCFTA schedule A
8433 (harvesting or threshing machinery)	Combine harvester	5	AfCFTA schedule A
8424.82 (Agricultural or horticultural projecting, dispersing or spraying machinery)	Irrigation machine	5	AfCFTA schedule A
8432.10 (Ploughs)	Ploughs	10	AfCFTA schedule A

The relatively low tariffs on agricultural inputs into Sierra Leone is not unusual. Import tariff structures across most countries usually apply lower tariffs on inputs and intermediate goods – that help an economy to be more productive – and higher tariffs on final consumption goods. Tariffs are not, however, the only condition affecting access to imported inputs into Sierra Leone. In practice, accessibility and affordability can be undermined by high shipping costs, high port charges, technical barriers to trade, non-tariff barriers, or other taxes, charges and fees applied on imports.

3.0 KEY POLICY CHALLENGES FOR ACCESS TO INPUTS

3.1 Seed access challenges

The Sierra Leone Agricultural Research Institute (SLARI) should in theory host a seed bank and be engaged in the multiplication of seed varieties. In practice the Institute is severely underfunded and unable to adequately fulfill this role.

Government policy has recently seen an intentional shift from state-led seed provision to regulated private sector procurement and delivery of seeds. The private sector provision of seeds involves only a small number of actors. Though some are more established and experienced, many are new start-ups without much experience.

The former centralized government procurement and supply of seeds was constrained by bureaucratic procurement processes in the chain of command with no clear organized standard operating procedures. Supplies were not synchronized with the demands of planting periods and seeds that were available were often of poor quality or old-aged seed varieties with long planting period. Most seeds under the centralized programme did not meet minimum compliance standards or qualities prescribed in state regulations. Many issued seeds were of poor health, suffered from limited availability, and were difficult for farmers to access during planting periods.

3.2 Fertilizer access challenges

Extensive fertilizer market research and product testing found the existence of severe nutrient deficiencies in bulk blends due mainly to inappropriate blending technology, frequent bag weight shortages, low quality in some fertilizer imports, and degradation of fertilizer physical attributes due to manual handling and inadequate storage (IFDC, 2013).

A major factor limiting use of quality fertilizers and agricultural productivity is the unavailability of properly packaged fertilizers in quantities small-scale farmers can afford (IFDC, 2016). Most often, fertilizers available on the market are packaged in 50 kg bags and sold at prices that are unaffordable for small-scale farmers, effectively preventing them from applying fertilizers on their farms. Many mid-level fertilizer distributors, retailers and agri-dealers in West African markets repackage fertilizers into smaller quantities that fit into small-scale farmers smaller budgets. This solution, however, creates subsequent problems with respect to adequate packaging standards, adulteration, and storage.

The government of Sierra Leone provides little to no quality control of fertilizers on the open market. Corporate farms sometimes pay service providers such as the Sierra Leone Agricultural Research Institute (SLARI) and Njala University to test their imported fertilizers. However, the labs at SLARI and Njala University are not properly equipped for complex fertilizer analysis. Labelling is also unregulated: agri-dealers and retailers repackage fertilizers into smaller sizes without appropriate standards due to little inspection. Farmers cannot be certain whether these smaller repackaged quantities contain the appropriate and marketed ingredients at the weights advertised. Quality control issues like these decrease trust between agro-dealers and farmers and discourage fertilizers adoption among farmers (Tillen, 2019). There is anecdotal evidence suggesting high levels of mislabelled nutrient content and bag weight in Sierra Leone. Some bad actors' open sacs of fertilizer, replace portions of the contents with fillers, and sell the sacs for full price.

In their fertilizer market survey in Sierra Leone, Tillen Group (2019) found that the majority of fertilizer imported in 2018 into Sierra Leone was Urea and various NPK blends. Urea comprised 41% of all types of fertilizer while NPK 4-5-50 and NPK 10-10-30, both of which are used for Oil Palm production, comprised 25% each. Eight different NPK blends were imported by port in 2018. Other NPK include 15-15-15 and 17-17-17, which are commonly used for rice and vegetables, as well as specialized blends like 18-8-15, 20-0-20, and 11-29-15.

Available literature on fertilizer use in West Africa, as well as several expert interviews conducted by the Tillen Group (2019) during their fertilizer market survey, suggests that NPK 15-15-15 is one of the most common fertilizer brands on the market in the region. However, only one import of 35MT (equivalent to less

than 0.36% of the market), was made in Sierra Leone in 2018. The study found that the majority of NPK15-15-15 on the open market was imported from neighbouring Guinea. Most corporate and open market imports come from Europe, primarily Belgium, but also from Morocco, while Government imports include sourcing from Iran and China. Nearly 85% of all Urea fertilizer imported in 2018, for example, was purchased by the government from Iran, which offers Urea at heavily discounted prices due to pressure from international sanctions. Most fertilizer is imported directly by corporate farms that transport the fertilizer to their own warehouses and apply it directly on their own farms. Government imports are transported to district level warehouses, mostly in the district capitals, and then transported to smaller warehouses at Agricultural Business Centres (ABCs) owned by Farmer Based Organizations (FBOs).

3.3 Essential machinery access challenges

Cassava processed into gari has become a marketable product in west Africa and diaspora markets. In Sierra Leone, a small number of industrial gari plants have emerged using imported machinery. However, most farmers use traditional locally fabricated machinery for processing cassava into gari. Smallholders typically cannot afford the imported machinery, which comes from China, and occasionally Nigeria, due to high importation costs.

The machinery ring fence scheme (outlined in section 2.2.3) has faced challenges. For small and large players, maintenance and the identification and training of skilled operators is difficult. At times, operators fail to deliver the services owing to the unavailability of spare parts or the availability of technicians. Machinery is often unavailable at required times or subject to lengthy delays.

There are limited oil palm processing facilities in the districts, particularly for smallholder farmers, some of whom are still using the traditional pit method to process the palm oil; a method that is unhygienic with an extraction wastage of up to about 50%. The introduction of fabricated processing machines manufactured locally within the districts, and by Finnic Company in Freetown, has significantly increased the extraction rate of oil palm production, improved the quality of production, and reduced the production time, as compared to the pit method, according to testimonies by some farmers. However, the high cost of machines and frequent breakdowns is limiting the availability of these services to farmers. Most local fabricators in the districts are producing processing machines under challenging conditions such as a lack of high-quality metal materials, the high cost of electricity, and the unavailability of training on innovative and improved technologies. Most of them use recycled materials from scrap yards to produce such milling machines which are usually not durable. Local fabricators are calling for support through capacity building and study tours to help improve their skills.

4.0 STAKEHOLDER EXPERIENCES AND RECOMMENDATIONS

Stakeholder consultations and interviews were held throughout 2022 to gather positions and perspectives on key actions needed to support access to agricultural inputs, with a particular focus on the cocoa, cassava and oil palm value chains. A subsequent public-private dialogue on access to inputs was held in March 2023 to review and validate recommendations.

The overarching theme of the challenges is that the government policy of developing a private sector market for supplying inputs remains in its infancy. On the demand side, farmers lack awareness and knowledge to effectively utilize inputs. On the supply side, government regulation also remains in its infancy, and is not yet sufficiently robust enough to effectively address challenges, such as substandard and adulterated inputs. As a result, access to inputs (seeds, fertilizers and essential machineries) remains a critical constraint to the cocoa, cassava, and oil palm sectors.

The challenges and recommendations articulated by stakeholders are split into five categories: i) recommendations on access to seeds, ii) recommendations on access to fertilizers, iii) recommendations on access to agricultural machineries, iv) recommendations on trade frameworks, v) cross-cutting recommendations on access to inputs.

4.1 Recommendations on access to seeds

The market for improved seed varieties remains in its infancy and poorly regulated. Policies in this area, while reasonably well designed, but need to be more effectively implemented, financed, and supplemented with quality standards, research into improved varieties, scaled-up multiplication, and support to farmers for their effective utilisation of seeds.

i) Challenges and experiences with access to seeds

Farmers lack skills and capacities to effectively utilise seeds – Farmers reportedly lack skills and awareness in relation to understanding required soil, fertilizer and seed combinations and managing the financing required for improved seeds to be effective. There is a lack of extension services available to farmers to utilise improved seeds. Often the better yields of improved seed varieties are undermined by a lack of crop management practices or crop protection chemicals because of a lack of understanding and awareness by farmers.

Private sector is discouraged from importing and multiplying seeds – There is a perceived lack of a market for quality seeds that is further undermined by the high cost of finance, high transportation costs to reach farmers, and a lack of quality fertilizer needed to complement improved seed varieties. Some participants argued that farmers are too used to handouts and that there is a reliance on seed varieties provided by government or NGOs. Other participants argued that farmers could not afford improved seed varieties because other agricultural inputs such as labour are expensive and unreliable.

Seed policies are adequate, but implementation of them is poor – Stakeholders are reasonably content with government policies in the areas of seeds, including the (relatively) new Seed Certification Agency, but indicated that implementation and enforcement remain substantial challenges in practice.

The Sierra Leone Agricultural Research Institute (SLARI) is severely underfunded – SLARI is perceived to exist as an entity “in name only”, owing to severe and persisting resource constraints. This was posed as a considerable obstacle to leveraging Sierra Leone’s domestic seed assets, which are considered by stakeholders to have good potential.

Deficiencies in cold chain transportation and warehousing undermine the time-sensitivity of seeds - Some cooperatives secure high-yield hybrid frozen cocoa seeds from Ghana. Because of a lack of a cold chain in Sierra Leone, there is considerable time pressure to use the seeds once they arrive. Other participants

argued that such seeds are provided only through “hand out” projects, rather than purchased openly on the market, and so do not currently represent a sustainable solution.

ii) Recommendations for access to seeds

- *Support farmers to adopt improved seed varieties with technical guidelines and extension services* – These work, but are not sufficient, in relation to supporting farmers with utilising improved seed varieties. Both the public sector and private sector vendors of seeds need to provide these to farmers.
- *Strengthen existing seed multiplication systems and establish a seed bank* - Seed multiplication hubs are available, but need to be better utilised and their capacity strengthened, and there is a continuing need to establish seed banks. Seed multiplication centres for cocoa are needed at the district level.
- *Develop new and improved seed varieties* – Some participants argued that seed research institutes, such as SLARI, and university capacities need to be strengthened to source, maintain and develop hybrid seed varieties. Some participants argued that Sierra Leone needs to investigate the use of GMOs while others argued for caution over the risks of GMOs.
- *Seeds Certification Agency needs to effectively monitor seed imports* – In theory the Seed Certification Agency monitors and tests seeds entering the country and issues import permits to seeds satisfying acceptable yield, pest resilience, and soil standards. Seeds are evaluated against a list of approved seeds in the national Sierra Leone and regional West Africa seed catalogues, however in practice enforcement is limited risking inferior, inappropriate and unsuitable varieties entering the country, as happened, reportedly for instance, with ginger. Standards need to be developed to support the appropriate recognition of seed varieties.

4.2 Recommendations on access to fertilizers

Core challenges relate to the nascence of the fertilizer market and the need to support farmers to be able to better utilise fertilizer, including through information on soil types and crop demands. This is needed to contribute to the maturation of a private-sector market for fertilizers.

i) Challenges and experiences with quality standards related to fertilizers

Farmers lack knowledge on using fertilizers – Farmers lack the knowledge to effectively apply fertilizers as intended, resulting in their poor performance and reduced market demand.

Soil testing for effective fertilizer use is limited - Farmers don't conduct soil tests to identify the compatibility of fertilizers. Some participants felt that there wasn't a sufficient availability of soil testing facilities. Soil testing facilities were argued to be limited by some participants while others argued that there was not a shortage, with three different soil testing laboratories available in different parts of the country.

Government-led soil testing – The government is undertaking public-led soil testing, but participants were unsure how far this approach has progressed, leading to farmers still being unsure about correct fertilizer usage. Participants want to see the results of this.

Dependencies on imported fertilizers – The vast majority of available fertilizers are imported. Some participants called for the investigation of possibilities for domestic production of fertilizers.

Lack of national standards – Regional regulations on fertilizer were developed with the support of ECOWAS. Some participants argued that there is now a need to develop national standards in collaboration between SLSB and Ministry of Agriculture.

ii) Recommendations for improving access to fertilizer

- *Support farmers in appropriate fertilizer use* - Farmers need to be supported, with accessible soil testing and soil information, to be able to better apply fertilizer as appropriate to differing soil qualities and types.

- *Develop a fertilizer blending plant* – To create blends of specific nutrients as required for specific soil and crop demands in the country. One is currently not yet available in Sierra Leone.
- *Collaboration with research institutes to develop guidelines and advice on fertilizer use* – SLARI and other research institutes should be leveraged to test soils and develop advice, guidelines and standards on fertilizer use that is tailored for Sierra Leonean crop and soil parameters.

4.3 Recommendations on access to agricultural machinery

Agri-processors are left to resort to either expensive imported machinery or inferior quality locally fabricated machinery. Improved standards regulations and their implementation could help to better regulate the local production of processing machinery.

i) Challenges and experiences with processing machinery

Local processing machinery is of poor quality – Artisanal and small-scale machinery is widely available but results in low quality produce that tends to be suitable only for the local market rather than for exportation, and was argued by several participants to entail food hygiene risks even within the local market. For example, poor quality pressing machinery for cassava results in higher moisture content and shorter shelf-life that is ill-suited to trade and will often fail import standards. Machinery fabricated from inferior metals was argued to result in contaminated and unhygienic food quality.

Regionally sourced processing machinery is of poor quality – The quality of processing machinery is reportedly often very low when sourced locally or even regionally, where there is emerging availability from countries such as Nigeria. Some locally manufactured machinery is constructed from lead, risking lead poisoning in food.

Unaffordability of higher quality machinery – High quality machinery imported from abroad is expensive, particularly for smaller processors, so people rely on low-quality locally fabricated machinery that often fails food hygiene standards and is less durable.

Lack of, and cost of, electricity – More advanced machinery is expensive to run due to a lack of reliable electricity, disincentivising its adoption and use.

Lack of machinery repair, maintenance and servicing – Processors face challenges due to a lack of suitable skills and available spare parts locally with which to maintain processing machinery. There are, however, reportedly a number of projects to train youth in agri-processing machinery fabrication and maintenance present in Sierra Leone.

SLSB have resource constraints that undermine their regulation of machinery – Some participants argued that SLSB struggle to support standards due to a lack of capacity and available testing centres related to technical machinery standards, even though they have the technical mandate for this. Investors have to rely on expensive external experts to ensure machinery standards.

Machinery remains neglected as a critical policy area – More attention is accorded to regulatory agencies supporting seeds and fertilizers, while processing machinery was argued to be relatively neglected as a policy topic.

Issues in government sponsored procurement of machinery - The machinery that government brings in itself was argued by some participants to be of poor quality: “They rely on the cheapest tenders, resulting in poor quality machines that break down”.

Overreliance on unsustainable grant-funded projects – There are projects for training on fabrication and maintenance and for the procurement of agri-machinery, however these are often not sustained beyond donor project cycles.

Skills training needs better and more sustainable resourcing – Some participants felt that public sector and university training in fabrication and machinery maintenance is severely under-resourced and that private-sector led training needs to be developed.

Restrictions on provisions for duty-free machinery importation – There are duty-free provisions for imported capital machinery, but these are reportedly only available (*de facto* if not *de jure*) to businesses with an annual turnover of over \$10 million, which is too high for even large export-oriented agricultural producers to benefit from.

ii) Recommendations for with processing machinery

- *Ministry of Agriculture should champion machinery standards* – The Ministry of Agriculture was argued to be the ideal focus point to lead on the development of machinery standards and to collaborate SLSB with this.
- *Standards policies should be developed for processing machinery* – Machinery standards should be developed, followed by regulations in law, to ensure the quality of locally produced and imported agriculture processing machinery.
- *Establish a regulatory arm for machinery quality* – A regulatory arm of SLSB could be established for machinery, with a mandate to secure quality, support training manuals, trainings, and support for spare parts. The SLSB could help processors with “partner approvals” of processing machinery to ensure quality.
- *Standards support for local machinery* - Local machinery needs to be manufactured using improved technical standards, such as food-grade stainless steel, with support from SLSB and Food and Feed Safety. However some participants argue that the costs entailed by such materials would be prohibitive for small scale processors.
- *Private sector collaboration* – Private sector players need to better coordinate, through representative organisations like SLeCAD, and collaborate with institutions like N’Jala University to improve machinery fabrication and maintenance skills development and training.

4.4 Recommendations on trade frameworks

Considerable challenges persist in trading across borders and accessing imported inputs, through regional trade frameworks. These were distilled into two broad types: internal and external challenges. Actions were recommended for mechanisms to support access to agricultural input imports but also to improve policy implementation, as this remains one of the major sector challenges.

i) Challenges and experiences with agricultural input imports

Internal documentation challenges – The process for securing the documentation needed to benefit from the ECOWAS ETLs is onerous, bureaucratic and time-consuming, requiring soliciting documentation and stamps from various parts of government. Traders reported that while Customs claim to have the ASYCUDA system, in practice “it always seems to be down”.

External border challenges – ETLs and other regional trade frameworks were reported to not be recognised in practice at the borders when products are traded. Border officials reportedly either “don’t understand the ETLs regulations, don’t respect them, or don’t care to enforce them”. There is a perceived lack of awareness about regional trade frameworks at the borders and a reported lack of enforcement.

Weak implementation of regional trade frameworks - The NRA and Ministry of Finance are perceived, in the view of several traders, not to be interested in supporting the use of the ETLs and other trade frameworks because doing so would reduce tariff revenues. In practice, imports and even exports reportedly face little support but rather “considerable harassment”, according to those involved in the trade of agricultural produce and inputs. Public sector entities, including those for trade and agriculture, are argued to give limited support to the sector in matters of access to imported inputs.

High cost of fees of fertilizer imports – There are reported to be a large amount of fees required to be paid to bring fertilizer imports into Sierra Leone, including inspection charges (which participants cited in particular as excessive) as well as testing, general taxes and import tariff fees.

Time-sensitivity of products – The perishability of inputs means that traders report that “it is better in practice for us just to pay tariffs rather than battle trying to get trade documentation,” for utilising trade preferences.

Dialogues have been fruitless, but there is optimism – Public-private dialogues have reportedly been held repeatedly with government stakeholders to raise awareness over the challenges faced with regional trade frameworks, but these have – according to several members of the private sector - not led to tangible results. There is reportedly considerable and continuing frustration on the part of the private sector with government responses to addressing trade challenges. Some participants were optimistic, however, that the now functional National Trade Facilitation Committee can be an impactful forum for addressing certain challenges.

Lack of policy implementation – Trade and agriculture policies were perceived to be sufficiently well conceived and designed but that, the central problem is rather with a substantial lack of their effective implementation.

Unfair playing field – Some traders report that some preferred importers are granted “executive clearance”, allowing them to import products such as seeds or fertilizers without adequate inspection and checks.

ii) Recommendations for improving regional trade in access to inputs

Policy implementation improvements

- *Improve awareness over the National Trade Facilitation Committee (NTFC)* – Should be utilised more effectively as a channel for addressing trade challenges with regional trade frameworks across government. Doing so could entail raising awareness about the NTFC through business associations and bodies, as some private sector operators are still unaware of it, and better integrating the private sector views within it.
- *Communicate regional trade provisions* – The public sector needs to better communicate to border agents the trade frameworks that they should be aware of take responsibility for their enforcement.
- *Improve private sector advocacy* – Private sector representatives should apply continual pressure including through developing evidence-based publications and briefings, involving testimonials and data, to push for the implementation of trade policies. After agreeing to policies, follow-up and engagement is needed in the press to put pressure on government to enforce effective changes to support regional trade.
- *Improve private sector organisation and coordination* – Private sector representatives agreed on the need to better coordinate to consolidate their common positions and to use those positions as a basis on which to put pressure on government to improve trade frameworks.

Mechanisms to support imports of agricultural inputs

- *Duty-free imports for all agricultural inputs* – Some participants suggested that a scheme should be developed for the duty-free imports of all agricultural inputs to reduce costs and red-tape and upgrade agricultural production in the country.
- *Container inspection* – Some participants argued that container inspection of agricultural inputs be supported by the Ministry of Agriculture and private sector representatives, rather than just by the port authority, as the port authority reportedly often causes delays and challenges with such imports.
- *Bonded warehouse for Ministry of Agriculture in the port should be utilised* – Such a bonded warehouse is reportedly physically present, but not currently in use. Some participants argued that it should be operationalised and used to reduce demurrage and other charges faced by agricultural input traders.
- *One-stop-shop for duty-free access to inputs and documentation for exports* – The bureaucracy faced to secure trade documentation to use regional trade frameworks needs to be streamlined

through a one-stop-post, rather than seeking certifications separately from the range of public sector entities, particularly in relation to helping farmers to get duty-free access to inputs.

4.5 Cross-cutting recommendations on access to inputs

Participants additionally offered the following cross-cutting and general recommendations on the topic of improving access to agricultural inputs in Sierra Leone:

Sector organisation

- *Strengthen policy advocacy* – Policy advocacy can be improved to better channel pressure from the private sector, drawing from the expertise of SLeCAD in particular, to government on challenges affecting the agricultural sector and small-holder farmers. There are many policy challenges that policymakers are often unaware of and pressure is needed to ensure policy follow up and implementation.
- *Private sector coordination* – The private sector needs to better coordinate with research institutions, universities, SLSB, and regulators to mainstream critical policy topics, such as standards for agricultural machinery and partner approvals for machinery.

Capacity development

- *Skills development and training* – The private sector should collaborate with training institutions, SLSB, and universities for skills development and trainings on good agricultural practices with seeds and fertilizer use as well as machinery fabrication and maintenance. These trainings should be available across the value chain and in the form of refresher courses for practitioners and seek to address perceived labour shortages, such as for labourers in the cocoa sector.

Standards support

- *Standards conformity* – SLSB should engage farmers and smallholder to support their adoption of modern agricultural standards. SLSB should be capacitated to expand their testing scope to support agricultural produce and engage in continual standards monitoring.
- *Standards development* – Standards are needed in some areas that are as yet uncovered. Standards are needed urgently on cassava processing machinery.

Additional input challenges

- *Planting and packaging materials* – Support is needed on planting and packaging materials, particularly in the cassava sector.
- *Storage facilities are needed for seeds and seedlings and post-harvest produce* – Storage facilities were cited as a lacking input for the agricultural sector.
- *Research and development* - SLARI and other research institutions involved in the agricultural sector need to be strengthened. These were perceived to be severely lacking in resources, yet critical to the longer-term development of Sierra Leone's agricultural sector.
- *Access to finance* – An Agric Bank should be established in Sierra Leone, with a focus on low-rate and concessional structured finance to farmers.
- *Agricultural labour shortages* – Ministry of Agriculture in collaboration with Ministry of Youth should collaborate to provide incentives for engaging youth in the agricultural sector.

5.0 CONCLUSIONS

Access to agricultural inputs persists as a challenge for the cocoa, cassava and oil palm sectors in Sierra Leone, and the agricultural sector more broadly. This undermines the supportive use of quality seeds and fertilizers in realizing agricultural competitiveness. Good quality seeds, fertilizers and essential machineries would improve agricultural output and ultimately farmers' incomes, helping to alleviate poverty where it is most severe in Sierra Leone.

The overarching theme of the challenges is that the government policy of replacing an underperforming system of public-sector led delivery of agricultural inputs with a private sector market for inputs remains in its infancy. Demand for agricultural inputs remains underdeveloped, owing to limited farmer capacities, while the supply side of the market is still nascent. A persisting lack of policy implementation undermines the maturation of a supportive regulatory framework in practice (even if well-conceived policies have been crafted on paper).

As a result, stakeholder interviews and dialogues indicate that access to inputs (seeds, fertilizers and essential machineries) remains a critical bottleneck in the domestic business environment for agriculture in Sierra Leone. The domestic marketplace for these inputs continues to be underdeveloped. Affordable agricultural inputs and processing machinery are often completely unavailable. When they are available, quality standards over these inputs are poorly enforced, leaving farmers with adulterated, mislabeled, and defective products.

The recommendations of this Position Paper taken from stakeholder consultations are summarized into the following five key recommendation areas:

A. Cultivate demand for agricultural inputs

Recommendation A.1: Complementary interventions are needed to create the conditions in which farmers and agri-processors are better able to utilize agricultural inputs. This will in turn drive the demand side of the market for inputs. This includes awareness, information, trainings and guidelines to use improved seed varieties, fertilizers and agricultural machinery.

B. Public good complements

Recommendation B.1: Invest in the tertiary sector, including SLARI and Njala University, to help improve the availability of domestically produced options for seeds / cuttings, fertilizer blends, and agricultural machinery, and to create local partners for research, trainings, and sustainable sector development, including for necessary input complements such as on soil types and optimum soil, seed and fertilizer combinations for local growing conditions.

Recommendation B.2: Develop the standards regulatory framework to create trust in the private-sector provision of agricultural inputs, this includes through improving the enforcement of quality standards.

Recommendation B.3: Expediate the establishment and functioning of the new regulatory bodies governing the private sector-led agricultural inputs sectors, including the Seed Certification Agency and National Fertilizer Agency.

C. Support the private-sector provision

Recommendation C.1: Streamline certification, licensing and importation processes to help reduce the constraints that businesses face in obtaining licenses and supplies in the agricultural input sectors, including through the enforcement of regional trade regimes.

D. Support to policy design and implementation

Recommendation D.1: Create systems of accountability to encourage the implementation of policy, including through support for policy advocacy, private sector organization and private sector coordination.

Recommendation D.2: Support channels for policy advocacy to effectively articulate recommendations for improving access to inputs in the next round of policy reformulations following the 2023 Sierra Leone elections and the end of the 2019-2023 MTNDP.

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ANNEXES

Stakeholders interviewed

Organizations	Name	Designation	Sector	Cellphone	Email address
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SLeCAD	Ahmed Nanoh	CEO	Private	+232 76 642563	aknanoh@gmail.com

A. Interview questionnaire

A. Importance of topic

- What is your knowledge of the current policy framework in relation to access to inputs (i.e. seeds, fertilizers and essential equipment), in particular in the cassava, cocoa and palm oil value chains)?
- To what extent is the topic of access to inputs (seeds, fertilizers and essential equipment) important to your organization?
How is your organization (and or its members) impacted by the current 'Government policy with regards to access to inputs, specifically related to seeds, fertilizers and essential equipment (incl. machinery)?²

B. Challenges

- For your organization, what are the major challenges with the current set-up and scope of the access to inputs (seeds, fertilizers and essential equipment) for Sierra Leone agriculture sector?
- How relevant are the below challenges in respect to access for the private sector to seeds, fertilizers and essential equipment (incl. machinery):
 - Centralised (government) procurement vs decentralized procurement in relation to:
 - higher / non-competitive prices for farmers to buy seeds and fertilizers
 - Delays in the availability and purchasing process
 - having less choice/options, or reduced quality of seeds and fertilizers available
 - High import tariffs on seeds, fertilizers and agriculture equipment
 - Limited understanding of the opportunities offered by regional, continental and international trade agreements to import these inputs from other markets.
 - Other
- Can you provide *specific examples* of the challenges encountered (possibly in relation to the *Cocoa, Cassava, Oil palm value chains*)?
- What is the negative impact of these challenges on your members / organization?

C. Solutions

- Would you agree that a push towards private sector-led procurement of seeds, fertilizers and essential equipment may benefit agriculture competitiveness in Sierra Leone?
- What role would you see for the Government in addressing the challenges raised by this topic?

² Ministry of Agriculture – Policy Shifts

- For your organization, what are the key areas where the current subsidization scheme proposed by the MAF needs improving:
 - Prices of inputs
 - Quality of inputs
 - Availability of inputs
 - Choice of inputs
- Have you or your members identified specific improvements that you wish to see?
- What would be the impact if these changes would be implemented?

D. Next steps: Advocacy and policy engagement

- What kind of lobby and/or policy influencing would be most efficient in your perspective to advocate for reforms and/or policy change on this topic?

Is your organization aware of any upcoming events, meetings or workshops in which the findings of this position paper can be pre
