



DARHEINOAM

FEASIBILITY STUDY ON AFRICA COCOA EXCHANGE (AfCX) Appendix V

VALUE CHAIN AND SECTORAL REGULATORY ANALYSIS COMMODITY EXCHANGE MODEL OPTIONS AFRICA COMMODITY EXCHANGE SURVEY

AUGUST 2023

Prepared for
International Cocoa Organization (ICCO)

By
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Survey

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- Mr Elenwor Ihua, Interim Coordinator, Nigeria Commodity Exchange
- Mr Augustino Mbulumi, Director of Market Operations, Tanzania Mercantile Exchange

Acronyms

.ACE	Agricultural Commodity Exchange for Africa, Malawi
.AfCFTA	African Continental Free Trade Area
.AfCX	African Cocoa Exchange, a project of ICCO
.AFEX	AFEX Exchange, Nigeria
.AHCX	Auction Holdings Commodity Exchange (Malawi)
.BMM	Bolsa de Valores de Moçambique
.BRVM	Bourse Régionale des Valeurs Mobilières, Côte d'Ivoire
.CEO	Chief Executive Officer
.DVP	Delivery versus Payment
.EAX	East African Exchange
.ECX	Ethiopian Commodity Exchange
.FDA	Food and Drug Authority (Ghana)
.GCX	Ghana Commodity Exchange
.GSA	Ghana Standards Authority
.ICCO	International Cocoa Organization
.IOSCO	International Organization of Securities Commissions
.JSE	Johannesburg Stock Exchange, South Africa
.KII	Key Informant Interview
.LCFE	Lagos Commodity Futures Exchange, Nigeria
.MCX	Multi Commodity Exchange of India
.MD	Managing Director
.MEX	Mercantile Exchange of Madagascar
.MIS	Market Information System
.MT	Metric Tonnes
.MOTRI	Ministry of Trade and Regional Integration (Ethiopia)
.NASFAM	National Smallholder Farmer Association of Malawi
.NCX	Nigeria Commodity Exchange
.SEC-G	Securities and Exchange Commission of Ghana
.SEC-N	Securities and Exchange Commission of Nigeria

• SGF	Settlement Guarantee Fund
• SWOT	Strengths Weaknesses Opportunities and Threats analysis
• T+0 (1, 2,3 etc)	Settlement within (0, 1, 2, 3, etc) days of trade confirmation
• TMX	Tanzania Mercantile Exchange
• TWLB	Tanzania Warehouse Licensing Board
• UCE	Uganda Commodity Exchange
• USAID	United States Agency for International Development
• USD	United States Dollar
• WR	Warehouse Receipt
• WRF	Warehouse Receipt Finance
• WRRB	Warehouse Receipt Regulatory Board (Tanzania)
• WRS	Warehouse Receipt System
• ZAMACE	Zambian Commodity Exchange
• ZIMACE	Zimbabwe Agricultural Commodity Exchange
• ZMX	Zimbabwe Mercantile Exchange

01 Introduction

1. Eight commodity exchanges based in Africa may be identified as being currently operational. These are:

- Agricultural Commodity Exchange for Africa (ACE), Malawi
- AFEX Exchange, Nigeria¹
- Ethiopian Commodity Exchange (ECX)
- Ghana Commodity Exchange (GCX)
- Johannesburg Stock Exchange (JSE), South Africa
- Lagos Commodity Futures Exchange (LCFE), Nigeria
- Nigeria Commodity Exchange (NCX)
- Tanzania Mercantile Exchange (TMX)

2. These combine experiences in West Africa (Ghana, Nigeria), East Africa (Ethiopia, Tanzania), and Southern Africa (Malawi, South Africa).

3. Since this survey was performed, two other commodity exchanges are understood to have become operational – Egyptian Mercantile Exchange (EMX) and Zimbabwean Mercantile Exchange (ZMX) – while the regional stock exchange of West Africa, the Bourse Régionale des Valeurs Mobilières (BRVM), headquartered in Côte d'Ivoire, has announced a two-year pilot of commodity exchange trading starting later in 2023.

4. Other commodity exchanges which are understood not to be operational at the current time, comprising those in the process of set-up, and those in the process of restructuring, include²: Bolsa de Mercadorias do Moçambique (BMM), Mercantile Exchange of Madagascar (MEX), Uganda Commodity Exchange (UCE), and Zambian Commodity Exchange (ZAMACE).

5. It is noted that there is an apparent dearth of commodity exchange experience in Francophone countries. However, it may be noted that warehouse receipt systems have been established recently in both Côte d'Ivoire and Senegal.

6. By way of brief history, the African continent was among the earliest adopters of commodity exchanges worldwide. The Alexandria Cotton Exchange in Egypt was founded in the 1860s, some say earlier, not long after the first commodity exchanges developed in the USA. There have also been a number of successful long-standing auction houses across the Continent with roots in the 19th century offering trade in commodities such as coffee, tea and tobacco. Some of these – for example, the Nairobi Coffee Auctions, the Mombasa Tea Auctions and the Malawi Tobacco Auctions – still continue to operate today.

7. The first and oldest of the currently operational African commodity exchanges is the JSE, specifically through its commodities segment, formerly a part of South African Futures Exchange (SAFEX) before its merger and integration into the JSE. SAFEX was founded as a financial futures and options exchange in the early 1990s and introduced commodity futures in 1995, soon after South Africa's post-apartheid transition and the sudden liberalisation of the country's agriculture. The JSE has retained a core focus on five core grain and oilseed futures, and later also options contracts – white maize, yellow maize, wheat, soya bean and sunflower – although it has also introduced local currency-denominated versions of globally traded contracts, including agriculture, metals and energy products. It is unique in facilitating integration of the futures with the physical markets through offering over 300 discrete silo delivery points on its grain and oilseed futures contracts, a scale unprecedented anywhere else worldwide. Since the early 2000s, the JSE conducted its deliveries through a designated warehouse receipt system platform, independently operated by the industry, and on the back of which significant financing is provided to the country's commercial farmers. Despite many efforts to extend the model to smallholder and semi-commercial 'emerging' farmers, the JSE remains mainly focused on the commercial farming sector.

¹ The survey response from AFEX incorporated experiences from its sister exchange in Rwanda, known as East Africa Exchange (EAX).

² Auction Holdings Commodity Exchange (AHCX) in Malawi was active for several years as a competitor to ACE, but now has completely shut down, as has Global Board of Trade in Mauritius.

8. Also in the first wave of modern Africa commodity exchanges, Zimbabwe's agricultural commodity exchange (ZIMACE) was founded slightly earlier than the JSE's commodity markets, although it was forced to close in the early 2000s after nearly a decade of successful trading operations. The 1990s also saw the launch of commodity exchange initiatives in Zambia, Kenya and Nigeria. In Zambia, several exchanges have emerged, grown, and then ceased, over the past three decades. The Zambia Commodities Exchange (ZAMACE) is currently preparing for a re-launch in the 2023, along with a new exchange in Zimbabwe – the Zimbabwe Mercantile Exchange (ZMX). The founding of the Abuja Securities and Commodities Exchange around the year 2000 – more recently renamed as the Nigeria Commodity Exchange (NCX) – held much promise but has never developed significant volume. It too is being restructured and preparing for a relaunch in late 2023 or early 2024.

9. The second wave of African commodity exchanges comprised ACE (Malawi), launched in 2006, around the same time as the Uganda Commodity Exchange (UCE) and the Tanzania Warehouse Receipt Licensing Board (TWLB, since renamed as the Tanzania Warehouse Receipt Regulatory Board (WRRB). ACE has experienced significant evolution from a humble bulletin board – effectively a website on which buyers and sellers would post notices and then get in contact – through to a spot exchange, an auctioning platform, a warehouse receipt system integrated with a delivery platform, a forwards market, a facilitated input supply market, an export facilitation platform, and a collateral management firm, with focus on grains, pulses and legumes.

10. WRRB, for its part, has remained active as a warehouse receipt system with main focus facilitating finance for farmer secondary-level cooperatives to maintain ownership of cash crops, coffee and cashew, while undergoing initial value addition ahead of sale and export. Attempts to introduce grains, including maize and paddy rice, have not succeeded. UCE, with main focus as a warehouse receipt system, closed around 2010. There are currently three different initiatives in Uganda to re-establish a commodity exchange.

11. The third wave of Africa commodity exchanges were established in the late 2000s. Ethiopian Commodity Exchange (ECX) was established by the government, principally to facilitate structured sale of export commodities and secure rapid repatriation of the foreign exchange proceeds. The prominent export crops traded on ECX have been coffee and sesame, although this has expanded over time to include a range of pulses and legumes. This trade has been mandated, meaning that all participants have been required to conduct pre-export aggregation through the exchange. This helped to rapidly expand the trading volume conducted on the exchange with over a million tons of commodity traded within a few years of launch. A partial de-mandating of trade for some commodities took place in the last few years to provide exemptions for off-takers developing vertical integration initiatives, including contract farming and out-grower schemes. Initial attempts to also introduce grain trading at ECX – which the government has not been ready to mandate – alongside warehouse receipts, have not succeeded despite several attempts to restart.

12. Several regional exchange initiatives were founded around the same time as ECX. Two linked platforms were established by the firm behind a leading Indian commodity exchange, Multi Commodity Exchange of India (MCX), Bourse Africa, an onshore platform for spot and futures trade of African commodities headquartered in Botswana, and Global Board of Trade (which subsequently adopted the Bourse Africa name with the effective merger between the two platforms) based in Mauritius as an offshore platform for linking Africa to global commodity futures markets. These subsequently closed in the mid-2010s as a result of various factors.

13. A fourth wave of African commodity exchanges were established in the mid-2010s, including the sister exchanges, East Africa Exchange (EAX) in Rwanda and the AFEX exchange in Nigeria, both part of the AFEX Exchanges Group, a consortium of private philanthropic investors. Both exchanges acquired and deployed a high-end NASDAQ trading platform, intending to launch spot exchanges, after integrating the trading platform with the South African warehouse receipt system technology, and operating its own warehouses under third party control by a well-established South African collateral manager. However, this model did not materialise, in both cases mainly because of the challenges developing a liquid market from a smallholder base. Instead, both exchanges developed a new model of 'farmer-friendly aggregation brokerage' in which a subsidiary of the exchange directly purchases from farmers and then privately negotiates sale with individual off-takers. However, the AFEX Exchange in Nigeria, in particular, has continued to maintain its positioning as an exchange, introducing commodity indices tracking the prices of a basket of commodities, and keeping active the spot market for those farmers and farmer groups willing and able to sell directly into a market.

14. Also around this time, several exchanges were launched borrowing from the ECX model – these included the Bolsa de Valores de Moçambique (BMM) and a second Malawian exchange, known as Auction Holdings Commodity Exchange (AHCX), established as a public subsidiary of the country’s agricultural marketing board and tobacco auction platforms. Operating without a mandate in place, as had been the case in Ethiopia, neither exchange was able to build volume, despite in the case of AHCX considerable expenditure. The Mercantile Exchange of Madagascar (MEX) was also founded around this time but it is not clear whether significant trade has taken place.

15. The fifth, and latest wave, of exchanges includes the Tanzania Mercantile Exchange (TMX) and the Ghana Commodity Exchange (GCX), both established in the late 2010s. More recently, the Lagos Commodity Futures Exchange (LCFE) has been established with focus on commodity futures. All three exchanges have experienced steady build-up of volume which are now being sustained and consolidated.

16. The sixth, and latest wave, of exchanges has come this year, in 2023. The Egyptian Mercantile Exchange (EMX) and Zimbabwean Mercantile Exchange (ZMX) have commenced operations, while the regional stock exchange of West Africa, the Bourse Régionale des Valeurs Mobilières (BRVM), headquartered in Côte d’Ivoire, has announced a two-year pilot of commodity exchange trading starting later in 2023.

17. Aside from this, there have been long-standing efforts to develop commodity exchanges in other countries, many of which remain ongoing at various levels of development. These include Tunisia in North Africa, Sudan and Kenya in East Africa, Togo in West Africa, Cameroon and Democratic Republic of Congo in Central Africa, and Angola in Southern Africa.

18. Further analysis of African exchange performance may be found in the Main Deliverable.

02 ACE, Malawi

- **Name of Exchange:** Agricultural Commodity Exchange for Africa (ACE)
- **Name of Respondent:** Kristian Schach Moller
- **Job Title of Respondent:** CEO
- **Date of Response:** 27/4/23

Section 1

HISTORICAL DEVELOPMENT

1.1 In which year did your exchange launch?

2006

1.2 How long did it take to prepare the exchange for launch? What were the key steps?

1.5-2 years lead time; the promoter – National Smallholder Farmer Association of Malawi (NASFAM) – contracted the feasibility study, stakeholder consultation, put the rules in place, developed basic technology, with strong backing from NASFAM and a few off-takers. Some donor funding also helped with set-up.

1.3 Who were the initiators of and investors into the exchange, and for what reasons? (i.e. government, financial institutions, farmers, private sector, etc).

NASFAM used part of a United States Agency for International Development (USAID) grant to start the comex because they wanted an institution that could give price information and market access to their farmer members, as an organization of over 200,000+ smallholder members. Initially, NASFAM wanted to brand the exchange as NASCOMEX as an institution for farmers. However, the feasibility study recommended they needed two sides of the market, and thus trading firms were brought in as co-shareholders: initially Farmers World, and then a few others (e.g. Total Land Care, Rab Processors).

Section 2

ORGANISATIONAL STRUCTURE AND GOVERNANCE

2.1 As what type of organisation is your exchange structured (e.g. public limited company, partnership, mutually owned, non-profit, etc.), and why? What kinds of organisation, if any, own your exchange (i.e. hold equity, membership and/or 'seats', as applicable)?

Private company limited by shares, 100% owned by ACE Trust, although there is a diversification underway with 60% of shares to be taken up by private sectors, with companies obtaining equity based on an 'equity for utilisation' model (including NASFAM through NASCOMEX, their trading subsidiary). Private firms which fulfil certain utilisation targets – volume of trade or finance through the exchange – are rewarded with equity. This has been introduced because ACE needed a strong industry mandate, more active participation, and innovative approaches to consolidate liquidity.

2.2 Please describe the governance structures of your exchange

ACE is governed by a board of directors, comprising: CEO, representative from NASFAM, legal representative, plus two industry representatives and an industry expert. Board committees will also be developed.

2.3 Please describe how, if at all, your exchange engages with policymakers (e.g. within policy dialogues, official reporting mechanisms/committees, governance structures, informal contacts, etc). Please describe the strengths and weaknesses of policy engagement at your exchange and provide recommendations from experience.

ACE participated in a Working Group for Commodity Exchanges under the Ministry of Trade to develop the legal-regulatory framework. This was successful because the participatory approach contributed to a practical and effective outcome.

Government worked to develop an export mandate through commodity exchanges. This was a thorny issue - government wanted to mandate trade through commodity exchange, but there was strong industry opposition because of potential for disruption to trade and business operations. A compromise was facilitated in which a certification scheme was introduced where ACE certified trade, but this was officially repealed when AHCX closed.

ACE continues to participate in industry working groups at Ministry of Agriculture and Ministry of Trade.

2.4 Please describe by which agency/authority your exchange is regulated (if applicable), under what legal framework, and licensing arrangements? Please describe how your exchange engages with its regulator(s). Please describe the strengths and weaknesses of regulator engagement at your exchange and provide recommendations from experience.

The Registrar for Financial Institutions at the Reserve Bank of Malawi was nominated as the regulator because the Reserve Bank is already a professional regulator of banks and the Malawian capital markets. This was selected over alternatives, e.g. the Ministries of Agriculture and Trade, which had not prior regulatory experience for an institution comparable to an exchange. This has been a positive outcome because of the credibility of the central bank. However, the regulatory oversight has been weak with relatively limited interaction to date. A provisional 3-year license was awarded, with renewal coming up.

It has also been important to establish a firm legal basis for the exchange's activities – encourage compliance by market actors, and very strongly encouraged participation by banks who saw the introduction of the law as a very positive development. (E.g. Ecobank mandated all collateral managers to issue receipts through ACE, because an electronic WR has super-priority over registration in the Personal Property Security Registry System).

Section 3 OFFERING

3.1 For which commodities/assets does your exchange offer markets?

ACE offers four key services: market information, WRS, trading and settlement, access to inputs via 'Chithumba scheme'.

ACE offers trade and finance on any agricultural commodity product – if the warehouse operator wants to store it and write a receipt, it can be listed on the exchange. Main focus has been maize, soya, peas, beans, groundnuts, paddy.

3.2 For which instruments does your exchange offer markets (e.g. spot, forward, futures, brokered solutions, indices, other)?

ACE has undergone extensive model evolution in response to changing market need and maturity:

- Bulletin board 2006
- Bid Volume Only reverse auctions backed by warehouse receipt system (WRS) and market information system (MIS) were brought in to support World Food Program procurement from 2010/11
- Warehouse receipt finance (WRF) brought in from 2012
- Forward contract finance (FCF), a hybrid vertical trading and financing arrangement to integrate smallholders into the supply chain of large off-takers, was introduced from 2013

- Chithumba smallholder input loan modality came in during 2015
- Collateral management through a new ACE subsidiary, CSL, came in from 2018
- ACE's Zaulimi farmer extension application was launched in 2020 (55,000 downloads, now expanding to MIS and bulletin board marketplace, seeking to introduce payments system)
- Warehouse receipt insurance introduced from 2021
- 'Mandate buying structure', involving large buyers procuring from smallholders at rural sites for off-takers, with storage and financing option at the rural sites, piloted with 15 sites in 2022, now increasing to 24 sites in 2023

3.3 How many contracts and/or MTs (as applicable) has your exchange traded per commodity per year - last year, and in your most successful year?

ACE has cumulatively traded approximately 370,000MT since 2007. The major volume is maize (273,000MT), followed by soya bean (48,000MT) and peas (27,000MT), with the remainder including rice, beans, groundnut, wheat, sorghum and sunflower. Its highest annual combined volume was 90,000MT in 2015.

In terms of financing, ACE facilitated warehouse receipt financing of over 300,000MT of commodity in 2022/23, its best year, with combined value of over USD 100 million.

3.4 Approximately what proportion of total national production is traded through your exchange for each commodity?

Relatively small proportions are traded – most of ACE's activity involves facilitation of warehouse receipt financing.

3.5 Apart from exchange-trading and relating clearing and settlement services, what other services does your organisation offer?

See above.

3.6 Please describe how membership, and market access more generally, is structured at your exchange (i.e. who is entitled to participate, on what basis/eligibility, under what kinds of category...).

Initially the exchange offered 'seat-based' membership per the traditional exchange mutual governance structure. Then it moved away from this model to open up so that anyone can register to post directly bids and offers through the market – a broker function has never worked in the Malawian context.

3.7 To what extent does your exchange perform price discovery? Please describe the prices that are discovered - are they by commodity type, by grade, by location etc.

Prices are not discovered through the trade platform through the interaction of buyer/seller, but by ACE field staff polling prices from processors at key market centres. ACE then publish the best active buyer price. Surveys suggest 45% of Malawian farmers rely on ACE for farmer information. Banks also use this service when valuing the collateral.

3.8 Please appraise to what extent are the exchange's prices used by value chain actors as references in their transactions. Please also describe the limitations and bottlenecks to price discovery at your exchange – what is holding back the exchange's prices from being further adopted by the value chain as benchmarks. Kindly provide recommendations from your experience.

See above.

Section 4

OPERATIONS (STORAGE, FINANCE, QUALITY, SETTLEMENT, TECHNOLOGY, CROSS-BORDER)

4.1 Please describe the exchange's storage footprint – what type of storage (bag warehouse, bulk silo, other), how many storage facilities, in how many and what kinds of locations (e.g. rural, upcountry centres, wholesale/consumption markets, industrial areas, port), what storage capacity overall and on average per facility (in MT or m2).

ACE has documented and approved over 130 warehouses across Malawi with total capacity exceeding 800,000MTs. These include bag/flat-bed warehouses, grain silos, and oil tanks for storage of oils in liquid form. They include the warehouses of private sector agribusinesses, as well as, farmer organisations. These warehouses may be managed by ACE's collateral management subsidiary at such time the warehouse owner seeks to finance their raw material aggregation, including providing finance against the warehouse owner's own stock, as well as, the stock of third party depositors.

4.2 Are the storage locations for single or multiple commodities? Please describe.

Flatbed multi-commodity warehouse for bagged storage grains, pulses, legumes.

4.3 Please describe which commodities are identity-preserved, and which are commingled. When commingled, please describe the commingling methodology (e.g. by quality grade).

Goods are commingled.

4.4 Please describe how warehouse management is organised at your exchange. Is there a warehouse operator who controls the storage facility? Do the storage facilities allow third-party operators or collateral managers? Who is responsible for the various warehouse services (e.g., maintaining stock, fumigation, labour force)?

ACE certifies the warehouse sites. The warehouse manager can issue WRs. In most cases, under field warehousing arrangements, the bank specifies that the collateral manager at a buyer's warehouse operates within the WRS and issues ACE receipts because of priority security rights from so doing. ACE has a collateral manager subsidiary, CSL, for this purpose. CSL also performs stock monitoring and inspection services, including at farmer warehouse sites.

4.5 Please describe the strengths and weaknesses of your storage model. What has worked well, and what have been the constraints? Kindly provide recommendations from your experience.

Strength – third party certification is quickly scalable, can reach prime locations, piggyback on storage operator balance sheets (which financiers look at when considering exposure), and is not exposed to seasonality-based capacity utilisation to drive economics.

Weakness – Malawi does not have professional third-party warehouse operators, so ACE has had to rely on parties with proprietary storage opening up storage to third parties. Some storage operators may not have the balance sheet to under-write storage operations, and thus banks want collateral managers in place. ACE is seeking ways to under-write the storage liability, and has introduced, and is further developing, insurance and guarantee products.

4.6 Please describe the utilisation levels of the exchange's storage facilities over the course of the season. To what extent does your exchange cover its costs on warehousing service provision?

Warehouse services rely on third party warehouses, with these warehouses having high utilisation backstopped by their owners' proprietary stock.

4.7 Do financiers - banks, MFIs etc - finance the stock in the exchange's storage facilities via warehouse receipt finance, collateral management agreement, or something similar? (please specify which).

The ACE model has led to a hybrid product in which WRF has blended with CMA, driven by the legal framework in which ACE's WRs get super-priority enforcement rights in the collateral registry.

4.8 If the answer to 4.7 is yes, please identify for which commodities, for which kinds of borrower, and the basic terms of the financing (interest rate, term, loan to value ratio, currency, minimum and maximum loan amount).

Commodities: maize, soya, soya cake, groundnuts, rice, fertilizer, seed, sugar.

Loan to value: 80% of market value.

4.9 What were the main drivers to enabling the finance, and the main challenges to overcome? Please provide recommendations from your experience.

Establishment of a low cost but credible collateral management firm with linkages to bank through equity participation, plus super-priority enforcement rights in the collateral registry.

Key learning – banks really value the legal-regulatory framework, and in particular, how their rights are protected by them.

Challenges – to better productize WRF linked to ACE; at present, it is driven by the banks and their borrowers to structure, and then bring in ACE, no standard product to market. What is the bottleneck? The banks use a tickbox-approach and are conservative – it has been difficult to innovate. Credit committees seem to be resistant to different approaches.

4.10 Please describe the process by which your organisation developed quality standards for the commodities offered?

Adaptation of Malawi Bureau of Standards as the standard framework, based on feedback from industry. However, buyers have flexibility to work on the basis of proprietary standards.

4.11 What weight and quality testing facilities are present in your storage facilities? Are there weighbridges/ weigh scales? Uniform bag sizes? Equipment for quality assessment and testing apparatus? Is there a Standard Operating Procedure (SOP) governing storage and quality processes?

Equipment: Manual or automated scales, tarpaulins, pallets, basic testing equipment.

SOP – sites work on a standard SOP.

4.12 What have been the main successes and challenges for market participants with adopting the exchange's quality standards? Please provide recommendations from your experience.

ACE is industry-driven, and allows flexibility by buyer. In Malawi, most commodity is generally traded fair average quality (FAQ) with no foreign matter.

4.13 To what extent does market pricing reflect the various levels of quality within the defined standard? (e.g. fixed premiums and discounts, market-discovered premiums and discounts etc).

There is no quality-linked buying at present.

4.14 Do the exchange's quality standards include or address the following, and if so how:

- Intangible factors such as taste, aroma, origin, variety
- Traceability
- Social certification schemes

There has been moves to establish traceability to the farmer organisation (FO)-level in the new mandated buying modality. The FO is also expected to keep a log of each farmer that delivers, but these goods are currently being commingled for cost reasons. If an economic model for identity-preservation can be developed, it will be adopted.

4.15 Please describe the clearing and settlement arrangements on your exchange (e.g. delivery versus payment, central counterparty), and how it works. (You are kindly invited to respond to those detailed technical questions, as per the footnote³, which are applicable to your exchange.) Please provide recommendations from your experience.

Clearing and settlement is performed directly between the counterparties in most cases. However, ACE has been expanding an intermediated payment service through its own account, which enables deduction of relevant fees for storage and trading.

4.16 Please describe the technology that you use for trading, clearing/payments, warehouse management, warehouse receipting and finance, market data and other services. Please identify physical processes where technology is not used. (You are kindly invited to respond to those detailed technical questions, as per the footnote⁴, which are applicable to your exchange.) Please provide recommendations from your experience.

ACE has focused on digital services since inception. Its platform has been upgraded many times. Most recently, an international software partner with significant experience working with commodity and financial exchanges was appointed to develop new modules to support ACE's growing portfolio of activities. These include:

- Trading module – market actors can register and establish status in the market, and perform different types of trade;
- Farmer database for registration (165,000 farmers) to record farmer profiles and build their trading, financing and training track record. This is linked to SMS- and email-distributed market data dissemination. The market information is customised according to the farmer profiles;
- Warehouse Receipts module – includes a WR registry, warehouse registration, and information recordal (intake, outtake, moisture, storage fees etc);
- Finance module – through the platform, banks can offer WR, clients can apply, clients can pledge WRs, banks can accept the pledge and encumber the WR, banks can issue loans and monitor their portfolio, track the market value of the receipts and their exposure, and calculate breakeven price;
- Collateral Management module is in progress with the aim to define and structure the CMA, select a CM, and issue the CM WR.

4.17 Please describe the types of market data that your exchange disseminates, and the channels it uses for dissemination.

As above.

³ Please describe how fast settlement takes (e.g. T+1)? How does the exchange handle defaults? Please describe experiences in practice. Does your exchange have a settlement guarantee fund? If so, please describe. Does your exchange offer an arbitration service? If so, please describe.

⁴ Does the exchange have a website through which members can access their account in real time? Is there an application (android, ios, etc) that enables account access, management and activity? Does the exchange trading platform handle trading position limits and daily price-based circuit breakers? How many orders can the matching engine receive simultaneously? Does the front-end trader workscreen allow position monitoring, provide data analytics and portfolio analysis functionality? Does the system generate reports – real-time, end-of-day, end-of-month/year etc – for the regulator and market actors? Is there a FIX gateway for brokers to connect to the exchange in real time? Please describe system cyber-security and business continuity arrangements.

4.18 Do your markets feature any cross-border activity? If so, please state what, and describe how it works. (You are kindly invited to respond to those detailed technical questions, as per the footnote⁵, which are applicable to your exchange.) Please provide recommendations from your experience.

Not at present, but ACE has facilitated some regional contracts in the past, mainly with Zimbabwe, but also Zambia and Mozambique.

4.19 Otherwise, what do you see as the main cross-border opportunities for your exchange, and the challenges to realise them.

Regional scope remains an ambition for ACE, and there is demand for it, although policy, currency, infrastructure and other barriers must be addressed to make it scalable.

Section 5

IMPACT, SUCCESSES AND CHALLENGES

5.1 Please describe the main commercial and developmental impacts your exchange has made since launch.

WRS has been a driver for inclusive impact, food security, trade driver, and has generated significant financing amount, now at impressive scale and with impressive coverage across different banks and commodities. It has mainstreamed WRF in Malawi, and also helped stabilise CMA-based lending after a number of scandals.

- 2016-17 – USD 12m finance
- 2018 – USD 0.5m finance
- 2019 – USD 0m finance
- 2020/1 – USD 20m+ finance
- 2021/2 – USD 50m+ finance
- 2022/3 – USD 100m+ finance

Market information also works at impressive scale with 40-45% of Malawian farmers saying they rely on ACE for market information.

The Chithumba input loan modality is promising but still relies on donor funding for many of the preparatory activities (e.g. farmer training), without showing it can become self-sustaining. However, Chithumba has achieved timely distribution of inputs (e.g. seeds, soyabean inoculants) to over 4,000+ farmers during production, with 8 years track record and full repayment in all but one year.

5.2 Please elaborate, if your exchange doesn't offer them already, what additional impacts/benefits could be created by offering forward, futures and options contracts. Please also outline what would be the challenges of introducing these instruments in your jurisdiction.

Forwards has been mainly a financing modality for off-takers to receive off balance sheet finance, but it could be developed into an active forward market.

Options has now been introduced, based on an OTC product in the form of price risk insurance for the bank when discounting a WR without a forward contract behind it. It enables the bank to secure their collateral haircut, and is priced at equivalent to around 1% interest basis point. Uptake has been slow, however, as the banks are working out to perform hedge accounting which has not to date been required in Malawi.

⁵ Can international market actors participate in your exchange? If so, must they trade through a locally resident broker, or are offshore brokers permitted? Can they send trading orders in from abroad? Can they use hard currency for trading and repatriate profits? If not, are their bottlenecks to access and convert local currency? How do international actors take local delivery? Does your exchange offer international delivery points for any of its contracts? Or international-origin commodities? Can local actors trade in overseas markets through their front-end trader work-screen?

5.3 Please describe the extent to which your exchange has become commercially sustainable, and the reasons for this – i.e. the enablers of sustainability, and/or the challenges in becoming sustainable.

ACE is now commercially sustainable, mainly because of the scaling of the WRF and collateral management activities, which cross-subsidise the other business activities., especially those more developmental in nature such as the MIS and the Chithumba input loan scheme, as well as farmer training and related activities. Trading commissions remains low, as the market is small, and it is challenging to create an active spot market.

5.4 Overall, please summarize the main successes and challenges your exchange has faced.

- Successes
- Challenges

As above.

5.5 Please describe - illustrated by examples where possible - how the pricing and trading on your exchange is impacted by events in:

- Regional markets
- Global markets

As above.

Section 6 STAKEHOLDER EXPERIENCES

This section comprises four sub-sections:

- **6.1 Farmers/farmer organisations (FOs)/intermediaries**
- **6.2 Agribusiness buyers (e.g. processors, manufacturers, exporters)**
- **6.3 Financiers and investors**
- **6.4 Institutions (e.g. government marketing board, food reserve agency, humanitarian agencies, institutional buyers like schools, hospitals, military, prisons)**

6.1 Farmers / Farmer Organisations (FOs) / Intermediaries

- **6.1.1 Please describe the extent to which farmers participate in your markets, and how: which types of farmer, for which commodities, for what purpose, and explain whether they do so directly or through producer organisations.**

ACE has a database of 450 FOs for different commodities, different organisation types; assessments.

A core of 24 highly active FOs are participating under the mandate buying arrangement. These FOs have a warehouse, are already aggregating, and have incentive to fill their warehouse and secure market access for their members.

Otherwise, ACE has selected 40 FOs, based on profiling, with whom they work closely to expand services – deliver training, participation in Chithumba input loan scheme, provision of market information, commodity delivery and WRF.

The main bottleneck has been the FO governance, and the trust by their member farmers in the system, contrary to current practice where farmers maintain control over their own stock and sell quickly for cash to informal traders. Putting goods in the warehouse, out of sight, under someone else's control, and more difficult to access, with payments via bank accounts not as efficient as cash in hand. FOs struggle to develop effective collective decision-making on storage, transport, credit and marketing face – it is difficult for them to mobilise consent, and the process of deliberation with their members may take as long as 2-3 weeks.

• 6.1.2 Please describe the extent to which intermediaries (aggregators, traders, distributors etc) participate in your market, for which commodities, and for what purpose.

Mainly for market information. ACE focuses on facilitating trade directly from the farmer to the buyer.

• 6.1.3 Please describe the main enablers and challenges to the participation of each of these stakeholders (farmers, FOs, intermediaries). Please provide recommendations from your experience.

As above.

• 6.1.4 Please identify, describe, and if possible, quantify, the value and impacts realised for participating farmers, FOs and intermediaries.

• 6.1.5 Please describe how you have been able to overcome the following challenges with respect, separately, to farmers, FOs and intermediaries (as may be applicable):

- a. *Farmer/FO/intermediary preference for cash on delivery/collection*
- b. *Farmer/FO/intermediary capacity to achieve minimum quality, weight and packaging requirements*
- c. *Farmer/FO/intermediary capacity to manage paper or electronic documents, in lieu of cash*
- d. *Farmer/FO/intermediary capacity to transport goods to an exchange warehouse*
- e. *Farmer/FO/intermediary capacity to successfully apply for, receive and repay warehouse receipt finance loans*
- f. *Farmer/FO/intermediary capacity to make marketing decisions to realise returns and mitigate price risk*
- g. *Farmer/FO/intermediary capacity to utilize gains from post-harvest finance to fund productivity gain*
- h. *Farmer/FO/intermediary resistance to payment of fees*
- i. *Farmer/FO/intermediary nervousness concerning transparency (e.g. due to taxation, or fear of competitors)*
- j. *Concerns from intermediaries about being disintermediated through the exchange*
- k. *Other bottlenecks/challenges you have observed*

6.2 Agribusiness buyers (e.g. processors, manufacturers, exporters)

• 6.2.1 Please describe the extent to which agribusiness buyers participate in your markets, and how: which types of buyer, for which commodities, and for what purpose.

The new mandate buying modality has four large agribusiness buyers directly buying from 24 warehouses (15 FOs plus 12 NASFAM sites, with 3 overlapping). This covers maize, soya, groundnuts purchases and enables the buyers to quickly secure volume early in the season from the rural sites, and in some cases to access extra storage as goods bought by the buyer can remain in the rural warehouse until the buyer is ready to collect, while the collateral manager provides third party oversight of the stocks.

• 6.2.2 Please describe the main enablers and challenges to the participation of agribusiness buyers. Please provide recommendations from your experience.

As above.

• 6.2.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating agribusiness buyers.

As above.

• 6.2.4 Please describe how you have been able to overcome the following challenges with respect to agribusiness buyers (as may be applicable):

- a. *Agribusiness preference for delivery to factory gate over collection from remote site*
- b. *Agribusiness reluctance to pay quality-linked prices*
- c. *Agribusiness lack of requirement for warehouse receipt finance due to existing access to finance arrangements (e.g. pledge of fixed assets, inventory finance under CMA, trade finance)*
- d. *Agribusiness resistance to payment of fees*
- e. *Agribusiness nervousness to expose their trade to transparency (e.g. due to taxation, or fear of competitors)*
- f. *Other bottlenecks/challenges you have observed*

6.3 Financiers and Investors

- **6.3.1 Please describe the extent to which financiers and investors participate in your markets, and how: which types of financier/investor, with respect to which commodities, and for what purpose.**

Banks are most interested to use ACE because of:

1. *Super-priority registration of enforcement rights*
2. *Low cost collateral management model, with banks offered equity participation to drive uptake*

Also, ACE is willing to use its own capital to under-write/guarantee the stock in rural warehouses - to banks, to the off-taker.

- **6.3.2 Please describe the main enablers and challenges to the participation of financiers and investors. Please provide recommendations from your experience.**

- **6.3.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating financiers and investors.**

- **6.3.4 Please describe how you have been able to overcome the following challenges with respect to financiers and investors (as may be applicable):**

- Excessive risk perceptions with respect to agricultural and commodities*
- Excessive risk perceptions with respect to farmers, FOs and SMEs*
- High interest rates*
- Lack of liquidity*
- Lack of bank capacity*
- Legal or regulatory challenges*
- Other bottlenecks/challenges you have observed*

6.4 Institutions (e.g. government marketing board, food reserve agency, humanitarian agencies, institutional buyers like schools, hospitals, military, prisons).

- **6.4.1 Please describe the extent to which institutions participate in your markets, and how: which types of institution, with respect to which commodities, and for what purpose.**

WFP successfully performed bid-volume only (BVO) reverse auctions over several seasons, which in turn triggered the development of the WRS to guarantee good delivery. This petered out because of difficulties aligning the modality with WFP's administrative rules, which changed over time.

Malawi's National Food Reserve Agency (NFRA) purchased through ACE, driven by donor requirement for funding its maize purchases to create transparency. It operated for 1-2 seasons also petered out when NFRA started doing direct purchases.

- **6.4.2 Please describe the main enablers and challenges to the participation of institutions. Please provide recommendations from your experience.**

- **6.4.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating institutions.**

- **6.4.4 Please describe how you have been able to overcome the following challenges with respect to institutions (as may be applicable):**

- Aligning with Institutional Mandate*
- Aligning with Rules and Procedures*
- Aligning with Exchange Quality Standards*
- Acceptance of using the Exchange's Storage Facilities*
- Institutional Capacity*
- Other*

03 AFEX, Nigeria

- **Name of Exchange:** AFEX
- **Name of Respondent:** Ayodeji Balogun and senior management team
- **Job Title of Respondent:** Group CEO
- **Date of Response:** 25/4/23

Section 1 HISTORICAL DEVELOPMENT

1.1 In which year did your exchange launch?

2014.

1.2 How long did it take to prepare the exchange for launch? What were the key steps?

It took approximately 2 years. AFEX Nigeria, were able to draw on learnings from its sister operations in its corporate group, the East Africa Exchange, based in Rwanda. This allowed us to avoid locking in large-scale expenditure until the business model was developed – far too much was spent on office, technology and staff without an adequate understanding of the basic problem that needed solving in the case of Rwanda.

Apart from this, establishing effective connection with Securities and Exchange Commission of Nigeria (SEC-N) took time, up to and including being granted a license as a commodity exchange and warehouse receipt system.

The commodities ecosystem in Nigeria is also unique. It took time to evaluate the value chains we wanted to play in, the major actors, and truly understand the problems through their eyes, before building a business model around the problem-solving that was required.

1.3 Who were the initiators of and investors into the exchange, and for what reasons? (i.e. government, financial institutions, farmers, private sector, etc).

AFEX had 3 initial investors; Heirs Holdings (Tony O. Elumelu), Berggruen Holdings (Nicholas Berggruen), and 50 ventures (Jendayi Fraser). The investors believe that a commodity exchange would be an effective instrument to deliver large-scale change in Africa.

Section 2 ORGANISATIONAL STRUCTURE AND GOVERNANCE

2.1 As what type of organisation is your exchange structured (e.g. public limited company, partnership, mutually owned, non-profit, etc), and why? What kinds of organisation, if any, own your exchange (i.e. hold equity, membership and/or 'seats', as applicable)?

AFEX is structured as a private limited company in Nigeria. It is a subsidiary of the AFEX Group which also has made investments linked to commodity exchanges, commodity trading and value chain support services in Kenya (AFEX Kenya) and Uganda (AFEX Uganda).

2.2 Please describe the governance structures of your exchange.

Per its rules, AFEX is governed by a board of directors comprising a non-executive Chairman, the CEO and other appointed directors.

2.3 Please describe how, if at all, your exchange engages with policymakers (e.g. within policy dialogues, official reporting mechanisms/committees, governance structures, informal contacts, etc). Please describe the strengths and weaknesses of policy engagement at your exchange and provide recommendations from experience.

AFEX has interacted closely with SEC-N to become the first licensed commodity exchange in Nigeria. As part of the regulatory framework, SEC-N oversees AFEX, and AFEX submits regular reports to SEC-N, and flags issues that may arise in the markets.

2.4 Please describe by which agency/authority your exchange is regulated (if applicable), under what legal framework, and licensing arrangements? Please describe how your exchange engages with its regulator(s). Please describe the strengths and weaknesses of regulator engagement at your exchange and provide recommendations from experience.

As above.

Section 3 OFFERING

3.1 For which commodities/assets does your exchange offer markets?

AFEX initially handled grains and subsequently introduced cash crops.

Commodities	Contracts Traded	Deals	Average Executed Price	Turnover
MAIZE	59,873,659	962	234.83	14,070,483,401
SOYBEANS	50,374,314	542	339.62	17,682,081,245
PADDY RICE	4,652,338	468	316.71	1,507,625,705
SORGHUM	3,197,316	514	229.16	842,173,978
COCOA	4,521,090	179	1,868.49	8,577,228,840
GINGER	2,183,000	39	950.76	1,919,447,500
SESAME	1,657,000	7	1,003.14	1,818,200,000
CASHEW	573,766	450	552.75	376,803,877

Per the excerpt above from the AFEX Quarterly Report, Q1 23, the grains include maize, soya bean, paddy rice and sorghum. The cash crops include cocoa, ginger, sesame and cashew.

3.2 For which instruments does your exchange offer markets (e.g. spot, forward, futures, brokered solutions, indices, other)?

AFEX offers spot, forward, exchange-traded contracts and fixed income products. The exchange also offers several markets, including an exchange-traded spot market for WRs, a cash-settled market on the basis of delivery versus payment, and brokered OTC solutions to aggregate supply for large buyers.

AFEX also lists exchange-traded Asset Backed Commercial Paper (ABCP), a securitization product offered by an agribusiness secured against its warehoused inventories, and carries a commodity index.

Historically, AFEX commenced with focus on the WRS, securing the goods in the warehouse, then forward selling to the buyer, and in the meantime drawing finance against the stock. On the farmer side, AFEX – after field research – commenced by introducing input loans to farmers which were seen as meeting the farmers' most pressing demand. AFEX evolved towards more structured trading, leveraging technology, development of an order book, and clearing services, with the introduction of a spot market. Its next evolution focused on financial market products and the introduction of ABCP, as well as cash-settled contracts. Finally, AFEX's latest evolution has involved working towards regional expansion, with focus on East Africa, including Kenya and Uganda.

3.3 How many contracts and/or MTs (as applicable) has your exchange traded per commodity per year - last year, and in your most successful year?

See table above.

3.4 Approximately what proportion of total national production is traded through your exchange for each commodity?

We currently trade less than 1% of the total market share across all the commodities traded on the Exchange.

3.5 Apart from exchange-trading and relating clearing and settlement services, what other services does your organisation offer?

AFEX has supported input loans to farmers, and provides value chain support services, including storage, quality control, transportation, extension services and market price information.

3.6 Please describe how membership, and market access more generally, is structured at your exchange (i.e. who is entitled to participate, on what basis/eligibility, under what kinds of category...).

AFEX has a range of membership categories, each with their own eligibility criteria, as defined in the Exchange Rules. These include broker, dealer, broker dealer, clearing member, affiliate member (clearing & settlement service provider), and agri-service provider (to act as a conduit for provision of input loans and extension services to farmers). AFEX plans to introduce additional membership categories soon, including non-clearing member and collateral manager.

3.7 To what extent does your exchange perform price discovery? Please describe the prices that are discovered - are they by commodity type, by grade, by location etc.

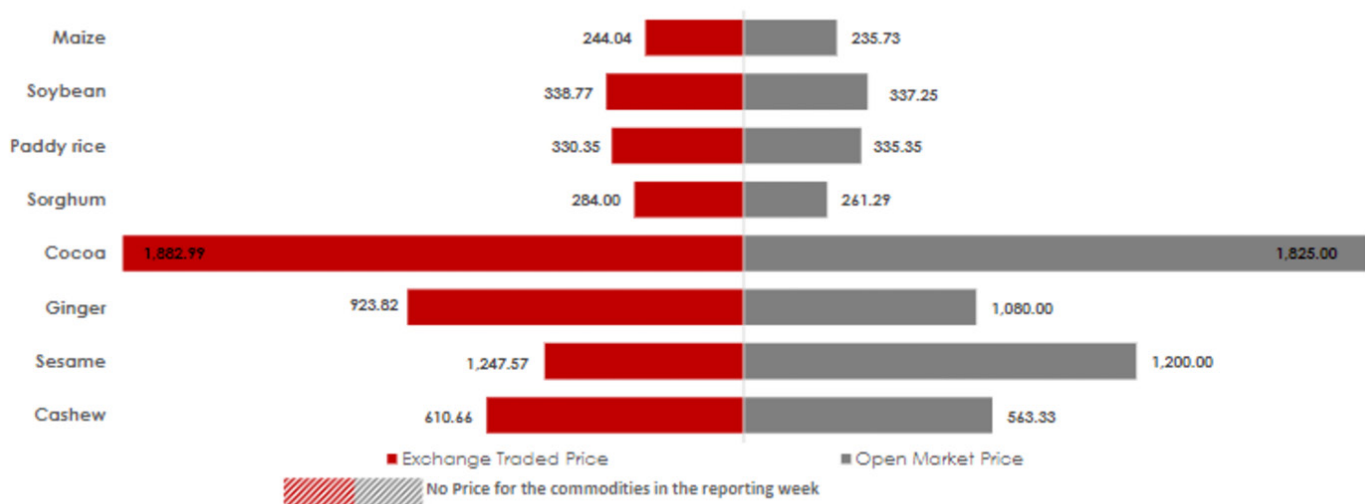
AFEX discovers spot prices in its own markets, and polls open market prices from wholesale markets across Nigeria and internationally. In its weekly reports, AFEX disseminates these prices on a side-by-side basis, as per the charts below from the latest weekly report, April 17-21 2023.

	Exchange week close	Exchange Prices	Open Market Prices	International Prices	Exchange Prices	Open Market Prices	International Prices
	NGN/Contract	% ΔW-o-W			% ΔY-t-D		
Maize	244.04	2.32	2.42	1.84	18.19	11.21	0.23
Soybean	338.77	2.22	2.50	0.25	3.86	0.67	1.14
Paddy rice	330.35	3.82	2.92	4.48	5.02	6.57	4.74
Wheat	380.00	0.00	8.02	0.02	0.00	26.81	14.53
Sorghum	284.00	3.65	9.95	0.02	1.49	15.39	2.67
Cocoa	1,882.99	0.10	0.46	0.27	0.59	0.94	16.28
Ginger	923.82	13.74	8.00	1.50	9.47	2.47	6.14
Sesame	1,247.57	1.04	1.31	0.02	50.31	10.63	2.67
Cashew	610.66	0.01	3.26	0.02	14.52	6.11	2.67

Source: Bloomberg, CBOT, Tridge, AFEX Research

Commodities Price
(₦/Contract)

COMMODITIES AND OTHER ASSETS



Source: AFEX research

Source: Bloomberg, CBOT, Tridge, AFEX Research

3.8 Please appraise to what extent are the exchange's prices used by value chain actors as references in their transactions. Please also describe the limitations and bottlenecks to price discovery at your exchange – what is holding back the exchange's prices from being further adopted by the value chain as benchmarks. Kindly provide recommendations from your experience.

Exchange prices today serves as the primary reference prices for the commodities market and are widely disseminated across multiple media platforms for transactions. The scale of this impact cannot be quantified. In general, there is still some uncertainty about commodity market prices published on the exchange especially as most commodity trades are settled informally in the local market (more than 99%). We expect to see sentiments change as more trades are settled on formalised exchanges like AFEX. More market education to different stakeholders would significantly help improve sentiments around exchange prices and their validity.

Section 4

OPERATIONS (STORAGE, FINANCE, QUALITY, SETTLEMENT, TECHNOLOGY, CROSS-BORDER)

4.1 Please describe the exchange's storage footprint – what type of storage (bag warehouse, bulk silo, other), how many storage facilities, in how many and what kinds of locations (e.g. rural, upcountry centres, wholesale/consumption markets, industrial areas, port), what storage capacity overall and on average per facility (in MT or m2).

AFEX directly operates a mix of wholesale and farmer rural warehouses. In pursuing a bottom up model, AFEX seeks to lease warehouse close to the production areas. These are lower cost for leasing. AFEX also selectively operates warehouses in wholesale centres for purpose of aggregation, in most cases leased, but also new-builds in particularly strategic areas.

While initially AFEX managed its own warehouses, from 2020, it has started to certify third party operators. AFEX is now also looking to license collateral managers to manage off-taker warehouses.

4.2 Are the storage locations for single or multiple commodities? Please describe.

Grain warehouses may handle multiple types of grains. Cocoa warehouses are for cocoa only with conventional cocoa warehouses different from certified ones.

4.3 Please describe which commodities are identity-preserved, and which are commingled. When commingled, please describe the commingling methodology (e.g. by quality grade).

Commodities are identity-preserved or commingled according to the practices of the value chain, the policies of the financier, and the type of market.

4.4 Please describe how warehouse management is organised at your exchange. Is there a warehouse operator who controls the storage facility? Do the storage facilities allow third-party operators or collateral managers? Who is responsible for the various warehouse services (e.g., maintaining stock, fumigation, labour force)?

See above.

4.5 Please describe the strengths and weaknesses of your storage model. What has worked well, and what have been the constraints? Kindly provide recommendations from your experience.

With reference to 4.1, our model acts as last-mile interaction frameworks with smallholders helping us to build better trust economies with them. Our urban storage services have also improved the quality and quantity elements of our delivery infrastructure with medium-large scale buyers as we are better able to leverage the transport networks within the city to deliver promptly on contracts.

4.6 Please describe the utilisation levels of the exchange's storage facilities over the course of the season. To what extent does your exchange cover its costs on warehousing service provision?

Utilisation levels are highest in the fourth quarter of the year with aggregation activities. The volume subsequently reduces as the season draws on across Q2 and Q3. All costs are fully covered by fees charged to buyers for storing commodities.

4.7 Do financiers - banks, MFIs etc - finance the stock in the exchange's storage facilities via warehouse receipt finance, collateral management agreement, or something similar? (please specify which).

Finance is mainly based on traditional collateral management agreement (CMA).

4.8 If the answer to 4.7 is yes, please identify for which commodities, for which kinds of borrower, and the basic terms of the financing (interest rate, term, loan to value ratio, currency, minimum and maximum loan amount).

As negotiated by the financier and borrower.

4.9 What were the main drivers to enabling the finance, and the main challenges to overcome? Please provide recommendations from your experience.

AFEX initially worked toward facilitating warehouse receipt financing of farmer deposits stored in rural warehouses through partnership with microfinance institutions (MFIs). However, the MFIs found it difficult to manage the technology and operations required to finance WRs, and it was challenging to scale with them.

Accordingly, AFEX rethought the approach and decided to develop a product similar to what the banks were used to trading – Asset Backed Commercial Paper, a debt market product based on off-taker buyback (or repo) commitments against stock secured in their warehouses, and further backed by the borrowers' balance sheets (in whole or in part). This helped assure banks of the risk of lending against stock, while creating liquidity for the off-takers to procure higher volumes of produce through AFEX.

The main challenge was the lack of knowledge about the operations of the commodity markets and its impact on the financial products that were listed. We dedicated months to educating capital market operators on the advantages of investing and also provided data to the financier which provided visibility across the entire chain of financing.

4.10 Please describe the process by which your organisation developed quality standards for the commodities offered?

Linked to national and industry standards.

4.11 What weight and quality testing facilities are present in your storage facilities? Are there weighbridges/weigh scales? Uniform bag sizes? Equipment for quality assessment and testing apparatus? Is there a Standard Operating Procedure (SOP) governing storage and quality processes?

AFEX warehouses include weight scales and quality testing measures.

4.12 What have been the main successes and challenges for market participants with adopting the exchange's quality standards? Please provide recommendations from your experience.

Clients who participate on the exchange are aware of the quality they are buying through the transparent framework of the exchange. This is not necessarily guaranteed when they interact in the open market.

4.13 To what extent does market pricing reflect the various levels of quality within the defined standard? (e.g. fixed premiums and discounts, market-discovered premiums and discounts etc).

Commodity are discounted based on their grade. Quality parameters are published at the exchange so sellers are aware of the attendant discount that accustoms each commodity grade. This discount is typically to account for moisture content, dirt and a host of other impurities that affect the quality of the commodity.

4.14 Do the exchange's quality standards include or address the following, and if so how:

- intangible factors such as taste, aroma, origin, variety
- traceability
- social certification schemes

Traceability

AFEX has developed a traceability tag system to provide on-sight details of every bag of commodity that has passed through AFEX's system. It provides details on; the farmer's identity, the geo-location of the farm from which it was produced, the date of the transaction, to the warehouse in which it was stored, and every stop it makes until it gets to the client.

Traceability

AFEX has developed a traceability tag system to provide on-sight details of every bag of commodity that has passed through AFEX's system. It provides details on; the farmer's identity, the geo-location of the farm from which it was produced, the date of the transaction, to the warehouse in which it was stored, and every stop it makes until it gets to the client.

Social Certification Scheme

AFEX cocoa farmers are on the Rainforest certification track. This ensures that their practices remain sustainable while they are respectful of protective areas.

4.15 Please describe the clearing and settlement arrangements on your exchange (e.g. delivery versus payment, central counterparty), and how it works. (You are kindly invited to respond to those detailed technical questions, as per the footnote⁶, which are applicable to your exchange.) Please provide recommendations from your experience.

Different markets involve different clearing mechanisms. Some involve formal processes (T+1, with prefunding by buyers and pre-authentication of the WR by sellers), others are direct delivery versus payment, and others are based on intention but not commitment.

4.16 Please describe the technology that you use for trading, clearing/payments, warehouse management, warehouse receipting and finance, market data and other services. Please identify physical processes where technology is not used. (You are kindly invited to respond to those detailed technical questions, as per the footnote⁷, which are applicable to your exchange.) Please provide recommendations from your experience.

Initially, AFEX used an expensive NASDAQ platform which proved unsuitable to meet the market need. Therefore, AFEX has developed technology in-house, called Com X, customised to meet the needs of stakeholders, and AFEX's evolving business model. This is important because it enables AFEX to manage cost, introducing new products and services without additional charges or dependencies, and to use the technology as equity to build joint ventures in lieu of cash.

4.17 Please describe the types of market data that your exchange disseminates, and the channels it uses for dissemination.

Exchange-price data & open-market data. The channels are (Television- Channels, Newspaper, Exchange platform – ComX, company website).

See above.

⁶ Please describe how fast settlement takes (e.g. T+1)? How does the exchange handle defaults? Please describe experiences in practice. Does your exchange have a settlement guarantee fund? If so, please describe. Does your exchange offer an arbitration service? If so, please describe.

Settlement takes place in T+3 hours on the exchange. Defaults are handled through the exchange's settlement fund. The exchange does not currently offer arbitration service.

⁷ Does the exchange have a website through which members can access their account in real time? Is there an application (android, ios, etc) that enables account access, management and activity? Does the exchange trading platform handle trading position limits and daily price-based circuit breakers? How many orders can the matching engine receive simultaneously? Does the front-end trader workscreen allow position monitoring, provide data analytics and portfolio analysis functionality? Does the system generate reports – real-time, end-of-day, end-of-month/year etc – for the regulator and market actors? Is there a FIX gateway for brokers to connect to the exchange in real time? Please describe system cyber-security and business continuity arrangements.

4.18 Do your markets feature any cross-border activity? If so, please state what, and describe how it works. (You are kindly invited to respond to those detailed technical questions, as per the footnote⁸, which are applicable to your exchange.) Please provide recommendations from your experience.

No, our markets do not feature any cross-border activity. However, cross-border trade activity will become a consistent element of our pan-African expansion across the western and eastern countries of note.

4.19 Otherwise, what do you see as the main cross-border opportunities for your exchange, and the challenges to realise them.

Most commodities are currently traded across borders especially in Eastern Africa. We hope to leverage the existing trade route to also move commodities. The biggest challenges are tariffs and borders, large information asymmetries and high-friction in cross-border payments and logistics. The overarching AFCFTA framework being developed should improve the terms of cross-border trade.

Section 5

IMPACT, SUCCESSES AND CHALLENGES

5.1 Please describe the main commercial and developmental impacts your exchange has made since launch.

The exchange has been pivotal in formalising the interactions of players in the commodities markets by introducing ease, speed and transparency to the entire end-to-end process. This has helped increased the number of willing participants on both sides of the market. The exchange also introduced financial products which allows retail and institutional investors partake in the market. The exchange as at the end of 2022 had unlocked more than \$400 million in trade value across different products.

5.2 Please elaborate, if your exchange doesn't offer them already, what additional impacts/benefits could be created by offering forward, futures and options contracts. Please also outline what would be the challenges of introducing these instruments in your jurisdiction.

Derivative markets provide a risk management framework for participants on the exchange. By allowing investors to unbundle and transfer these risks, derivatives contribute to a more efficient allocation of capital, facilitate cross-border capital flows, and create more opportunities for portfolio diversification. The exchange hopes to introduce these contracts from the 4th quarter of 2023. The biggest challenges with the listing of derivatives is market adoption.

5.3 Please describe the extent to which your exchange has become commercially sustainable, and the reasons for this – i.e. the enablers of sustainability, and/or the challenges in becoming sustainable.

Please refer to 5.1.

5.4 Overall, please summarize the main successes and challenges your exchange has faced.

• Successes

- Increased participation of market participants.
- Increased transaction volume & value.
- Successful listing and subscription of fixed income contracts.
- Product innovation
- Job creation

⁸ Can international market actors participate in your exchange? No If so, must they trade through a locally resident broker, or are offshore brokers permitted?... Can they send trading orders in from abroad? No. Can they use hard currency for trading and repatriate profits? No...If not, are their bottlenecks to access and convert local currency? How do international actors take local delivery? Does your exchange offer international delivery points for any of its contracts? No Or international-origin commodities? No..Can local actors trade in overseas markets through their front-end trader workscreen? No.

- Challenges

- Market adoption by pension fund administration & other capital market operators.

5.5

Please describe - illustrated by examples where possible - how the pricing and trading on your exchange is impacted by events in:

- Regional markets

- N/A

- Global markets

- The introduction of cocoa by AFEX has introduced a different dynamic. Whereas the trade of local grains is based on local players, local quality, and a short trade cycle, the cocoa trade is based on international prices, quality and a long trade cycle culminating in delivery to an offshore buyer. The quality disputes happen after shipping, which may be months after the transaction, and it is difficult to trace the source of defective or under-standard cocoa.

Section 6

STAKEHOLDER EXPERIENCES

This section comprises four sub-sections:

- **6.1 Farmers/farmer organisations (FOs)/intermediaries**
- **6.2 Agribusiness buyers (e.g. processors, manufacturers, exporters)**
- **6.3 Financiers and investors**
- **6.4 Institutions (e.g. government marketing board, food reserve agency, humanitarian agencies, institutional buyers like schools, hospitals, military, prisons)**

6.1 Farmers / Farmer Organisations (FOs) / Intermediaries

- **6.1.1 Please describe the extent to which farmers participate in your markets, and how: which types of farmer, for which commodities, for what purpose, and explain whether they do so directly or through producer organisations.**

AFEX has been able to leverage our warehouse infrastructure to build first-level relations with smallholder farmers. Today, more than 40% of the commodities traded on the exchange originate from smallholder farmers and they currently play across all value chains (staples & exports) traded on the exchange. Their transactions typically span from trade, loan repayment & storage. Most of the farmers engaged on the platform are smallholder farmers with <2 ha under cultivation. They typically participate in the primary market (for spot and OTC contracts). They do so directly and also through producer organisations.

• 6.1.2 Please describe the extent to which intermediaries (aggregators, traders, distributors etc) participate in your market, for which commodities, and for what purpose.

Aggregators play on both the OTC and Dawa (delivered spot contracts) across all the commodities. They are responsible for approximately 70% of all supply volumes on the exchange.

• 6.1.3 Please describe the main enablers and challenges to the participation of each of these stakeholders (farmers, FOs, intermediaries). Please provide recommendations from your experience.

The biggest challenge has been adoption of the exchange infrastructure. These players (farmers and intermediaries) are accustomed to trading in the informal market. Today, more than 99% of all commodities market transactions occur in the open, informal market.

• 6.1.4 Please identify, describe, and if possible, quantify, the value and impacts realised for participating farmers, FOs and intermediaries.

For farmers who have worked with us for more than 3 trading seasons, none of them are below the poverty line comparison to the 17% national average. 45% of the same farmers are currently food secure in comparison to the 11% national average.

• 6.1.5 Please describe how you have been able to overcome the following challenges with respect, separately, to farmers, FOs and intermediaries (as may be applicable):

- a. Farmer/FO/intermediary preference for cash on delivery/collection
We have created a framework that allows for settlement within T+3 hours.
- b. Farmer/FO/intermediary capacity to achieve minimum quality, weight and packaging requirements
Any and all commodities brought are discounted and also re-packaged if necessary.
- c. Farmer/FO/intermediary capacity to manage paper or electronic documents, in lieu of cash
Most farmers and farmer organisations operate through cooperatives and brokers.
- d. Farmer/FO/intermediary capacity to transport goods to an exchange warehouse
Warehouses are fairly distributed near farmer and aggregation locations helping to ease the movement of commodities.
- e. Farmer/FO/intermediary capacity to successfully apply for, receive and repay warehouse receipt finance loans
Farmers and FOs are managed through FEOs who on-board and monitor farmer activities on a monthly basis. This helps build trust economies with farmer network before loans are disbursed. Defaults are managed by insurance cover.
- f. Farmer/FO/intermediary capacity to make marketing decisions to realise returns and mitigate price risk
Farmers are wholly aware of the price dynamic of the respective commodity traded. The exchange also operates a transparent framework that involves daily publishing of price information across all commodities traded.
- g. Farmer/FO/intermediary capacity to utilize gains from post-harvest finance to fund productivity gain
This is facilitated through our input financing program.
- h. Farmer/FO/intermediary resistance to payment of fees
This is managed through market education.
- i. Farmer/FO/intermediary nervousness concerning transparency (e.g. due to taxation, or fear of competitors)
Not available.
- j. Concerns from intermediaries about being disintermediated through the exchange
Refer to (e) above.
- k. Other bottlenecks/challenges you have observed
Not available.

6.2 Agribusiness buyers (e.g. processors, manufacturers, exporters)

- 6.2.1 Please describe the extent to which agribusiness buyers participate in your markets, and how: which types of buyer, for which commodities, and for what purpose.

AFEX has developed close relationship with different buyers including aggregators and processors in the grain and cocoa chains.

- 6.2.2 Please describe the main enablers and challenges to the participation of agribusiness buyers. Please provide recommendations from your experience.

Increasing buyer access to finance has been an important enabler of buyer participation, as well as a secure supply of quality-standardised product.

- 6.2.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating agribusiness buyers.

As above.

- 6.2.4 Please describe how you have been able to overcome the following challenges with respect to agribusiness buyers (as may be applicable):

- Agribusiness preference for delivery to factory gate over collection from remote site.
Logistics prices are charged for all deliveries to factory gates. In any case, we also engage traders to deliver directly to client locations saving time.
- Agribusiness reluctance to pay quality-linked prices.
There is currently very little to no resistance on this front. The exchange clearly communicates the quality parameters with all clients.
- Agribusiness lack of requirement for warehouse receipt finance due to existing access to finance arrangements (e.g. pledge of fixed assets, inventory finance under CMA, trade finance).
Not available.
- Agribusiness resistance to payment of fees.
This is managed through market education.
- Agribusiness nervousness to expose their trade to transparency (e.g. due to taxation, or fear of competitors).
Not available.
- Other bottlenecks/challenges you have observed.
Not available.

6.3 Financiers and Investors

- **6.3.1 Please describe the extent to which financiers and investors participate in your markets, and how: which types of financier/investor, with respect to which commodities, and for what purpose.**

Financier partake in the commodities market through a mix of different products (input notes, Asset-Backed Commercial Paper etc.) design by the financing company. Investors primarily participate through different products (spots, exchange-traded contracts, fixed income notes, etc.) listed on the exchange. They primarily participate for interest income or directly for margin gain.

- **6.3.2 Please describe the main enablers and challenges to the participation of financiers and investors. Please provide recommendations from your experience.**

- Enablers

- Technology
- Price & Market information
- Training & Education

- Challenges

- Cyclical nature of the commodities market

- **6.3.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating financiers and investors**

Investors would typically gain anywhere from 5% - 25% from spot and exchange traded contracts over a period of 9 months. Financiers will gain 10 - 15% from fixed income contracts.

- **6.3.4 Please describe how you have been able to overcome the following challenges with respect to financiers and investors (as may be applicable):**

- Excessive risk perceptions with respect to agricultural and commodities.
- Market education
- Excessive risk perceptions with respect to farmers, FOs and SMEs
- Market education
- Full transparency
- High interest rates
- All interest rates are fully representative of the current market dynamics
- Lack of liquidity
- This is somewhat representative of the nature of the underlying commodities market. We have also taken steps to introduce market makers
- Lack of bank capacity
- Working actively to engage commercial banks. They currently engage us on the collateral management front
- Legal or regulatory challenges
- Full transparency with the SEC
- Market education on proper regulatory conduct
- Other bottlenecks/challenges you have observed
- Not available

6.4 Institutions (e.g. government marketing board, food reserve agency, humanitarian agencies, institutional buyers like schools, hospitals, military, prisons)

• 6.4.1

Please describe the extent to which institutions participate in your markets, and how: which types of institution, with respect to which commodities, and for what purpose.

Not available.

• 6.4.2

Please describe the main enablers and challenges to the participation of institutions. Please provide recommendations from your experience.

Not available.

• 6.4.3

Please identify, describe, and if possible quantify, the value and impacts realised for participating institutions

Not available.

• 6.4.4

Please describe how you have been able to overcome the following challenges with respect to institutions (as may be applicable):

- a. Aligning with Institutional Mandate
Not available
- b. Aligning with Rules and Procedures
Not available
- c. Aligning with Exchange Quality Standards
Not available
- d. Acceptance of using the Exchange's Storage Facilities
Not available
- e. Institutional Capacity
Not available
- f. Other
Not available

04 ECX, Ethiopia

- **Name of Exchange:** Ethiopia Commodity Exchange
- **Name of Respondent:** Alemu Tsegaye
- **Job Title of Respondent:** Chief Strategy & Corporate Communication Officer
- **Date of Response:** March 21, 2023

Section 1

HISTORICAL DEVELOPMENT

1.1 In which year did your exchange launch?

April 2008.

1.2 How long did it take to prepare the exchange for launch? What were the key steps?

It took about three years to prepare the exchange for launch. The steps were:

- A project team consisting of Ethiopian professionals from abroad and foreign experts on the subject were formed to lead the launching. This team design the whole system including legal requirements, procedures and other requirements.
- An exposure visit to India with key stakeholders (government officials and key private companies to meet similar organizations in India).
- Strong awareness creation, including workshops with key actors.
- As there were no institutions which can provide the warehouses and quality certification services in the country, the system was designed to cover an end-to-end process which includes quality certification, warehouse operation, trading, clearing and settlement and data dissemination.

1.3 Who were the initiators of and investors into the exchange, and for what reasons? (i.e. government, financial institutions, farmers, private sector, etc).

The initiator is the Government of Ethiopia initially to modernize the agricultural marketing system. Two-year back ECX was granted the mandate to expand into other sectors like mining, industry sector finance and futures market.

Section 2

ORGANISATIONAL STRUCTURE AND GOVERNANCE

2.1 As what type of organisation is your exchange structured (e.g. public limited company, partnership, mutually owned, non-profit, etc), and why? What kinds of organisation, if any, own your exchange (i.e. hold equity, membership and/or 'seats', as applicable)?

The organization is structured as PPP (Public Private Partnership Company). The key actors, members (Intermediary and trading members) have a seat. Recently the exchange has implemented a new window for non-members direct trader (NMDT).

2.2 Please describe the governance structures of your exchange

ECX is a non for profit demutualized public private entity. At the top there is a Board of Directors consisting of eleven members out of which six are from government, and five are market actors. The exchange has an autonomous and professional management body having three layers to manage the day-to-day operations of the company. These are the executive leadership that includes the CEO and D/CEOs; senior management team that includes department heads (chief officers), and division heads (Managers).

2.3 Please describe how, if at all, your exchange engages with policymakers (e.g. within policy dialogues, official reporting mechanisms/committees, governance structures, informal contacts, etc). Please describe the strengths and weaknesses of policy engagement at your exchange and provide recommendations from experience.

The Exchange submits an official report on quarterly basis to MOT&RI (Ministry of Trade & Regional Integration). There is also a periodic dialogue with MOTRI officials and House representatives on modern marketing in general and operation of ECX with emphasis on the required support to boost the company's operations.

The strength is strong policy support if the assigned official is well aware about the benefits of the exchange (e.g. mandating some commodities trade at the exchange only).

The key challenge is lack of knowledge about modern marketing by some officials, which requires ECX to deliver continuous training and awareness creation program including visit on how ECX works and benefits of the modern marketing to the country in general and trading actors in particular.

2.4 Please describe by which agency/authority your exchange is regulated (if applicable), under what legal framework, and licensing arrangements? Please describe how your exchange engages with its regulator(s). Please describe the strengths and weaknesses of regulator engagement at your exchange and provide recommendations from experience.

Until recently, ECX was regulated by the Ethiopia Commodity Exchange Authority. Currently the Ministry of Trade and Regional Integration is mandated to regulate ECX. The organizational structure, all contracts and new market models are approved by the MOT&RI before launching. MOT&RI also evaluates the performance of the exchange via monthly and quarterly performance reports and periodic management meetings. market actors, and very strongly encouraged participation by banks who saw the introduction of the law as a very positive development. (E.g. Ecobank mandated all collateral managers to issue receipts through ACE, because an electronic WR has super-priority over registration in the Personal Property Security Registry System).

Section 3 OFFERING

3.1 For which commodities/assets does your exchange offer markets?

For agricultural commodities such as grains, pulses, oilseeds, coffee and spices. Mining products comprises of Opal, Sapphire and Emerald are in process to be listed on the exchange.

3.2 For which instruments does your exchange offer markets (e.g. spot, forward, futures, brokered solutions, indices, other)?

Currently ECX offers a spot market. The study on customized forward market is completed and is submitted to MOT&RI for approval, after which ECX will provide both the spot and customized forward market.

3.3 How many contracts and/or MTs (as applicable) has your exchange traded per commodity per year - last year, and in your most successful year?

There are 22 listed contracts on the exchange. In 2021/22, a total of 299,823 MT was traded, consisting of coffee (77,863 MT), sesame (112, 329 MT), white pea beans (30,575 MT), soya bean (34,063 MT), mung bean (18,905 MT), red kidney beans (15,600) MT, mixed colour bean (9,146 MT), pigeon pea (1,341 MT), and spices (0.6 MT). The most successful year is 2019/20. A total volume of (761,896 MT) of various types of commodity was traded during this successful year.

3.4 Approximately what proportion of total national production is traded through your exchange for each commodity?

Mandatory commodities such as sesame, soya bean, mung bean and pulses are traded about 60 to 75% of the national product. Non-mandatory commodities average is below 20% of the national production.

3.5 Apart from exchange-trading and relating clearing and settlement services, what other services does your organisation offer?

ECX provides an end-to-end service starting from quality certification service, warehouse and inventory management service, trading, clearing & settlement, market data dissemination and warehouse receipt financing services.

3.6 Please describe how membership, and market access more generally, is structured at your exchange (i.e. who is entitled to participate, on what basis/eligibility, under what kinds of category...).

The exchange has two class of ordinary members i.e. trading member and intermediary members and two special classes of limited members i.e. limited trading member and limited intermediary members.

Any person, business organization public organization or cooperatives may be admitted for membership if they fulfil the following major requirements:

- Has been recognized as an exchange actor by the authority
- Has produced audited financial statement from an authority recognized auditor certifying the following minimum requirement for net worth according to the call of membership
 - a) Trading member 500,000 birr (approximately 10,000USD)
 - b) Intermediary member 100,000 birr (Approximately 2,000 USD)
- Has paid membership seat price of 50,000 birr (approximately 1,000 USD)
- Has paid first year annual membership maintenance fee
- Has paid non-interest bearing security deposit in the form of cash 200,000 birr (4000 USD) for trading member and birr 300, 000 (approximately 6,000 USD) for intermediary member
- Valid licence

3.7 To what extent does your exchange perform price discovery? Please describe the prices that are discovered - are they by commodity type, by grade, by location etc.

Price offer and bid is made based on commodity type, grade and delivery location. Hence, price is discovered by combination of the commodity type, grade and location. But within the price rage set by the MOT&RI.

3.8 Please appraise to what extent are the exchange's prices used by value chain actors as references in their transactions. Please also describe the limitations and bottlenecks to price discovery at your exchange – what is holding back the exchange's prices from being further adopted by the value chain as benchmarks. Kindly provide recommendations from your experience.

Market actors in the value chain uses the exchange prices as a reference especially actors in the rural and urban market. The major obstacle is the price range set by the government officials on some commodities. For true price discovery, we strongly recommend price to be determined by supply and demand.

Section 4

OPERATIONS (STORAGE, FINANCE, QUALITY, SETTLEMENT, TECHNOLOGY, CROSS-BORDER)

4.1 Please describe the exchange's storage footprint – what type of storage (bag warehouse, bulk silo, other), how many storage facilities, in how many and what kinds of locations (e.g. rural, upcountry centres, wholesale/consumption markets, industrial areas, port), what storage capacity overall and on average per facility (in MT or m2).

ECX uses bag warehouses. The company has 63 warehouses with a holding capacity of 500,000 MT at a time. The maximum warehouse holds 15,000 MT and the minimum 5,000 MT. The warehouses are found in 25 locations around the country.

4.2 Are the storage locations for single or multiple commodities? Please describe.

The storage locations are for multiple commodities. However, there is a single commodity in a particular store.

4.3 Please describe which commodities are identity-preserved, and which are commingled. When commingled, please describe the commingling methodology (e.g. by quality grade).

ECX uses identity preservation for coffee and spices. Others commodities are commingled by grade.

4.4 Please describe how warehouse management is organised at your exchange. Is there a warehouse operator who controls the storage facility? Do the storage facilities allow third-party operators or collateral managers? Who is responsible for the various warehouse services (e.g., maintaining stock, fumigation, labour force)?

ECX manages all the warehouses by itself and enters into an agreement with daily labourers for loading and unloading activities. ECX outsources the fumigation and security services.

4.5 Please describe the strengths and weaknesses of your storage model. What has worked well, and what have been the constraints? Kindly provide recommendations from your experience.

The strength is accessibility of warehouses in the high production zones that reduces the up and down of suppliers including farmers and cooperatives.

The weaknesses are the access infrastructure issue. Roads that lead to the warehouse can become an obstacle for the smooth flow of trucks. Broadband service and power interruption is also an issue.

4.6 Please describe the utilisation levels of the exchange's storage facilities over the course of the season. To what extent does your exchange cover its costs on warehousing service provision?

The utilization for identity preserved model (coffee and spices) is about 35% only. For commingled goods, the utilization is about 80%. ECX covers about 60% of the cost of warehouse but is compensated by the trading fee.

4.7 Do financiers - banks, MFIs etc - finance the stock in the exchange's storage facilities via warehouse receipt finance, collateral management agreement, or something similar? (please specify which).

Banks provide short term financing via WRF.

4.8 If the answer to 4.7 is yes, please identify for which commodities, for which kinds of borrower, and the basic terms of the financing (interest rate, term, loan to value ratio, currency, minimum and maximum loan amount).

Banks that have an agreement with ECX to work together with a WRF facility gives the service for all commodities deposited at ECX warehouse. The loan amount is between 70 to 80% of the value of the commodity. The interest rate varies from bank to bank.

4.9 What were the main drivers to enabling the finance, and the main challenges to overcome? Please provide recommendations from your experience.

The main drivers enabling the finance is the low price of commodities during harvest season which affects farmers/producers to sell their commodities at lower price.

The main challenge is long period of processing the loan and lack of market liquidity. It can be overcome by pre financing application scheme. That is, a borrower can apply for a loan ahead of depositing the commodity at ECX warehouse.

4.10 Please describe the process by which your organisation developed quality standards for the commodities offered? The process is as follows:

A group of experts from ECX and other institutions is formed to conduct the quality profile study and recommend the quality standard.

An advisory panel, comprising a group of experts from research, and other experienced experts, are called for a meeting to discuss the draft quality standard. The quality standard is amended per the feedback from the panellists.

An industry consultation with the business actors is carried out on the developed quality standard. The quality standard is further amended based on the comments from the industry actors.

Finally, the quality standard is subject to approval by ECX management, the board of directors, and MOT&RI.

Lastly, there is the launching of the approved new contract.

4.11 What weight and quality testing facilities are present in your storage facilities? Are there weighbridges/ weigh scales? Uniform bag sizes? Equipment for quality assessment and testing apparatus? Is there a Standard Operating Procedure (SOP) governing storage and quality processes?

There is a warehouse and quality operation procedure, which serves as a guide in the warehouses and quality operation activities. There is a weighbridge in each branch to determine the weight and an organized laboratory with fully equipped equipment and testing apparatus. The bag size and weight is uniform with tolerance of +/-4% for weight.

4.12 What have been the main successes and challenges for market participants with adopting the exchange's quality standards? Please provide recommendations from your experience.

The preparation of the exchange's quality standard is participatory. All actors (experts on the subject, key traders, buyers, suppliers, agro-processors and government officials) are all involved on the preparation. The issue is related to a lack of confidence on the quality grading process of ECX. Currently, as actors are provided continuous awareness creation on the quality determination process and are allowed to see how their commodities are graded, the situation is improving from time to time.

4.13 To what extent does market pricing reflect the various levels of quality within the defined standard? (e.g. fixed premiums and discounts, market-discovered premiums and discounts etc).

In general, price is determined by levels of quality. Price bids and offers are based on quality and location. But for some commodities like coffee there is a price range set by the officials.

4.14 Do the exchange's quality standards include or address the following, and if so how:

- Intangible factors such as taste, aroma, origin, variety.
- All the intangibles apply for coffee, whereas for grains and pulses only origin applies.
- Traceability applies for coffee and spices. Other commodities are listed by grade and location.
- Social certification schemes are not applied.

4.15 Please describe the clearing and settlement arrangements on your exchange (e.g. delivery versus payment, central counterparty), and how it works. (You are kindly invited to respond to those detailed technical questions, as per the footnote⁹, which are applicable to your exchange.). Please provide recommendations from your experience.

The clearing and settlement arrangement is on a T+1 basis. Before entering into the trading pit market actors (buy-side) are assessed for having sufficient funds in the bank account managed by ECX. The system does not allow for any buyer to buy if they do not have sufficient funds in the account. Similarly, sellers are assessed for the type, grade and quality of commodity they have in storage at ECX warehouses. Though not utilized there is an SGF (Settlement Guarantee Fund) deposited by the market actors.

4.16 Please describe the technology that you use for trading, clearing/payments, warehouse management, warehouse receipting and finance, market data and other services. Please identify physical processes where technology is not used. (You are kindly invited to respond to those detailed technical questions, as per the footnote¹⁰, which are applicable to your exchange.) Please provide recommendations from your experience.**4.17 Please describe the types of market data that your exchange disseminates, and the channels it uses for dissemination.**

ECX disseminate real time data via tickers, MIK, IVR and SMS and daily average market data via mainstream media, social media and telegram.

4.18 Do your markets feature any cross-border activity? If so, please state what, and describe how it works. (You are kindly invited to respond to those detailed technical questions, as per the footnote¹¹, which are applicable to your exchange.) Please provide recommendations from your experience.

No, the market serves local market actors only.

4.19 Otherwise, what do you see as the main cross-border opportunities for your exchange, and the challenges to realise them.

The African Continental Free Trade Agreement is an opportunity. The major challenge is the payment system and IT capability. Once the payment system is open to foreign banks there is a possibility that the market will serve both foreign and local traders.

⁹ Please describe how fast settlement takes (e.g. T+1)? How does the exchange handle defaults? Please describe experiences in practice. Does your exchange have a settlement guarantee fund? If so, please describe. Does your exchange offer an arbitration service? If so, please describe.

¹⁰ Does the exchange have a website through which members can access their account in real time? Is there an application (android, ios, etc) that enables account access, management and activity? Does the exchange trading platform handle trading position limits and daily price-based circuit breakers? How many orders can the matching engine receive simultaneously? Does the front-end trader workscreen allow position monitoring, provide data analytics and portfolio analysis functionality? Does the system generate reports – real-time, end-of-day, end-of-month/year etc – for the regulator and market actors? Is there a FIX gateway for brokers to connect to the exchange in real time? Please describe system cyber-security and business continuity arrangements.

¹¹ Can international market actors participate in your exchange? If so, must they trade through a locally resident broker, or are offshore brokers permitted? Can they send trading orders in from abroad? Can they use hard currency for trading and repatriate profits? If not, are their bottlenecks to access and convert local currency? How do international actors take local delivery? Does your exchange offer international delivery points for any of its contracts? Or international-origin commodities? Can local actors trade in overseas markets through their front-end trader workscreen?

Section 5

IMPACT, SUCCESSES AND CHALLENGES

5.1 Please describe the main commercial and developmental impacts your exchange has made since launch.

- Standardized contract.
- Producers know that producing a quality commodity pays well. Hence farmers start giving attention to quality.
- Producers focus on cash crops specially commodities that have a high demand in the market.
- Buyers get a big volume with known quality in a specific location.
- The cost of marketing has reduced for both buyers and sellers.
- ECX serves as a database for researchers and policy makers.
- Enable the government to collect taxes.
- Creation of modern traders.
- Digital payment system.

5.2 Please elaborate, if your exchange doesn't offer them already, what additional impacts/benefits could be created by offering forward, futures and options contracts. Please also outline what would be the challenges of introducing these instruments in your jurisdiction

Price and supply risk can be well managed by offering forward, futures and options contracts. The main challenge in introducing these instruments is approval of the government and internal capacity.

5.3 Please describe the extent to which your exchange has become commercially sustainable, and the reasons for this – i.e. the enablers of sustainability, and/or the challenges in becoming sustainable.

Some time ago, the exchange was commercially sustainable, as there was a supportive government policy that mandated some commodities to be traded at the exchange in a mandatory option. As the market is now an optional market, liquidity is very low. The main issue for low liquidity and commercial sustainability is lack of willingness for transparency as it leads to tax payments and price regulation [range] at the exchange.

5.4 Overall, please summarize the main successes and challenges your exchange has faced.

• Successes

- Standardized contract
- Producers are paid and benefited for quality production
- Buyers get a volume of production and known standard commodity grade at a time
- Government revenue from tax
- Market lead production
- Reliable market data for researchers and policy makers

• Challenges

- Infrastructure issues - road, power and telecommunication in and surrounding warehouses of the exchange
- Lack of understanding on the role of the transparent market both by the market actors and policy makers
- Supply constraints
- Lack of willingness for a transparent business, related to tax evasion

5.5 Please describe - illustrated by examples where possible - how the pricing and trading on your exchange is impacted by events in:

• Regional markets

- There is no pricing and trading impact of regional market on ECX.

• Global markets

- The volume and price of exportable commodities especially coffee, sesame seed, soybean is affected by the global markets. If the volume of production of major producers in Brazil, Vietnam and Colombia for coffee, and India and China for sesame is high, the price at ECX goes down.

Section 6

STAKEHOLDER EXPERIENCES

This section comprises four sub-sections:

- **6.1 Farmers/farmer organisations (FOs)/intermediaries**
- **6.2 Agribusiness buyers (e.g. processors, manufacturers, exporters)**
- **6.3 Financiers and investors**
- **6.4 Institutions (e.g. government marketing board, food reserve agency, humanitarian agencies, institutional buyers like schools, hospitals, military, prisons)**

6.1 Farmers / Farmer Organisations (FOs) / Intermediaries

- **6.1.1 Please describe the extent to which farmers participate in your markets, and how: which types of farmer, for which commodities, for what purpose, and explain whether they do so directly or through producer organisations.**

The participation of small-scale farmers comes via cooperatives (producer organizations) but some farmers with better capacity participate in the system as non-member direct traders (NMDT).

- **6.1.2 Please describe the extent to which intermediaries (aggregators, traders, distributors etc) participate in your market, for which commodities, and for what purpose.**

- *Aggregators participate as a seller to the exporters and agro-processors for all commodities*
- *Exporters participate as a buyer in the ECX market and export the commodities to foreign buyers*
- *Agro-processors participate mainly in the soya bean market to use for their industries*

- **6.1.3 Please describe the main enablers and challenges to the participation of each of these stakeholders (farmers, FOs, intermediaries). Please provide recommendations from your experience.**

- *The enabler for farmers is availability of NMDT window, which gives the chance to trade their commodities with minimum requirement. No seat is required for NMDT.*
- *FOs have two option to participate in the market. One, they have a special seat price offer set for FO. Secondly, they can trade as an NMDT without having a seat.*
- *The challenge for intermediaries is lack of liquidity.*
- *Farmers challenge is lack of skill to participate in the system as the system needs special training and skill.*

- **6.1.4 Please identify, describe, and if possible, quantify, the value and impacts realised for participating farmers, FOs and intermediaries.**

- *Improved bargaining power of price, guaranteed payment, understand the value of producing high quality product, as price is based on standard quality and reduced transportation and marketing cost.*

- **6.1.5 Please describe how you have been able to overcome the following challenges with respect, separately, to farmers, FOs and intermediaries (as may be applicable):**

- a. Farmer/FO/intermediary preference for cash on delivery/collection
ECX uses a T+1 system. ECX does not accommodate cash on delivery.
- b. Farmer/FO/intermediary capacity to achieve minimum quality, weight and packaging requirements
There is a frequent challenge to achieve quality and packaging. Continuous training is delivered to improve the quality and fulfil the packaging requirement. However, ECX change the package on fee basis if the package is below the requirement. For an arrival of quality below requirement, the owner will be asked to clean the commodities at his own cost.

- c. Farmer/FO/intermediary capacity to manage paper or electronic documents, in lieu of cash
Farmers have a capacity gap of managing paper and electronic documents. However, representatives handle the paperwork.
- d. Farmer/FO/intermediary capacity to transport goods to an exchange warehouse
Availability of standard, sufficient and affordable cost of transportation is a serious issue. As much as possible, the federal and regional government officials are working together to minimize the problem.
- e. Farmer/FO/intermediary capacity to successfully apply for, receive and repay warehouse receipt finance loans
The warehouse receipt financing system is new. There is low awareness about the system and how the system works. There has not been time yet to evaluate the capacity to successfully apply for, receive and repay the WRF.
- f. Farmer/FO/intermediary capacity to make marketing decisions to realise returns and mitigate price risk
Intermediaries are professional traders. They watch the ECX market and world price trends to mitigate price risk. Farmers use ECX's real time price to make their decisions.
- g. Farmer/FO/intermediary capacity to utilize gains from post-harvest finance to fund productivity gain
Not known.
- h. Farmer/FO/intermediary resistance to payment of fees
A new model called NMDT (non-member direct trade) is implemented for farmers/FO who resist fee payment for the intermediary broker ('IM').

Related to the fee for ECX, all traders know the fee amount and the fee is deducted by the system when trade is affected.
- i. Farmer/FO/intermediary nervousness concerning transparency (e.g. due to taxation, or fear of competitors)
Some traders prefer the unstructured market due to transparency, which leads to taxation. An awareness creation on the benefits they get from the transparent market and training on the benefits of paying tax to the country and citizens are implemented to overcome the challenges.
- j. Concerns from intermediaries about being disintermediated through the exchange
There is a concern from intermediaries about being disintermediated when NMDT window is implemented. However, as the number of NMDT users are still small it is not a big concern at this time.
- k. Other bottlenecks/challenges you have observed
Not applicable.

6.2 Agribusiness buyers (e.g. processors, manufacturers, exporters)

• 6.2.1 Please describe the extent to which agribusiness buyers participate in your markets, and how: which types of buyer, for which commodities, and for what purpose.

Almost all commodities traded at ECX are export commodities. Coffee, sesame seeds, variety of pulses and green mung bean are major export commodities traded at ECX. Exporters are the major buyers at the platform for export purpose. Recently agro-processors buy soybean in a special window prepared for processors only as the raw material for industrial processing.

• 6.2.2 Please describe the main enablers and challenges to the participation of agribusiness buyers. Please provide recommendations from your experience.

The enabler for the participation of agribusinesses is availability of standard quality commodities in high volume at a specific location. Shortage of supply and high price set by exporters are a challenge for agribusinesses.

• **6.2.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating agribusiness buyers.**

Agribusiness buyers get an aggregated amount and known standard quality, reduced cost of marketing.

• **6.2.4 Please describe how you have been able to overcome the following challenges with respect to agribusiness buyers (as may be applicable):**

- a. Agribusiness preference for delivery to factory gate over collection from remote site.
They may prefer delivery to factory gate. However, ECX does not accommodate such a system. ECX system is for buyers to buy and collect from the about 25 delivery locations.
- b. Agribusiness reluctance to pay quality-linked prices.
The ECX system sets a price range based on quality.
- c. Agribusiness lack of requirement for warehouse receipt finance due to existing access to finance arrangements (e.g. pledge of fixed assets, inventory finance under CMA, trade finance).
Existence of other access to finance is not a major issue, rather the issue is the warehouse receipt financing is for short term financing, while agribusinesses prefer longer term financing.
- d. Agribusiness resistance to payment of fees.
Some agribusinesses prefer to buy from alternative markets in order not to pay a fee for IM (intermediary members) and ECX Fee. As an option, ECX has arranged a new trade modality NMDT for those who do not want to pay the fee. Agribusiness can get the service as NMDT (non-member direct traders) without paying a fee to the IM.
- e. Agribusiness nervousness to expose their trade to transparency (e.g. due to taxation, or fear of competitors).
Hiding tax is a real challenge for the ECX transparent system. This is managed by creating awareness on the benefits of paying tax to the country and themselves.
- f. Other bottlenecks/challenges you have observed.
Lack of confidence on the ECX grading system is the major issue. To create the confidence, ECX implement various reforms on the grading process like allowing owners and buyer to visit the grading process, sample display before buying the commodity and two eye grading system.

6.3 Financiers and Investors

• **6.3.1 Please describe the extent to which financiers and investors participate in your markets, and how: which types of financier/investor, with respect to which commodities, and for what purpose.**

All commercial banks (government owned and private banks) participate in the market as a clearing and settlement bank, in partnership with ECX to all commodities. Four banks - Commercial Bank of Ethiopia (a government owned bank), Awash Bank, Abyssinia Bank and Hebrat Bank - have signed an agreement with ECX to work on the warehouse receipt financing scheme.

• **6.3.2 Please describe the main enablers and challenges to the participation of financiers and investors. Please provide recommendations from your experience.**

The challenges are forecasting the value of commodities pledged for warehouse receipt finance.

• **6.3.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating financiers and investors.**

Warehouse receipt finance is a newly implemented service where the impact cannot be measured at this time.

• **6.3.4 Please describe how you have been able to overcome the following challenges with respect to financiers and investors (as may be applicable):**

- a. Excessive risk perceptions with respect to agricultural and commodities
There was an excessive risk perception at the inception of warehouse receipt finance scheme. The role of IFC to provide an intensive awareness creation and study report on price trends has reduced the risk perception.
- b. Excessive risk perceptions with respect to farmers, FOs and SMEs
No data/information to answer this question.
- c. High interest rates
It is a serious issue. However, ECX has conducted a negotiation with financier to set an acceptable interest rate.
- d. Lack of liquidity
This is a big challenge at ECX in a few agricultural commodities. ECX is trying to solve the issue via a liquidity enhancement strategy.
- e. Lack of bank capacity
Currently it is not an issue.
- f. Legal or regulatory challenges
As a government-owned exchange, how ECX operates is determined by the rules and regulation set by the government and a prerequisite approval of MOT&RI (Ministry of Trade & Regional Integration) for new initiatives like new trade model, fees, etc. Hence implementation of new initiatives takes time.
- g. Other bottlenecks/challenges you have observed
The long paper process to get the financing is a challenge. IFC, ECX and the financiers together found a solution. That is to apply for a financing loan ahead of depositing the commodities at ECX storage.

6.4 Institutions (e.g. government marketing board, food reserve agency, humanitarian agencies, institutional buyers like schools, hospitals, military, prisons)

• **6.4.1 Please describe the extent to which institutions participate in your markets, and how: which types of institution, with respect to which commodities, and for what purpose.**

Such institutions do not participate yet at ECX market.

• **6.4.2 Please describe the main enablers and challenges to the participation of institutions. Please provide recommendations from your experience.**

Not available.

• **6.4.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating institutions**

Not available.

• 6.4.4 Please describe how you have been able to overcome the following challenges with respect to institutions (as may be applicable):

- a.** Aligning with Institutional Mandate
There are a number of mandates given to ECX such as to trade spot, futures, derivatives etc but internal gaps, such as the technological and skill/capacity gap and readiness of traders are a challenge. Hence, the exchange tries to align gradually.
- b.** Aligning with Rules and Procedures
ECX should operation aligning with rules and regulation set by the authority. If there is a rule and regulation that is challenge our compliance department along with other concerned department prepare an amendment and submit to MOTRI for approval.
- c.** Aligning with Exchange Quality Standards
The challenges of aligning with the quality standard is a serious issue we are trying to overcome by giving a continuous training on ECX quality standards and the process of grading.
- d.** Acceptance of using the Exchange's Storage Facilities
The exchanges storage facility is comparatively good. There is no major acceptance issue on using storage facilities of the exchange.
- e.** Institutional Capacity
ECX has institutional capacity gaps, especially on designing and implementing new market models like futures and other derivatives. As the skill is not available locally, recruiting a consultant and recruiting an Ethiopian expatriate is used as a solution.
- f.** Other
Not available

05 GCX, Ghana

- **Name of Exchange:** Ghana Commodity Exchange (GCX)
- **Name of Respondent:** Robert Dowuona Owoo
- **Job Title of Respondent:** Chief Operations Officer
- **Date of Response:** 04 / 05 / 2023

Section 1

HISTORICAL DEVELOPMENT

1.1 In which year did your exchange launch?

The Exchange was launched in November 2018.

1.2 How long did it take to prepare the exchange for launch? What were the key steps?

It took 2.5 years. A Project Team set up in 2015 initiated key steps which included market scoping, commodity selection and specification, and development of the Exchange design. Further steps included recruitment and training of staff, technology selection and customization, head office and warehouse identification and set-up, and sensitization of market participants.

1.3 Who were the initiators of and investors into the exchange, and for what reasons? (i.e. government, financial institutions, farmers, private sector, etc).

The government initiated the Exchange, but established it as a private company. Initially the government has been the sole shareholder, but it is expected that the government will divest its equity to strategic investors and the Ghanaian public over time.

Section 2

ORGANISATIONAL STRUCTURE AND GOVERNANCE

2.1 As what type of organisation is your exchange structured (e.g. public limited company, partnership, mutually owned, non-profit, etc), and why? What kinds of organisation, if any, own your exchange (i.e. hold equity, membership and/or 'seats', as applicable)?

Private company limited by shares.

2.2 Please describe the governance structures of your exchange.

The Exchange has a board of directors, and, in line with best practice, the following board committees:

- Audit
- Finance, Risk, and Administration
- Operations, Product Development and Technology
- Legal and Compliance

2.3 Please describe how, if at all, your exchange engages with policymakers (e.g. within policy dialogues, official reporting mechanisms/committees, governance structures, informal contacts, etc.). Please describe the strengths and weaknesses of policy engagement at your exchange and provide recommendations from experience.

The Exchange maintains an ongoing dialogue and reports through its Board to Government as the principal shareholder, principally through the Ministry of Finance. The dialogue has been strategic as GCX seeks to create synergy with government policy initiatives and other parastatals. Among others, this has helped broaden the GCX warehouse footprint, create opportunities for supply to public institutions, and synergised outreach to farmers and farmer organisations with ongoing extension services at the district level. GCX also was a leading participant in the Ghana CARES program, the COVID recovery flagship policy by Government with the aim to boost farmer incomes and resilience.

However, there is more that could be done to leverage the Exchange platform within the existing policy initiatives and sectoral regulatory strategies and frameworks for Ghana's strategic value chains including cocoa, gold and crude oil.

2.4 Please describe by which agency/authority your exchange is regulated (if applicable), under what legal framework, and licensing arrangements? Please describe how your exchange engages with its regulator(s). Please describe the strengths and weaknesses of regulator engagement at your exchange and provide recommendations from experience.

GCX is licensed as a commodity exchange, as an operator licensed to issue negotiable warehouse receipts and self-regulatory organization (SRO) by the Securities and Exchange Commission of Ghana (SEC-G). GCX reports market information to the regulator, maintains with SEC-G the list of members and ensures the members are duly licensed by SEC-G, and notifies and coordinates with the regulator, in the event of any irregularities that infrequently arise in the market.

As Ghana's capital markets regulator, SEC-G is experienced and knowledgeable on how to regulate an exchange marketplace, in particular in the balance of responsibilities between the SRO as the 'first line regulator' and the public regulatory authority as the 'second-line regulator'. SEC-G has maintained strong discipline in its regulation of GCX, in line with norms for regulation of capital markets, which gives credibility to market participants. The SEC also relies on other statutory bodies, such as, the Ghana Standards Authority (GSA) and the Food and Drugs Authority (FDA) to certify and regulate warehouses and operators of these warehouses. The key staff of the warehouse have to be certified by the GSA and licenced by the SEC.

Section 3 OFFERING

3.1 For which commodities/assets does your exchange offer markets?

Maize, rice, sesame, soya bean and sorghum. GCX has also piloted trades via reserve auction as an alternative trading method for cashew.

3.2 For which instruments does your exchange offer markets (e.g. spot, forward, futures, brokered solutions, indices, other)?

GCX offers spot trade and warehouse receipting for these commodities.

3.3 How many contracts and/or MTs (as applicable) has your exchange traded per commodity per year - last year, and in your most successful year?

Approximately 10,000 contracts, mostly maize, but including 2,500 contracts of cashew and 2,000 contracts of soya. We are experiencing year on year growth with this current year, our fifth year of operation, exceeding 30,000.

3.4 Approximately what proportion of total national production is traded through your exchange for each commodity?

Currently less than 1% for all commodities

3.5 Apart from exchange-trading and relating clearing and settlement services, what other services does your organisation offer?

- Secured storage with grain testing facilities
- Grading to meet national standards
- Reliable fair and transparent price discovery process
- Settlement in cash within 24 hours
- Real-time price and market information
- Secured and reliable delivery locations
- Capacity building for farmers, traders and market actors
- Linkage to source grain from West Africa and global markets

3.6 Please describe how membership, and market access more generally, is structured at your exchange (i.e. who is entitled to participate, on what basis/eligibility, under what kinds of category...).

• TRADING MEMBER (TM)

• Scope

- Can buy and sell all commodities for self only
- Can settle all commodities for self only

• Membership requirement

- Company registration certificate
- Tax clearance certificate/VAT registration certificate
- Latest Auditor report
- Net worth of GHC 50,000
- Signed GCX Risk Disclosure form
- GCX Basic membership training certificate
- At least one (1) Floor representative

• BROKER MEMBER (BM)

• Scope

- Can buy and sell all commodities for self and other exchange members and non-members (clients)
- Can settle all commodities for self and others

• Membership requirement

- Company registration certificate
- Tax clearance certificate/VAT registration certificate
- Latest Auditor report
- Net worth of GHC 80,000
- Signed GCX Risk Disclosure form
- GCX Basic membership training certificate
- At least one (1) Floor representative
- Member client agreement for each client (if it has clients)

• ASSOCIATE MEMBER (AS)

• Scope

- Special membership for small holder farmers and traders
- Can buy or sell for self only two non-complex commodities (Maize, Rice, Soya, Millet, Sorghum)
- Can settle commodities for self only
- Trading right for twelve (12) months only after which upgraded to TM or BM

• Membership requirement

- Business registration certificate
- Tax clearance certificate (TIN number)
- Residential address/postal address
- National ID Card (e.g. Voters registration/Passport/other)
- Signed GCX Risk Disclosure form
- GCX Basic membership training certificate
- At least one (1) Floor representative

• INSTITUTIONAL MEMBER (IM)

• Scope

- Special membership for non-commercial organization providing services to GCX (e.g. WFP, NAFCO, GGC, MOFA etc)
- Can buy or sell all commodities for self only
- Can settle commodities for self only

• Membership requirement

- Company registration certificate
- Latest Audit report/Financial report
- Residential address/postal address
- Directors National ID Card (e.g. Voters registration/Passport/other)
- Signed GCX Risk Disclosure form
- GCX Basic membership training certificate
- At least one (1) Floor representative

• FINANCIAL INSTITUTIONAL MEMBER (FIM)

• Scope

- Special membership for Financial Institutions providing financial services
- Cannot buy or sell commodities on the exchange by self
- Cannot settle commodities for self on the exchange
- Can only buy/sell commodities through BM

• Membership requirement

- Company registration certificate
- Tax clearance certificate/VAT registration
- ID of two Directors
- Signed GCX Risk Disclosure form
- GCX Basic membership training certificate
- At least one (1) Floor representative

3.7 To what extent does your exchange perform price discovery? Please describe the prices that are discovered - are they by commodity type, by grade, by location etc.

The Exchange discovers prices by commodity and by grade, as and when trades occur. Price discovery is mainly taking place on a regular basis for maize, with trading intermittent for the other commodities.

3.8 Please appraise to what extent are the exchange's prices used by value chain actors as references in their transactions. Please also describe the limitations and bottlenecks to price discovery at your exchange – what is holding back the exchange's prices from being further adopted by the value chain as benchmarks. Kindly provide recommendations from your experience.

GCX prices are taken into account by market actors in transactions alongside open market prices sourced from key wholesale markets for the relevant commodity.

Section 4

OPERATIONS (STORAGE, FINANCE, QUALITY, SETTLEMENT, TECHNOLOGY, CROSS-BORDER)

4.1 Please describe the exchange's storage footprint – what type of storage (bag warehouse, bulk silo, other), how many storage facilities, in how many and what kinds of locations (e.g. rural, upcountry centres, wholesale/consumption markets, industrial areas, port), what storage capacity overall and on average per facility (in MT or m2).

GCX operates bag (or flat-bed) warehouses in urban centres close to the production areas.

8 trading warehouses and 1 aggregation warehouse with total capacity of 6,000MT.

4.2 Are the storage locations for single or multiple commodities? Please describe.

The warehouses can hold multiple types of commodity, provided the characteristics of the commodities are similar and would not have an effect of contamination or deterioration of quality.

4.3 Please describe which commodities are identity-preserved, and which are commingled. When commingled, please describe the commingling methodology (e.g. by quality grade).

All commingled, but separated by quality grade.

4.4 Please describe how warehouse management is organised at your exchange. Is there a warehouse operator who controls the storage facility? Do the storage facilities allow third-party operators or collateral managers? Who is responsible for the various warehouse services (e.g., maintaining stock, fumigation, labour force)?

GCX operates its own warehouses and provides all services, including cleaning, drying, fumigation, standardisation and certification from the warehouse.

4.5 Please describe the strengths and weaknesses of your storage model. What has worked well, and what have been the constraints? Kindly provide recommendations from your experience.

Strengths - GCX has been able to deliver a consistent professional storage and quality management service to depositors, having full and direct control over all processes, manuals, systems and people. The Exchange has reduced post-harvest losses for goods going into the warehouse to minimum level (only loss is eventual moisture-loss), and made accessible and affordable the important quality enhancement services (cleaning, drying, fumigation) to depositors. The buyers also are assured a consistent quality product. It has been a pragmatic approach in a market in which third party warehousing does not exist.

Challenges - The main challenge is scalability. GCX is somewhat dependent on the Government to make available warehousing space, and then it must bear the costs of equipment and staff, and take all the risk on capacity utilisation. Building year-round volume through-flow is important for the economics of warehousing, and the Exchange is trying to develop the additional products and services necessary to utilise the warehouse capacity out of the main grain harvest season.

4.6 Please describe the utilisation levels of the exchange's storage facilities over the course of the season. To what extent does your exchange cover its costs on warehousing service provision?

Utilisation of warehouses in the southern parts is low as a result of our inability to accept grains into the warehouses due to high aflatoxin contents. The GCX contracts do not allow the acceptance of aflatoxin-infected grains beyond the accepted levels. The warehouses up north are usually turned over on average twice per season as some trades are conducted directly from farmer warehouses.

The Exchange does not yet cover its cost on warehousing service provision as the Exchange has a public good component in its model which does not allow to charge at cost recovery. This is part of the investment phase of the Exchange.

4.7 Do financiers – banks, MFIs etc – finance the stock in the exchange’s storage facilities via warehouse receipt finance, collateral management agreement, or something similar? (please specify which).

Warehouse receipt finance has struggled to take off in Ghana for several reasons. Firstly, the banks are highly risk averse when it comes to agricultural lending. Secondly, interest rates are very high in Ghana and the intra-seasonal price gains may deliver a lower return on storage than in other markets bearing in mind the interest rate. Therefore, the main suppliers/brokers on the GCX market prefer to sell and make their margin rather than finance at the high interest rates. However, smallholder farmers have benefitted from warehouse receipt financing, both in attracting credit, and making them more bankable.

4.8 If the answer to 4.7 is yes, please identify for which commodities, for which kinds of borrower, and the basic terms of the financing (interest rate, term, loan to value ratio, currency, minimum and maximum loan amount).

Smallholder farmers have received short-term credit (three months) against their warehouse receipts for maize, at an average interest rate of 1.8% per month.

4.9 What were the main drivers to enabling the finance, and the main challenges to overcome? Please provide recommendations from your experience.

We launched warehouse receipt financing with the Rural Development Bank networks, who were keen to develop the sector. The counter-party risks taken on by the Exchange were a key enabler.

The challenges, particularly from commercial banks, include the risk aversion to agricultural lending, and high interest rates, as described in 4.7.

4.10 Please describe the process by which your organisation developed quality standards for the commodities offered?

The Exchange has adopted the national standards which were already in place, and coordinates with Ghana Standards Authority, as well as value chain participants, on the evolution of these standards.

4.11 What weight and quality testing facilities are present in your storage facilities? Are there weighbridges/ weigh scales? Uniform bag sizes? Equipment for quality assessment and testing apparatus? Is there a Standard Operating Procedure (SOP) governing storage and quality processes?

The warehouses are equipped with weigh-scales, basic quality-testing equipment, pallets, and fumigation equipment, including an on-site laboratory. They operate on the basis of uniform bag sizes and SOPs.

4.12 What have been the main successes and challenges for market participants with adopting the exchange’s quality standards? Please provide recommendations from your experience.

The national standards are well known. However, some of the larger off-takers have their own proprietary standards which may be different from the national standards. Exchange participants appreciate the guarantee and delivery of standardised commodities.

4.13 To what extent does market pricing reflect the various levels of quality within the defined standard? (e.g. fixed premiums and discounts, market-discovered premiums and discounts etc).

It has also been a challenge to evolve quality premiums to reward deliveries of higher quality product. The commodities are listed for sale according to their grade as well as their type but while some buyers are ready to pay a premium for quality, for the majority, it is not established practice in Ghana for large buyers to reward quality. This is a subject of ongoing collaboration with development partners.

4.14 Do the exchange's quality standards include or address the following, and if so how:

- Intangible factors such as taste, aroma, origin, variety
N/A

- Traceability

All depositor details are recorded on the WR that is issued, and all changes of ownership are likewise recorded so there is a full audit trail. If the depositor is the producer, this involves traceability to the farmer, but GCX does not trace the goods before they reach the warehouse.

- Social certification schemes
N/A

4.15 Please describe the clearing and settlement arrangements on your exchange (e.g. delivery versus payment, central counterparty), and how it works. (You are kindly invited to respond to those detailed technical questions, as per the footnote¹², which are applicable to your exchange.) Please provide recommendations from your experience.

The Exchange uses a delivery versus payment methodology involving near-simultaneous transfer of the WR from seller to buyer and the payment from buyer to seller. The settlement is performed on the day after the trade is matched, i.e. T+1.

A trade can only happen if the seller has a WR registered in the system and if the buyer has the funds in their trading account. Defaults are unlikely, therefore, given these requirements on our current traded contracts. However, GCX will maintain a settlement guarantee fund (SGF) which will benefit forwards and futures trades, when launched.

4.16 Please describe the technology that you use for trading, clearing/payments, warehouse management, warehouse receipting and finance, market data and other services. Please identify physical processes where technology is not used. (You are kindly invited to respond to those detailed technical questions, as per the footnote¹³, which are applicable to your exchange.) Please provide recommendations from your experience.

GCX uses an end-to-end technology platform which was customised for the Exchange. The platform includes the membership database, matching engine, order management system, clearing and settlement system, central depository and warehouse receipt system, and market information system. Trade takes place via terminals at the exchange's premises. On those terminals, the Exchange has a portal through which members can access their accounts and the market, and the exchange publishes market information in real-time. There is a FIX gateway to allow functionality for brokers to connect to the exchange through their established trader workscreens, but it is not used at present given the brokers access from the exchange's own terminals.

¹² Please describe how fast settlement takes (e.g. T+1)? How does the exchange handle defaults? Please describe experiences in practice. Does your exchange have a settlement guarantee fund? If so, please describe. Does your exchange offer an arbitration service? If so, please describe.

¹³ Does the exchange have a website through which members can access their account in real time? Is there an application (android, ios, etc) that enables account access, management and activity? Does the exchange trading platform handle trading position limits and daily price-based circuit breakers? How many orders can the matching engine receive simultaneously? Does the front-end trader workscreen allow position monitoring, provide data analytics and portfolio analysis functionality? Does the system generate reports – real-time, end-of-day, end-of-month/year etc – for the regulator and market actors? Is there a FIX gateway for brokers to connect to the exchange in real time? Please describe system cyber-security and business continuity arrangements.

4.17 Please describe the types of market data that your exchange disseminates, and the channels it uses for dissemination.

The Exchange disseminates prices – opening, closing, high and low, per commodity type and grade – on the website, via email and SMS[<] and in weekly reports made available. The Exchange also disseminates trading volume.

4.18 Do your markets feature any cross-border activity? If so, please state what, and describe how it works. (You are kindly invited to respond to those detailed technical questions, as per the footnote¹⁴, which are applicable to your exchange.) Please provide recommendations from your experience.

Not as yet

4.19 Otherwise, what do you see as the main cross-border opportunities for your exchange, and the challenges to realise them.

There are already informal flows of grains across Ghana's borders, particularly with Burkina Faso to the north, and smaller flows with Cote d'Ivoire and Togo on the west and east. These could potentially be formalised into a regional grain market that ultimately links with the regional breadbasket, Nigeria, and the Kano wholesale market in the north of Nigeria which has the largest influence on regional grain pricing.

There are other regional flows for some alternate food crops, and also cash and export crops coming south from the Sahel region (e.g. cotton). Gold is another important regional flow. An exchange solution may help create structure, efficiency and transparency in the informal markets that currently exist.

¹⁴ Can international market actors participate in your exchange? If so, must they trade through a locally resident broker, or are offshore brokers permitted? Can they send trading orders in from abroad? Can they use hard currency for trading and repatriate profits? If not, are their bottlenecks to access and convert local currency? How do international actors take local delivery? Does your exchange offer international delivery points for any of its contracts? Or international-origin commodities? Can local actors trade in overseas markets through their front-end trader workscreen?

Section 5

IMPACT, SUCCESSES AND CHALLENGES

5.1 Please describe the main commercial and developmental impacts your exchange has made since launch.

The Exchange has built a fully operational ecosystem with high functional and technical performance levels that have fulfilled 100% payments to farmers/sellers on time without default, and 100% delivery of commodity according to correct standards to buyers.

This implies impact for the stakeholders through:

- Reduced levels of contract default
- Reduced levels of post-harvest loss
- Improved levels of quality control

The Exchange has also developed a membership base comprising 89 members in their different categories. In many cases, these are new enterprises set up by entrepreneurs which have created jobs.

However, the specific impacts on the bottom line of market participants, and for the small-scale and marginalised actors specifically, on their livelihoods, have not yet been measured.

5.2 Please elaborate, if your exchange doesn't offer them already, what additional impacts/benefits could be created by offering forward, futures and options contracts. Please also outline what would be the challenges of introducing these instruments in your jurisdiction.

GCX is envisaging to introduce forward and futures contracts from 2024. It is focused on building liquidity and structure in the spot market, and identifying the possibilities for how these new instruments could best be targeted and designed.

Currently, there are no exchange-traded derivatives in Ghana, so the introduction of futures and options would require development of relevant capacity, systems and knowledge not only at the exchange but also at the regulatory authority, the clearing banks and the market participants. Market participation would need to diversify to include institutional participants, different kinds of trader and liquidity providers, most likely requiring foreign participation given limitations within Ghana on the presence of these players. It would also require significant technology upgrade to allow for the more complex clearing processes involved with derivatives. Finally, the Exchange would need to source significant capital in the settlement guarantee fund to backstop the central counterparty clearinghouse against default, in line with international standards.

5.3 Please describe the extent to which your exchange has become commercially sustainable, and the reasons for this – i.e. the enablers of sustainability, and/or the challenges in becoming sustainable.

The Exchange is in its initial stages of development within commodity spot markets and has successfully established a robust physical infrastructure to support its operations. It is progressing steadily towards achieving sustainable operations. However, the primary challenge encountered thus far has been the slower-than-anticipated development of liquidity in the core commodity spot markets. The Exchange is now experiencing an acceleration in its growth trajectory, supported by policy initiatives. It envisions sustainability across all critical dimensions, including growth, profitability, enhanced income opportunities for market participants, expansion in market reach, strengthened regulatory compliance, and heightened market transparency.

5.4 Overall, please summarize the main successes and challenges your exchange has faced.

• Successes

See 5.1 above

• Challenges

The main challenges include:

- *Scaling spot markets to penetrate a higher proportion of national production*
- *Attracting large-scale participation from commercial buyers*
- *Coordinating public institutional purchases through the Exchange*
- *Generating a workable financing arrangement through the WRS*

5.5 Please describe - illustrated by examples where possible - how the pricing and trading on your exchange is impacted by events in:

• Regional markets

Pricing in Ghanaian staple markets may be marginally impacted by regional events

• Global markets

GCX has currently listed only one cash crop, sesame, whose pricing is driven by global markets and participation of international buyers.

Section 6

STAKEHOLDER EXPERIENCES

This section comprises four sub-sections:

- **6.1 Farmers/farmer organisations (FOs)/intermediaries**
- **6.2 Agribusiness buyers (e.g. processors, manufacturers, exporters)**
- **6.3 Financiers and investors**
- **6.4 Institutions (e.g. government marketing board, food reserve agency, humanitarian agencies, institutional buyers like schools, hospitals, military, prisons)**

6.1 Farmers / Farmer Organisations (FOs) / Intermediaries

- **6.1.1 Please describe the extent to which farmers participate in your markets, and how: which types of farmer, for which commodities, for what purpose, and explain whether they do so directly or through producer organisations.**

Farmers are participating through aggregators on the Exchange. The aggregator is effectively the purchaser and trades the goods through the exchange on their own account. They are able as a result to provide a more competitive, and in some cases, quality-linked market price to the farmer at time of purchase than a traditional trader. In some cases, the aggregator is a farmer organisation, but in other cases a purpose-established exchange broker entrepreneur.

- **6.1.2 Please describe the extent to which intermediaries (aggregators, traders, distributors etc) participate in your market, for which commodities, and for what purpose.**

GCX has dedicated considerable effort to building capacity of its brokers to act as aggregators for purposes of facilitating farmer-origin trade and offering fair, quality-linked prices to the farmer.

- **6.1.3 Please describe the main enablers and challenges to the participation of each of these stakeholders [farmers, FOs, intermediaries]. Please provide recommendations from your experience.**

A main challenge for the farmer has been the farmer's need for cash on collection, reflective of the indebtedness of many farmers after harvest, and the lack of trust in alternate paper-based systems. Additionally, farmers – even through their primary farmer organisations – may not be able to perform appropriate post-harvest bulking and quality control, or afford transportation with the risk of rejection if minimum quality requirements are not met. However, the aggregators also face significant working capital constraints, reflecting bank reluctance to finance agriculture.

Therefore, GCX has piloted a scheme called GCX Aggregation Support Scheme (GASS) through which a line of credit goes towards supporting aggregators to pay farmers upfront. The aggregator then sells the goods and the proceeds go towards repay the lender, with the surplus retained by the aggregator. Working with financial institutions who are prepared to provide credit at reasonable interest rates for such a scheme can help increase liquidity on the market.

- **6.1.4 Please identify, describe, and if possible, quantify, the value and impacts realised for participating farmers, FOs and intermediaries.**

Not yet measured

• **6.1.5 Please describe how you have been able to overcome the following challenges with respect, separately, to farmers, FOs and intermediaries (as may be applicable):**

Described above

- a. Farmer/FO/intermediary preference for cash on delivery/collection
- b. Farmer/FO/intermediary capacity to achieve minimum quality, weight and packaging requirements
- c. Farmer/FO/intermediary capacity to manage paper or electronic documents, in lieu of cash
- d. Farmer/FO/intermediary capacity to transport goods to an exchange warehouse
- e. Farmer/FO/intermediary capacity to successfully apply for, receive and repay warehouse receipt finance loans
- f. Farmer/FO/intermediary capacity to make marketing decisions to realise returns and mitigate price risk
- g. Farmer/FO/intermediary capacity to utilize gains from post-harvest finance to fund productivity gain
- h. Farmer/FO/intermediary resistance to payment of fees
- i. Farmer/FO/intermediary nervousness concerning transparency (e.g. due to taxation, or fear of competitors)
- j. Concerns from intermediaries about being disintermediated through the exchange
- k. Other bottlenecks/challenges you have observed

6.2 Agribusiness buyers (e.g. processors, manufacturers, exporters)

• **6.2.1 Please describe the extent to which agribusiness buyers participate in your markets, and how: which types of buyer, for which commodities, and for what purpose.**

Some large buyers have made purchases through GCX, and various arms of government are in process of conducting some institutional purchases through the exchange.

• **6.2.2 Please describe the main enablers and challenges to the participation of agribusiness buyers. Please provide recommendations from your experience.**

Large buyers, with high volume demand, require high liquidity to perform more purchases through the Exchange. Given the bottom-up, farmer-originated nature of supply onto GCX, the liquidity is not predictable and in some cases, there may be limited availability.

Buyers seem to be attracted to the quality that can be delivered by the Exchange.

However, they may also be reluctant to purchase from remote warehouses, when there are traders delivering to factory gate. This may be resolvable with high predictable liquidity on the Exchange which would justify the use of frequent transport from the warehouse to the buyer sites.

Another challenge for them is that the Exchange's settlement processes require pre-funding of purchases made through the exchange. This creates a negative working capital impact when compared with payment upon delivery by traders, or in some cases, deferred payment. Government institutional buyers are also reluctant to pre-fund purchases and almost always pay on a deferred basis. Therefore, GCX is exploring solutions linked to supply chain finance that may help bridge this challenge.

• **6.2.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating agribusiness buyers.**

Not measured as yet.

• **6.2.4 Please describe how you have been able to overcome the following challenges with respect to agribusiness buyers (as may be applicable):**

See above.

- a. Agribusiness preference for delivery to factory gate over collection from remote site
- b. Agribusiness reluctance to pay quality-linked prices
- c. Agribusiness lack of requirement for warehouse receipt finance due to existing access to finance arrangements (e.g. pledge of fixed assets, inventory finance under CMA, trade finance)
- d. Agribusiness resistance to payment of fees
- e. Agribusiness nervousness to expose their trade to transparency (e.g. due to taxation, or fear of competitors)
- f. Other bottlenecks/challenges you have observed

6.3 Financiers and Investors

• **6.3.1 Please describe the extent to which financiers and investors participate in your markets, and how: which types of financier/investor, with respect to which commodities, and for what purpose.**

None as yet.

• **6.3.2 Please describe the main enablers and challenges to the participation of financiers and investors. Please provide recommendations from your experience.**

Challenges have been described above – risk, high interest rates, etc.

• **6.3.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating financiers and investors.**

N/a

• **6.3.4 Please describe how you have been able to overcome the following challenges with respect to financiers and investors (as may be applicable):**

N/a

- a. Excessive risk perceptions with respect to agricultural and commodities
- b. Excessive risk perceptions with respect to farmers, FOs and SMEs
- c. High interest rates
- d. Lack of liquidity
- e. Lack of bank capacity
- f. Legal or regulatory challenges
- g. Other bottlenecks/challenges you have observed

6.4 Institutions (e.g. government marketing board, food reserve agency, humanitarian agencies, institutional buyers like schools, hospitals, military, prisons)

- 6.4.1 Please describe the extent to which institutions participate in your markets, and how: which types of institution, with respect to which commodities, and for what purpose.

This is a work in progress at present time. In the past, the National Buffer Stock Company has purchased grains through GCX for the regional food reserve. Currently, the Government is purchasing some grains for part of their school feeding programme.

- 6.4.2 Please describe the main enablers and challenges to the participation of institutions. Please provide recommendations from your experience.

Main challenge is these institutions settling at later times sometimes in excess of 90 days and wanting also to buy high grade commodities at farm gate prices.

- 6.4.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating institutions.

N/a

- 6.4.4 Please describe how you have been able to overcome the following challenges with respect to institutions (as may be applicable):

N/a

- Aligning with Institutional Mandate*
- Aligning with Rules and Procedures*
- Aligning with Exchange Quality Standards*
- Acceptance of using the Exchange's Storage Facilities*
- Institutional Capacity*
- Other*

06 JSE, South Africa

- **Name of Exchange:** Johannesburg Stock Exchange (JSE)
- **Name of Respondent:** Anelisa Matutu
- **Job Title of Respondent:** Head of Commodities & Capital Markets
- **Date of Response:** 19 / 5 / 2023

Section 1

HISTORICAL DEVELOPMENT

1.1 In which year did your exchange launch?

1995, as the Agricultural Markets Division of the South Africa Futures Exchange (SAFEX), subsequently acquired in 2001 by the Johannesburg Stock Exchange (JSE), the national stock, bonds and derivative exchange.

1.2 How long did it take to prepare the exchange for launch? What were the key steps?

N/a

1.3 Who were the initiators of and investors into the exchange, and for what reasons? (i.e. government, financial institutions, farmers, private sector, etc).

Private sector, complementing the pre-existing financial derivative markets with agri derivatives to serve the needs of South African farmers and financial institutions: enabling farmers to mitigate price risk, as a key business risk, in the context of newly liberalized and volatile markets, and to enable the continued provision of finance to the farmers with banks assured that through use of derivative instruments farmers could lock in a sufficient level of income to repay farm loans.

Section 2

ORGANISATIONAL STRUCTURE AND GOVERNANCE

2.1 As what type of organisation is your exchange structured (e.g. public limited company, partnership, mutually owned, non-profit, etc. and why? What kinds of organisation, if any, own your exchange (i.e. hold equity, membership and/or 'seats', as applicable)?

Public limited company self-listed with its own board.

2.2 Please describe the governance structures of your exchange.

Board of directors and board committees structured in line with corporate governance best practices.

2.3 Please describe how, if at all, your exchange engages with policymakers (e.g. within policy dialogues, official reporting mechanisms/committees, governance structures, informal contacts, etc.). Please describe the strengths and weaknesses of policy engagement at your exchange and provide recommendations from experience.

Policymaker dialogue is structured mainly through industry associations, with ad hoc dialogue as and when required. JSE participates actively in industry associations representing the interests of the financial/capital markets and agricultural sectors which perform ongoing advocacy with government.

2.4 Please describe by which agency/authority your exchange is regulated (if applicable), under what legal framework, and licensing arrangements? Please describe how your exchange engages with its regulator(s). Please describe the strengths and weaknesses of regulator engagement at your exchange and provide recommendations from experience.

South Africa's Financial Sector Conduct Authority (FSCA), under the provisions of the relevant legislation (principally the Financial Markets Act 2012). The engagement with the regulator is in line with international best practices (IOSCO). FSCA is a mature, competent and effective regulatory authority which strives to align with best practice. Periodic disagreements may emerge but tend to be resolved through dialogue and professionalism on both sides.

Section 3 OFFERING

3.1 For which commodities/assets does your exchange offer markets?

The JSE's deliverable grain futures contracts cover five core crops – white maize, yellow maize, wheat, soya bean and sunflower. The JSE also offers cash-settled contracts, benchmarked against overseas futures markets, for a range of agricultural, metal and energy products.

3.2 For which instruments does your exchange offer markets (e.g. spot, forward, futures, brokered solutions, indices, other)?

Futures and options.

3.3 How many contracts and/or MTs (as applicable) has your exchange traded per commodity per year - last year, and in your most successful year?

3.6m commodity futures and options contracts (3.3m futures, 0.3m options) in 2022, a historical high. (Contracts in the cash, equity and bonds, and financial futures and options segments – currency, equity, equity index, bond/ fixed income – is significantly higher).

3.4 Approximately what proportion of total national production is traded through your exchange for each commodity?

More than 100% of national production is traded for white and yellow maize in notional volume, although delivered volume ranges between 2%-5%.

3.5 Apart from exchange-trading and relating clearing and settlement services, what other services does your organisation offer?

Market data and technology services, training, venue hire, plus a wholly owned subsidiary JIS who provide registry services and custodial services.

3.6 Please describe how membership, and market access more generally, is structured at your exchange (i.e. who is entitled to participate, on what basis/eligibility, under what kinds of category...).

The four major South African banks act as clearing members, taking risk against the broker trading members, who in turn take risk against the individual clients (the buyers and sellers) active in the market. Members must be incorporated and registered as a domestic company. Membership requirements include the ability to employ adequate resources, procedures and system to effect performance of services. There are clearly articulated capital adequacy requirements which members are required to meet.

3.7 To what extent does your exchange perform price discovery? Please describe the prices that are discovered - are they by commodity type, by grade, by location etc.

JSE's five grain futures contracts are recognised as the price discovery mechanism for Southern Africa regional grains. The JSE trades different quality grades for some commodities (e.g. wheat), based on fixed premiums and discounts determined by the JSE. Approximately 300 grain silos in the production areas are accredited delivery points, with geographic pricing calculated through pre-set seasonal location differentials from the basis location, which is Randfontein near Johannesburg, the country's largest wholesale and consumption centre.

3.8 Please appraise to what extent are the exchange's prices used by value chain actors as references in their transactions. Please also describe the limitations and bottlenecks to price discovery at your exchange - what is holding back the exchange's prices from being further adopted by the value chain as benchmarks. Kindly provide recommendations from your experience.

The JSE's prices are commonly used as the reference for spot and forward transactions in the South Africa and Southern Africa grain value chains.

Section 4

OPERATIONS (STORAGE, FINANCE, QUALITY, SETTLEMENT, TECHNOLOGY, CROSS-BORDER)

4.1 Please describe the exchange's storage footprint - what type of storage (bag warehouse, bulk silo, other), how many storage facilities, in how many and what kinds of locations (e.g. rural, upcountry centres, wholesale/consumption markets, industrial areas, port), what storage capacity overall and on average per facility (in MT or m2).

Approximately 300 grain silos are spread across the production areas in rural towns. Total storage capacity stands at 18.5 million MT. Storage type is a mixture of concrete silos, silo bags and bunkers but predominantly concrete silos.

4.2 Are the storage locations for single or multiple commodities? Please describe.

Grain silo complexes handle multiple commodities.

4.3 Please describe which commodities are identity-preserved, and which are commingled. When commingled, please describe the commingling methodology (e.g. by quality grade).

Commingling at all silos.

4.4 Please describe how warehouse management is organised at your exchange. Is there a warehouse operator who controls the storage facility? Do the storage facilities allow third-party operators or collateral managers? Who is responsible for the various warehouse services (e.g., maintaining stock, fumigation, labour force)?

JSE currently accredits 16 storage operators, they are independent entities. They have full responsibility for operation and maintenance of the silo complexes. Most silos were constructed several decades ago with public funding. Many of the operators were previously structured as the mutually-owned cooperatives of the commercial farmers of a given region, which took responsibility for management of the public-funded silos, from which they provided storage, handling, quality management, input distribution and other services. Since agriculture was liberalized after 1995, the cooperatives have subsequently demutualized and become diversified for profit agricultural trading, finance and service corporations.

4.5 Please describe the strengths and weaknesses of your storage model. What has worked well, and what have been the constraints? Kindly provide recommendations from your experience.

The storage model is generally considered to be effective, with credible experienced operators, tested infrastructure and proximity to the production areas. The inclusion of approximately 300 delivery points on a given futures contract is unprecedented anywhere else worldwide by a long margin, and thus the JSE's grain futures markets have excelled in integrating the physical with the derivative markets.

One challenge that has been overcome in an innovative manner involves the question of how to allocate deliveries from sellers to buyers across such a large potential terrain involving the 300-plus delivery silos. In the previous system of random allocation, buyers may be allocated delivery volume from the other side of the country and face long delays and additional cost to transport to their premises. Because buyers are not all located near the basis location, these additional costs may not have been offset by the location differentials. Therefore, the JSE introduced an auctioning system whereby buyers receive notification of the forthcoming deliveries and can bid to take delivery of volumes in preferred locations.

The main remaining challenge with the storage model is expanding the coverage to provide access to smaller-scale and emerging farmers outside the historically traditional commercial production areas. The established model is difficult to replicate due to financial and operational reasons.

4.6 Please describe the utilisation levels of the exchange's storage facilities over the course of the season. To what extent does your exchange cover its costs on warehousing service provision?

In general terms, the storage facilities are well utilised, though specific data is not available. This reflects the history of the silo complexes, located to serve an identifiable community of commercial farmers through their cooperatives. The JSE does not provide warehousing facilities, however, it accredits independent storage operators to participate in storing grains delivered through the exchange.

4.7 Do financiers - banks, MFIs etc - finance the stock in the exchange's storage facilities via warehouse receipt finance, collateral management agreement, or something similar? (please specify which).

Yes, the electronic silo certificate is widely financed by most of the country's commercial banks.

4.8 If the answer to 4.7 is yes, please identify for which commodities, for which kinds of borrower, and the basic terms of the financing (interest rate, term, loan to value ratio, currency, minimum and maximum loan amount).

For the five deliverable grain futures, commercial banks offer financing against the JSE silo certificate. Absa for example offers two products – a discounting product set at 90% of the current market value, and a fixed interest ‘repo’ product in which the bank buys the silo cert at current value and sells it back to the borrower at an agreed higher price on a given date. Interest rates are personalized.

[see <https://www.elsenburg.com/wp-content/uploads/2022/04/financial-institutions-26052021.pdf>].

4.9 What were the main drivers to enabling the finance, and the main challenges to overcome? Please provide recommendations from your experience.

The banks played a leading role in establishing the SAFEX AMD, in order to mitigate risks associated with agricultural lending. The mitigation of price risk through hedging via futures and options contracts, as newly liberalized markets became highly volatile, was therefore a key driver of farmer financing. The presence of a price discovery mechanism also gave assurance to the banks that the collateral could be accurately valued, and the value could be tracked on a real-time basis. The delivery mechanism on the JSE contracts also assists banks to efficiently liquidate. Finally, the good standing of the silo operators, the historically close relationships between the silo operators and the banks as well as JSE rules, requirements and oversight of silo operators, gave confidence to banks to finance against the receipts they issue.

4.10 Please describe the process by which your organisation developed quality standards for the commodities offered?

Adoption of industry-defined standards

4.11 What weight and quality testing facilities are present in your storage facilities? Are there weighbridges/ weigh scales? Uniform bag sizes? Equipment for quality assessment and testing apparatus? Is there a Standard Operating Procedure (SOP) governing storage and quality processes?

Weight and quality testing is standard at all JSE delivery silos, as a condition of accreditation.

4.12 What have been the main successes and challenges for market participants with adopting the exchange’s quality standards? Please provide recommendations from your experience.

N/a – the standards are widely known and accepted.

4.13 To what extent does market pricing reflect the various levels of quality within the defined standard? (e.g. fixed premiums and discounts, market-discovered premiums and discounts etc).

Pre-set grade premiums and discounts are applied.

4.14 Do the exchange’s quality standards include or address the following, and if so how:

- Intangible factors such as taste, aroma, origin, variety
Origin discounts may be applied for grain originating outside of South Africa.
- Traceability
N/a
- Social certification schemes
N/a

4.15 Please describe the clearing and settlement arrangements on your exchange (e.g. delivery versus payment, central counterparty), and how it works. (You are kindly invited to respond to those detailed technical questions, as per the footnote¹⁵, which are applicable to your exchange.) Please provide recommendations from your experience.

The JSE's affiliated central counterparty clearinghouse (CCP), known as JSE Clear, is the designated CCP for clearing and settlement of the JSE's agricultural contracts. JSE Clear is accredited as a Qualifying CCP under the international standards (IOSCO/BIS), and strictly adheres to international best practices.

4.16 Please describe the technology that you use for trading, clearing/payments, warehouse management, warehouse receipting and finance, market data and other services. Please identify physical processes where technology is not used. (You are kindly invited to respond to those detailed technical questions, as per the footnote¹⁶, which are applicable to your exchange.) Please provide recommendations from your experience.

SE has long been a fully electronic market using integrated trading and clearing software. The platform has a FIX gateway and allows for integration of the data feed onto broker trading screens.

4.17 Please describe the types of market data that your exchange disseminates, and the channels it uses for dissemination.

JSE disseminates extensive market data, with basic data made freely available through the JSE website, and bespoke and customized data available on a fee basis.

4.18 Do your markets feature any cross-border activity? If so, please state what, and describe how it works. (You are kindly invited to respond to those detailed technical questions, as per the footnote¹⁷, which are applicable to your exchange.) Please provide recommendations from your experience.

JSE's agricultural markets serve the domestic market, with domestic silo delivery points and focus on domestically produced grains. Some value chain actors from the region do hedge using JSE commodity futures and options, but they must access the market through a South Africa-domiciled trading member. Foreign origin grains may be accepted at a discount.

4.19 Otherwise, what do you see as the main cross-border opportunities for your exchange, and the challenges to realise them.

JSE worked with stakeholders in Zambia, another large grain producing country in the region to establish a Zambia-deliverable grain futures contract. The contract would be listed and traded on the JSE in South Africa but allow for deliveries at silos in Zambia. However, this product never launched, although significant effort has been made to develop it, mainly due to challenges mitigating risk arising from cross-border currency flows and FX volatility, which generated significant risk for the clearing and settlement system.

¹⁵ Please describe how fast settlement takes (e.g. T+1)? How does the exchange handle defaults? Please describe experiences in practice. Does your exchange have a settlement guarantee fund? If so, please describe. Does your exchange offer an arbitration service? If so, please describe.

¹⁶ Does the exchange have a website through which members can access their account in real time? Is there an application (android, ios, etc) that enables account access, management and activity? Does the exchange trading platform handle trading position limits and daily price-based circuit breakers? How many orders can the matching engine receive simultaneously? Does the front-end trader workscreen allow position monitoring, provide data analytics and portfolio analysis functionality? Does the system generate reports – real-time, end-of-day, end-of-month/year etc – for the regulator and market actors? Is there a FIX gateway for brokers to connect to the exchange in real time? Please describe system cyber-security and business continuity arrangements.

¹⁷ Can international market actors participate in your exchange? If so, must they trade through a locally resident broker, or are offshore brokers permitted? Can they send trading orders in from abroad? Can they use hard currency for trading and repatriate profits? If not, are there bottlenecks to access and convert local currency? How do international actors take local delivery? Does your exchange offer international delivery points for any of its contracts? Or international-origin commodities? Can local actors trade in overseas markets through their front-end trader workscreen?

Section 5

IMPACT, SUCCESSES AND CHALLENGES

5.1 Please describe the main commercial and developmental impacts your exchange has made since launch.

The JSE's commodity markets are mature, and well accepted by the commercial grain farmers and processors, as well as the banks. Farmer hedging and delivery through JSE generates significant benefit for the farmer to protect their income from volatility, and access higher amounts of finance.

5.2 Please elaborate, if your exchange doesn't offer them already, what additional impacts/benefits could be created by offering forward, futures and options contracts. Please also outline what would be the challenges of introducing these instruments in your jurisdiction.

N/a

5.3 Please describe the extent to which your exchange has become commercially sustainable, and the reasons for this – i.e. the enablers of sustainability, and/or the challenges in becoming sustainable.

The JSE is operated on a fully commercial basis and has sustained its agricultural markets for over 25 years. The commerciality of the agricultural markets is largely supported by (a) shared services and infrastructure with the JSE's other cash and derivative markets which mean that a relatively small team (5-10 persons) can serve the commodity sector, and (b) the established network of silos and operators averts the high costs in other jurisdictions when exchanges have had to set up their own delivery network.

5.4 Overall, please summarize the main successes and challenges your exchange has faced.

• Successes

- Growing markets (volume, value)
- Wide scale participation from commercial farmers
- High coverage of production areas with delivery silos
- Extensive broker network, with specialized agri risk management expertise
- Diversification of contracts
- Relatively few defaults
- Fully liberalized market has been maintained without government intervention
- High quality governance and transparency

• Challenges

- Inclusion of small-scale and emerging farmers
- Growing liquidity in contracts beyond the core five grains

5.5 Please describe - illustrated by examples where possible - how the pricing and trading on your exchange is impacted by events in:

• Regional markets

Traders will regularly consider import and export parity pricing when determining their market position. This will be impacted by production levels, policy interventions and spot prices across the region as well as in South Africa.

• Global markets

South Africa is an open market, where traders will regularly consider import and export parity pricing when determining their market position. This will be impacted by global production levels, policy interventions and access to supply.

Section 6

STAKEHOLDER EXPERIENCES

This section comprises four sub-sections:

- **6.1** Farmers/farmer organisations (FOs)/intermediaries
- **6.2** Agribusiness buyers (e.g. processors, manufacturers, exporters)
- **6.3** Financiers and investors
- **6.4** Institutions (e.g. government marketing board, food reserve agency, humanitarian agencies, institutional buyers like schools, hospitals, military, prisons)

6.1 Farmers / Farmer Organisations (FOs) / Intermediaries

- **6.1.1** Please describe the extent to which farmers participate in your markets, and how: which types of farmer, for which commodities, for what purpose, and explain whether they do so directly or through producer organisations.

Commercial farmers as clients of members– hedging, some deliveries.

- **6.1.2** Please describe the extent to which intermediaries (aggregators, traders, distributors etc) participate in your market, for which commodities, and for what purpose.

Intermediaries participate as clients – hedging and deliveries.

- **6.1.3** Please describe the main enablers and challenges to the participation of each of these stakeholders (farmers, FOs, intermediaries). Please provide recommendations from your experience.

Highly liquid market, proximate to delivery silos, extensive broker coverage. The biggest challenge may be affordability of initial margin requirements.

- **6.1.4** Please identify, describe, and if possible, quantify, the value and impacts realised for participating farmers, FOs and intermediaries.

As above.

- **6.1.5** Please describe how you have been able to overcome the following challenges with respect, separately, to farmers, FOs and intermediaries (as may be applicable):

These challenges are not applicable to commercial farmers

- a. Farmer/FO/intermediary preference for cash on delivery/collection
N/a
- b. Farmer/FO/intermediary capacity to achieve minimum quality, weight and packaging requirements
N/a
- c. Farmer/FO/intermediary capacity to manage paper or electronic documents, in lieu of cash
N/a
- d. Farmer/FO/intermediary capacity to transport goods to an exchange warehouse
N/a

- e. Farmer/FO/intermediary capacity to successfully apply for, receive and repay warehouse receipt finance loans
N/a
- f. Farmer/FO/intermediary capacity to make marketing decisions to realise returns and mitigate price risk
N/a
- g. Farmer/FO/intermediary capacity to utilize gains from post-harvest finance to fund productivity gain
N/a
- h. Farmer/FO/intermediary resistance to payment of fees
N/a
- i. Farmer/FO/intermediary nervousness concerning transparency (e.g. due to taxation, or fear of competitors)
N/a
- j. Concerns from intermediaries about being disintermediated through the exchange
N/a
- k. Other bottlenecks/challenges you have observed
N/a

6.2 Agribusiness buyers (e.g. processors, manufacturers, exporters)

- 6.2.1 Please describe the extent to which agribusiness buyers participate in your markets, and how: which types of buyer, for which commodities, and for what purpose.

Participation of grain millers, feed manufacturers and other agro-industries to mitigate price risk and take delivery.

- 6.2.2 Please describe the main enablers and challenges to the participation of agribusiness buyers. Please provide recommendations from your experience.

Highly liquid market, proximate to delivery silos, extensive broker coverage.

- 6.2.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating agribusiness buyers.

Price risk management, additional efficient raw material sourcing.

- 6.2.4 Please describe how you have been able to overcome the following challenges with respect to agribusiness buyers (as may be applicable):

Not applicable in the South African context.

- a. Agribusiness preference for delivery to factory gate over collection from remote site
N/a
- b. Agribusiness reluctance to pay quality-linked prices
N/a
- c. Agribusiness lack of requirement for warehouse receipt finance due to existing access to finance
N/a
- d. Agribusiness resistance to payment of fees
N/a
- e. Agribusiness nervousness to expose their trade to transparency (e.g. due to taxation, or fear of competitors)
N/a
- f. Other bottlenecks/challenges you have observed
N/a

6.3 Financiers and Investors

- 6.3.1 Please describe the extent to which financiers and investors participate in your markets, and how: which types of financier/investor, with respect to which commodities, and for what purpose.

Banks are financing the silo receipts. Few financial investors participate in the commodity derivative markets.

- 6.3.2 Please describe the main enablers and challenges to the participation of financiers and investors. Please provide recommendations from your experience.

As above.

- 6.3.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating financiers and investors.

Financing the agriculture sector

- 6.3.4 Please describe how you have been able to overcome the following challenges with respect to financiers and investors (as may be applicable):

N/a

- Excessive risk perceptions with respect to agricultural and commodities
This remains a challenge due to the high levels of market volatility and the vigilance needed to assure propriety in the custody arrangements within the large number of silo complexes accredited as part of the JSE's delivery network.
- Excessive risk perceptions with respect to farmers, FOs and SMEs
N/a
- High interest rates
N/a
- Lack of liquidity
N/a
- Lack of bank capacity
N/a
- Legal or regulatory challenges
N/a
- Other bottlenecks/challenges you have observed
N/a

6.4 Institutions (e.g. government marketing board, food reserve agency, humanitarian agencies, institutional buyers like schools, hospitals, military, prisons)

6.4.1 Please describe the extent to which institutions participate in your markets, and how: which types of institution, with respect to which commodities, and for what purpose.

N/a

• 6.4.2 Please describe the main enablers and challenges to the participation of institutions. Please provide recommendations from your experience.

N/a

• 6.4.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating institutions.

N/a

• 6.4.4 Please describe how you have been able to overcome the following challenges with respect to institutions (as may be applicable):

N/a

- a. Aligning with Institutional Mandate
N/a
- b. Aligning with Rules and Procedures
N/a
- c. Aligning with Exchange Quality Standards
N/a
- d. Acceptance of using the Exchange's Storage Facilities
N/a
- e. Institutional Capacity
N/a
- f. Other
N/a

07 LCFE, Nigeria

- **Name of Exchange:** Lagos Commodities and Futures Exchange
- **Name of Respondent:** Nkechi Obi & John Ugwu
- **Job Title of Respondent:** Corporate Communication Officer/Operations Associate
- **Date of Response:** 10 / 04 / 2023

Section 1

HISTORICAL DEVELOPMENT

1.1 In which year did your exchange launch?

Our Exchange received full operating license in June 2019, commenced operations in October 2019, and was officially commissioned in July 2022.

1.2 How long did it take to prepare the exchange for launch? What were the key steps?

The Vision for the Exchange was developed in 2005. However, the process of incorporating the Exchange with the Corporate Affairs Commission (CAC) commenced in 2015. Subsequently, in 2018, the Exchange applied to the Securities and Exchange Commission for a Commodities Exchange license and received an approval in principle in December 2018. The final operating license was granted in June 2019.

In addition to the license, we also fulfilled other requirements to trade. These include:

- Registration with the Corporate Affairs Commission
- Board Governance structure
- Relevant Operational Framework for a Commodities Exchange
- Sponsored individuals who show relevant competency and experience in the capital market
- Operating license from the Securities and Exchange Commission (SEC), Nigeria
- Installation of technology infrastructure
- Approval of trading rules by SEC
- Approval of products by SEC
- Onboarding, capacity building, training and education of all Capital Market and Commodities Exchange stakeholders
- Support of the relevant regulators and government agencies
- Research on existing ecosystem

1.3 Who were the initiators of and investors into the exchange, and for what reasons? (i.e. government, financial institutions, farmers, private sector, etc).

LCFE was promoted by the Association of Securities Dealing Houses of Nigeria (ASHON).

Section 2

ORGANISATIONAL STRUCTURE AND GOVERNANCE

2.1 As what type of organisation is your exchange structured (e.g. public limited company, partnership, mutually owned, non-profit, etc. and why? What kinds of organisation, if any, own your exchange (i.e. hold equity, membership and/or 'seats', as applicable)?

LCFE is a Limited Liability Company with 50 equity-holding Shareholders. 40 of these shareholders are Dealing Member Firms, who are also SEC-licensed trading members of the Exchange.

2.2 Please describe the governance structures of your exchange.

The LCFE Board of Directors currently comprises seven Directors (Six Non-Executive directors and one Executive director, who is the Managing Director and CEO of the Exchange).

The Board has the following Board Committees:

- Governance Committee
- Audit and Risk Committee
- Finance and General-Purpose Committee
- Technical Committee
- Listings and Quotations Committee

2.3 Please describe how, if at all, your exchange engages with policymakers (e.g. within policy dialogues, official reporting mechanisms/committees, governance structures, informal contacts, etc). Please describe the strengths and weaknesses of policy engagement at your exchange and provide recommendations from experience.

The Exchange is licensed to trade four asset classes (Agriculture, Oil and Gas, Solid Minerals and Currency). Since receiving our approval in 2019, we have identified the appropriate government agencies in all the relevant sectors along the value chain and maintained consistent engagement with Federal and State Government Agencies. Furthermore, we are in collaboration with SEC to engage with other regulators in the Insurance and Pension Industry. One of our key achievements is the instrumental role we played in the Investment and Securities Act (ISA, 2007) amendment, particularly the inclusion of commodities market and commodities exchanges in the Investment and Securities Bill 2023. This bill has passed the second reading at the National Assembly and has been sent to the President for assent.

One of our core strengths is our relationship with our regulator, the Securities and Exchange Commission, ensuring that the Commission understood our business model.

2.4 Please describe by which agency/authority your exchange is regulated (if applicable), under what legal framework, and licensing arrangements? Please describe how your exchange engages with its regulator(s). Please describe the strengths and weaknesses of regulator engagement at your exchange and provide recommendations from experience.

The SEC, an agency under the Federal Ministry of Finance, derives its powers from the Investment and Securities Act (2007). Hence, the SEC regulates the Capital Market, capital market operators and all securities & commodity Exchanges. The Exchange participates in a quarterly Capital Market Committee (CMC) meeting, involving all Securities and Commodity Exchanges and Capital Market Operators (CMOs), where current and future market strategies and activities are discussed. In addition, the Exchange sends weekly, monthly, quarterly, and annual reports to the Commission on exchange activities and trades. The Exchange also applies to the Commission in writing for approval of products, rules, regulations, and guidelines.

Section 3

OFFERING

3.1 For which commodities/assets does your exchange offer markets?

Paddy Rice, Soyabeans (Oil & Meal), Sesame, Sorghum, Cocoa seed/powder, Cashew Nuts, Yellow Maize, whole/dry ginger, Palm Oil/kernel, Shea nuts/butter, Cassava, Wheat, Gold.

3.2 For which instruments does your exchange offer markets (e.g. spot, forward, futures, brokered solutions, indices, other)?

Spots, Forwards, Brokered Solutions, Debt Securities.

3.3 How many contracts and/or MTs (as applicable) has your exchange traded per commodity per year - last year, and in your most successful year?

Year 2022 – Gold contracts: 1400 Grams of Gold (24 karat 99.99 finesse)

Year 2023 – Paddy Contract: 1,934 MT.

3.4 Approximately what proportion of total national production is traded through your exchange for each commodity?

Currently less than 1% of the total GDP.

3.5 Apart from exchange-trading and relating clearing and settlement services, what other services does your organisation offer?

Product Structuring and Market Consulting (Regional & National Level).

3.6 Please describe how membership, and market access more generally, is structured at your exchange (i.e. who is entitled to participate, on what basis/eligibility, under what kinds of category...).

- *Dealing Member Firms are structured as broker dealers – independent market dealers.*
- *Issuing houses are structured as transaction advisers – market instruments developers.*
- *Commercial banks are structured as settlement banks.*
- *Trustees are structured as underwriters and fund holders.*
- *Insurance companies are structured as underwriters.*
- *Central security depository (CSD) is structured as clearing and settlement operators.*
- *Collateral managers structured as inventory managers.*

3.7 To what extent does your exchange perform price discovery? Please describe the prices that are discovered - are they by commodity type, by grade, by location etc.

Prices are discovered by location, grade, and type (if any) on our exchange. For sellers to get good value for their products, the sellers make their offer price, which is influenced by the forces of demand and supply. We deploy technology to create a near-perfect reflection on the price situation leaving out other factors that should not necessarily affect the price.

Currently, in the informal open market, the buyer determines products' purchase price irrespective of the location. The buyer has the purchasing power and funds for off-taking, thus giving them undue advantage over the sellers. Therefore, the Exchange is licensed to correct the anomaly of the informal market by establishing proper structure and standards and creating price discovery.

3.8 Please appraise to what extent are the exchange's prices used by value chain actors as references in their transactions. Please also describe the limitations and bottlenecks to price discovery at your exchange – what is holding back the exchange's prices from being further adopted by the value chain as benchmarks. Kindly provide recommendations from your experience.

Presently, the informal market drives the prices of commodities. Another factor affecting price convergence is location: the farther the farmlands/warehouse of a commodity from the final user, the more expensive the commodity. Additionally, buyers' higher market power leaves sellers at their mercy.

However, the Exchange is leveraging technology and strategic alliance with industry players to create a product pricing mechanism for fair pricing of commodities irrespective of their source location. Establishing policies that encourage market players to trade all products through an exchange will result in the much-needed market-forces pricing model, allowing the Exchange's pricing to be used as benchmarks locally.

Section 4

OPERATIONS (STORAGE, FINANCE, QUALITY, SETTLEMENT, TECHNOLOGY, CROSS-BORDER)

4.1 Please describe the exchange's storage footprint –what type of storage (bag warehouse, bulk silo, other), how many storage facilities, in how many and what kinds of locations (e.g. rural, upcountry centres, wholesale/consumption markets, industrial areas, port), what storage capacity overall and on average per facility (in MT or m2).

As a multi-asset Exchange, our storage footprint encompasses all storage types from warehouses to silos, vaults, barrels, tank farms, vessels, and ships. We have onboarded an overall storage capacity in excess of 600,000MT.

4.2 Are the storage locations for single or multiple commodities? Please describe.

The bagged product warehouses, vessels, and ships can hold multiple commodities, based on the recommendation of the certification agents and collateral managers, while the silos and tank farms are single commodity storage facilities.

4.3 Please describe which commodities are identity-preserved, and which are commingled. When commingled, please describe the commingling methodology (e.g. by quality grade).

Depending on the size and standard of the warehouse, dry grains are mostly commingled. Grains of different commodity types are kept in the same holding facility but stacked a little far apart from each other. However, commodities of different quality grades are stored in different storage facilities. The Collateral Managers manage product storage and advise on the storage methodology.

4.4 Please describe how warehouse management is organised at your exchange. Is there a warehouse operator who controls the storage facility? Do the storage facilities allow third-party operators or collateral managers? Who is responsible for the various warehouse services (e.g., maintaining stock, fumigation, labour force)?

Our model accommodates the onboarding of third-party warehouses managed by Collateral Managers. LCFE does not own any storage facility. Instead, we help facilitate the registration of various storage facilities located all over the country. We also onboard and register third-party institutions referred to as Collateral Managers who issue warehouse receipts, maintain stocks in the warehouse, send daily report to the Exchange and release stocks on instruction from the Exchange.

4.5 Please describe the strengths and weaknesses of your storage model. What has worked well, and what have been the constraints? Kindly provide recommendations from your experience.

Our storage model provides maximum security to all participants. Storage facilities must be insured and be of good standards. In cases where the commodity owner owns the facility, a Collateral Manager's presence will prevent the manipulation of stock quality and volume. The only downside to this model is the involvement of multiple participating parties.

4.6 Please describe the utilisation levels of the exchange's storage facilities over the course of the season. To what extent does your exchange cover its costs on warehousing service provision?

The cost of warehousing service is borne by the seller pre-sales and buyer post sales, as the exchange does not own warehouses. Warehouses are onboarded for free on the Exchange to encourage their participation. The only condition for participation is submitting clearance issued by a certification company, declaring the facility "fit for purpose".

Storage facilities slated to hold commodities are mostly utilised because products have different harvest cycles. Traders who prefer to trade off-season also hold products in multiple warehouses for a long time; hence, the warehouses are efficiently utilised.

4.7 Do financiers - banks, MFIs etc - finance the stock in the exchange's storage facilities via warehouse receipt finance, collateral management agreement, or something similar? (Please specify which).

The nature of the transaction depends on financiers' participation. On the Exchange, banks finance trades through warehouse receipt finance and collateral management agreement. We also have provisions for qualified traders to issue debt notes to finance their trading activities.

4.8 If the answer to 4.7 is yes, please identify for which commodities, for which kinds of borrower, and the basic terms of the financing (interest rate, term, loan to value ratio, currency, minimum and maximum loan amount).

The prevailing market conditions determine interest rates. We use the local currency (naira), and there is no limit to the loan amount of debt note issue size. Major concerns are usually around the existence of an offtake agreement. When such exists, it gives the financier some level of comfort.

4.9 What were the main drivers to enabling the finance, and the main challenges to overcome? Please provide recommendations from your experience.

The Exchange has a list of requirements traders must meet to qualify for financing on the Exchange. They include:

- i. Incorporation
- ii. Years of operation
- iii. Proper corporate structure
- iv. Capitalisation
- v. Profile of management team
- vi. Healthy cashflow
- vii. Audited statement of account

From experience, we have observed that many traders are registered as sole proprietorships, and this structure does not qualify for funding from financiers. Another challenge is the absence of a proper corporate structure and poor capitalization. However, given that we aim to onboard the informal market into the Exchange, private companies that want to raise debt instruments are advised to form a Special Purpose Vehicle (SPV).

4.10 Please describe the process by which your organisation developed quality standards for the commodities offered?

We are in partnership with all globally recognised assayers/certification companies operating in our local environment. We also have a relationship with the Standards Organisation of Nigeria (SON) with a government mandate to develop and enforce the standards for products traded in the country. We rely on these institutions' advice and align with their systems, with approval from Securities and Exchange Commission to confirm quality parameters of products traded on the Exchange.

4.11 What weight and quality testing facilities are present in your storage facilities? Are there weighbridges/ weigh scales? Uniform bag sizes? Equipment for quality assessment and testing apparatus? Is there a Standard Operating Procedure (SOP) governing storage and quality processes?

The Securities and Exchange Commission released a standard and operating procedure governing storage and quality processes relating to commodities/contracts that will be traded on the Exchange. These policy documents released by the commission state the responsibilities of collateral managers and certification companies, technology requirements of the warehouse, standardization, testing methodology, and bagging and stacking of products stored in the warehouse.

4.12 What have been the main successes and challenges for market participants with adopting the exchange's quality standards? Please provide recommendations from your experience.

The floor of the Exchange admits only high-quality products and the market participants have adapted to the Exchange's stipulated quality standards easily. Moreover, the offtake market is wide enough to accommodate all products irrespective of their quality parameters.

The Exchange advises producers on the importance of using the right inputs and engaging in efficient primary production processes, as these affect the overall output they get from their produce.

4.13 To what extent does market pricing reflect the various levels of quality within the defined standard? (e.g. fixed premiums and discounts, market-discovered premiums and discounts etc).

The higher the quality of a product, the higher the price buyers pay for them; same goes for low-quality products, which are more susceptible to being discounted. Still, the premiums for high-quality products may not be fixed. For example, high-quality products that are out of season cannot be sold at a fixed premium price. However, a position can be made for a future price.

4.14 Do the exchange's quality standards include or address the following, and if so how:

- **Intangible factors such as taste, aroma, origin, variety**
When we get a potential buyer looking to offtake a product with these features, we notify aggregators on the Exchange of the listed specifics, ensuring the contract is tailored accordingly.
- **Traceability**
This parameter is very important to the standards of the commodity contract. A securities number (ISIN) is generated for every product traded on the exchange and one very important feature of the number is its ability to trace a commodity's origin.
- **Social certification schemes**
Although this is majorly promoted for cross-border trades, these schemes are not very popular in the local market. But with our affiliations, we are looking to ensure traders on the platform of the Exchange enjoy the benefits of these schemes.

4.15 Please describe the clearing and settlement arrangements on your exchange (e.g. delivery versus payment, central counterparty), and how it works. (You are kindly invited to respond to those detailed technical questions, as per the footnote¹⁸, which are applicable to your exchange.) Please provide recommendations from your experience.

The exchange has partnered with a Central Securities Depository (CSD) to carry out the functions of Clearing, Settlement and Depository Services for contracts traded on the exchange.

For trades to settle on the Exchange, the following condition must have been met.

- *Exchange trade environment linked with CSD.*
- *Settlement cycle for contracts must have been determined (T + 3).*
- *Linkage to NIBSS.*
- *Settlement Banks must link with CSD and NIBSS.*
- *Trading Members register and activate portal to both CSD and Exchange.*
- *Warehouse receipt generated for products in the Warehouse.*
- *Selling Broker onboard warehouse receipt with CSD.*

With the above established, trades can commence on the Exchange. When brokers match orders on the exchange, an instruction from the exchange passes to the Depository at the close of business to reconcile trade activities and advise respective accounts on the settlement value and time. On the settlement date, seller receives value and buyer can initiate a delivery or pick up process.

Plans are in place to setup a settlement guarantee fund. A Board Committee handles such issues as disputes which arise from dealing on our platform. On the Exchange, there is no room for defaults as broker-linked accounts must be prefunded before trades are executed.

4.16 Please describe the technology that you use for trading, clearing/payments, warehouse management, warehouse receipting and finance, market data and other services. Please identify physical processes where technology is not used. (You are kindly invited to respond to those detailed technical questions, as per the footnote¹⁹, which are applicable to your exchange.) Please provide recommendations from your experience.

The Exchange uses a trade-matching engine that lets registered members have access to accounts in real time. The trade platform has limited positions for contracts and can hold as many orders as possible. We have an officer called “Market Control”, who monitors trading information and data analytics. After trades each day, the system generates an End of Day (EoD) report, which is shared with the depository that interprets the information and gives instruction for reconciliation, settlement and payments to market actors and regulators. The Exchange’s website only displays prices of the commodities as listed and traded on the Exchange.

The CSD and the banks handle the clearing and payments systems.

Warehouses and receipts issued by collateral managers are managed via a portal in the Depository linked to the trade matching of the Exchange.

4.17 Please describe the types of market data that your exchange disseminates, and the channels it uses for dissemination.

We disseminate open and closing prices of commodity contracts traded on the Exchange via the website and through partner media houses.

¹⁸ Please describe how fast settlement takes (e.g. T+1)? How does the exchange handle defaults? Please describe experiences in practice. Does your exchange have a settlement guarantee fund? If so, please describe. Does your exchange offer an arbitration service? If so, please describe.

¹⁹ Does the exchange have a website through which members can access their account in real time? Is there an application (android, ios, etc) that enables account access, management and activity? Does the exchange trading platform handle trading position limits and daily price-based circuit breakers? How many orders can the matching engine receive simultaneously? Does the front-end trader workscreen allow position monitoring, provide data analytics and portfolio analysis functionality? Does the system generate reports – real-time, end-of-day, end-of-month/year etc – for the regulator and market actors? Is there a FIX gateway for brokers to connect to the exchange in real time? Please describe system cyber-security and business continuity arrangements.

4.18 Do your markets feature any cross-border activity? If so, please state what, and describe how it works. (You are kindly invited to respond to those detailed technical questions, as per the footnote²⁰, which are applicable to your exchange.) Please provide recommendations from your experience.

We do not have any cross-border trades on the Exchange currently. However, we have established a framework to onboard cross-border transaction seamlessly through other capital market operators located in concerned regions whenever the need arises.

4.19 Otherwise, what do you see as the main cross-border opportunities for your exchange, and the challenges to realise them.

The only challenge in cross-border transactions is legislation. Harmonising legislation and consolidating trade treaties can create a seamless connection with other global markets.

Section 5

IMPACT, SUCCESSES AND CHALLENGES

5.1 Please describe the main commercial and developmental impacts your exchange has made since launch.

The following are some of the impacts and achievements LCFE has recorded.

- LCFE is the first commodities Exchange to trade Gold in West Africa.
- We are currently the only energy Exchange in West Africa.
- The Exchange conducts stakeholder sensitisation and capacity building programmes for commodity traders and capital market operators, respectively.
- We engage in developing framework for commodity-based capital-raising instruments tradeable on our Exchange for financing commodity stakeholders.
- We have made significant contributions to the Investment and Securities Bill, 2023.
- The exchange has contributed to the deepening of the Capital Market with Commodity Financial instruments.

5.2 Please elaborate, if your exchange doesn't offer them already, what additional impacts/benefits could be created by offering forward, futures and options contracts. Please also outline what would be the challenges of introducing these instruments in your jurisdiction.

The Exchange currently offers forwards contracts for selected commodities, which have been accepted by major market participants. These contracts have become a hedging mechanism for commodities processors allowing them to secure products at a market-determined price. Sellers also receive payment for future supplies of products. In addition, the instruments are an alternative source of income for speculators, as they take advantage of the price movement of these contracts.

The current challenge is the absence of the necessary infrastructure to support the issuing and sustainability of these instruments. Knowledge gap also exists in the market, resulting in process and operational inefficiencies.

²⁰ Can international market actors participate in your exchange? If so, must they trade through a locally resident broker, or are offshore brokers permitted? Can they send trading orders in from abroad? Can they use hard currency for trading and repatriate profits? If not, are their bottlenecks to access and convert local currency? How do international actors take local delivery? Does your exchange offer international delivery points for any of its contracts? Or international-origin commodities? Can local actors trade in overseas markets through their front-end trader workscreen?

5.3 Please describe the extent to which your exchange has become commercially sustainable, and the reasons for this – i.e. the enablers of sustainability, and/or the challenges in becoming sustainable.

The commodities ecosystem consists of various stakeholders that complement each other, and the Exchange's model was specially developed to bridge the gap among stakeholders. Hence, we enable and promote sustainability by creating an alternative market for producers, processors, and investors. The Exchange has products peculiar to every user on the platform regardless of the transaction type. On the one hand, farmers have access to market, capital, and opportunity to increase efficiency by partaking in the capacity building initiatives of the Exchange. On the other hand, investors have access to various commodity instruments, also called alternative investments, which can be used to diversify portfolio for income generation.

This sustainability is possible because of our efforts to structure and deepen the market. Instead of competing, we enable stakeholders to perform at full capacity. We also provide risk-management by onboarding the required market infrastructure and market operators with the requisite skills.

Our current challenge is the lack of national policy enforcing the Exchange as the platform for commodity trades.

5.4 Overall, please summarize the main successes and challenges your exchange has faced.

• Successes

1. Onboarding the first exchange- traded Gold Contract.
2. Catalysing the commodities ecosystem to create opportunities for new market entry and participation.
3. Caused a paradigm shift in the minds of market regulators on commodities trading on an exchange.
4. Contribute to developing and continuously promoting policies that led to the standardisation of the commodities market.
5. Executing laws for regulatory frameworks.

• Challenges

1. Inadequate policies supporting the success of exchange-traded transactions.
2. Limited knowledge of trading processes.
3. Investors' risk aversion.
4. Lack of government support.
5. Slow pace of market adoption.

5.5 Please describe - illustrated by examples where possible - how the pricing and trading on your exchange is impacted by events in:

• Regional markets

Most commodities produced are consumed locally.

• Global markets

Not Applicable.

Section 6

STAKEHOLDER EXPERIENCES

This section comprises four sub-sections:

- **6.1 Farmers/farmer organisations (FOs)/intermediaries**
- **6.2 Agribusiness buyers (e.g. processors, manufacturers, exporters)**
- **6.3 Financiers and investors**
- **6.4 Institutions (e.g. government marketing board, food reserve agency, humanitarian agencies, institutional buyers like schools, hospitals, military, prisons)**

6.1 Farmers / Farmer Organisations (FOs) / Intermediaries

- **6.1.1 Please describe the extent to which farmers participate in your markets, and how: which types of farmers, for which commodities, for what purpose, and explain whether they do so directly or through producer organisations.**

The Exchange has an extensive framework encompassing all the stakeholders in the ecosystem. The framework is implemented in phases. The Exchange engages with large-scale farms and aggregating companies that meet the Exchange's minimum trade volume requirement. These groups trade their commodities on the Exchange through a registered and SEC-licensed Dealing Member Firm. The framework contains plans for farmers to participate on the Exchange through cooperatives or farmers associations that will be represented by DMFs. However, the Exchange's interface with farmers currently is for sensitisation on the Exchange's role and promoting global farming practices.

- **6.1.2 Please describe the extent to which intermediaries (aggregators, traders, distributors etc) participate in your market, for which commodities, and for what purpose.**

Aggregators, traders and distributors are major participants of the market. Aggregators and traders provide the required volume of market supplies, while the distributors make up a large portion of the Exchange's demand chain of processed commodities. Currently, we apply this principle to our Paddy rice and Gold commodities. However, the principle is also applicable to other commodities tradeable on LCFE.

- **6.1.3 Please describe the main enablers and challenges to the participation of each of these stakeholders [farmers, FOs, intermediaries]. Please provide recommendations from your experience.**

The main enablers have been sensitisation, capacity building and leveraging on relationships of existing partners.

The main challenge is the informality of the market for several decades. Hence, the market is struggling to understand and adapt to the structure, transparency, and price discovery systems that the Exchange is introducing.

- **6.1.4 Please identify, describe, and if possible, quantify, the value and impacts realised for participating farmers, FOs and intermediaries.**

The major value propositions for participants include:

- Access to a larger market locally and globally without having to conduct any marketing engagements.
- Access to financial partners who can provide funding for Commodity-based activities.
- Price discovery and ability to set their price mechanism.
- Global recognition as a trading stakeholder of an Exchange.

• 6.1.5 Please describe how you have been able to overcome the following challenges with respect, separately, to farmers, FOs and intermediaries (as may be applicable):

These challenges are not applicable to commercial farmers

- a. Farmer/FO/intermediary preference for cash on delivery/collection.
Prior to the commencement of any transaction, all stakeholders are briefed by their respective Dealing Member Firm about the Exchange's mode of operations. All transactions are settled directly to bank accounts. Farmers who prefer cash transactions are advised to deal with aggregators who buy directly at the farm gate.
- b. Farmer/FO/intermediary capacity to achieve minimum quality, weight and packaging requirements.
The Exchange only deals directly with companies that meet the minimum operating requirements. Other participants are aggregated in other capacities.
- c. Farmer/FO/intermediary capacity to manage paper or electronic documents, in lieu of cash.
Vital paper documentations are vetted and dematerialised to electronic versions by relevant professionals.
- d. Farmer/FO/intermediary capacity to transport goods to an exchange warehouse.
One of our requirements is the farmer's ability to transport commodities to a registered LCFE warehouse. The Exchange also accredits and registers aggregators who own standard warehouses for trading purposes. In addition, the Exchange has registered logistics companies who can work with aggregators to deliver to the warehouses.
- e. Farmer/FO/intermediary capacity to successfully apply for, receive and repay warehouse receipt finance loans.
LCFE aligns these stakeholders with Financial Institutions that provide necessary advice for structuring of their organisational structure to ensure they can apply for loans from partner financial institutions and to raise funds from the Capital market.

The Exchange has also created a framework where partner institutions willing to fund warehouse receipts of aggregators or commodity-based companies can plug into the Exchange's trading system and get the loans repaid directly through the trading system.
- f. Farmer/FO/intermediary capacity to make marketing decisions to realise returns and mitigate price risk.
The Dealing Member Firms act as advisers in the capital market, and based on activities on the Exchange, can give relevant advice to enable the aggregators to make appropriate decisions. However, the final decision lies in the hands of the stakeholder.
- g. Farmer/FO/intermediary capacity to utilize gains from post-harvest finance to fund productivity gain.
The warehouse receipt enables the Farmer/FO/ to have access to finance to expand their scale of business. These receipts can be refinanced and used as collateral by these farmers/FO.
- h. Farmer/FO/intermediary resistance to payment of fees.
All the stakeholders are briefed about all fees prior to transactions and sensitised about the benefits of trading on the Exchange.
- i. Farmer/FO/intermediary nervousness concerning transparency (e.g. due to taxation, or fear of competitors).
The Exchange operates a transparent and open platform that ensures strict compliance to regulatory deductions. Like all open markets, competition is inevitable. It is the Farmer/intermediary's prerogative to differentiate themselves by providing premium value.
- j. Concerns from intermediaries about being disintermediated through the exchange.
The intermediaries are fully embedded in the framework of LCFE so there are no fears of being disintermediated.
- k. Other bottlenecks/challenges you have observed.
Not Applicable.

6.2 Agribusiness buyers (e.g., processors, manufacturers, exporters)

- **6.2.1 Please describe the extent to which agribusiness buyers participate in your markets, and how: which types of buyers, for which commodities, and for what purpose.**

We have a market open to all types of produce buyers. There is no restriction of commodities, sellers or buyers in the market because deepening the market is easier when the number of buyers is high. The result is the utilisation of data to drive products development.

- **6.2.2 Please describe the main enablers and challenges to the participation of agribusiness buyers. Please provide recommendations from your experience.**

Buyers who participate on the Exchange benefit from its quality assurance, guaranteed delivery and efficient supply chain network. In addition, their profile and track records on the Exchange give them access to alternative sources of finance to continue off-taking commodities on the Exchange.

- **6.2.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating agribusiness buyers.**

Some of the impacts realised by participating buyers include:

1. Access to alternative supply chain
2. Access to finance
3. Access to hedging instruments through commodity contracts investments
4. Access to guaranteed delivery
5. Access to quality assurance
6. Transparency in Service

- **6.2.4 Please describe how you have been able to overcome the following challenges with respect to agribusiness buyers (as may be applicable):**

- Agribusiness preference for delivery to factory gate over collection from remote site.
Prices on the Exchange are quoted clean or dirty. Buyers who require products delivery to their factory gate will only buy dirty, including the logistics cost to the factory gate.
- Agribusiness reluctance to pay quality-linked prices.
We have not experienced this challenge.
- Agribusiness lack of requirement for warehouse receipt finance due to existing access to finance arrangements (e.g., pledge of fixed assets, inventory finance under Collateral Management Agreement, trade finance).
Not Applicable.
- Agribusiness resistance to payment of fees.
Not Applicable.
- Agribusiness nervousness to expose their trade to transparency (e.g. due to taxation, or fear of competitors).
Not Applicable.
- Other bottlenecks/challenges you have observed.
Not Applicable.

6.3 Financiers and Investors

- **6.3.1 Please describe the extent to which financiers and investors participate in your markets, and how: which types of financier/investor, with respect to which commodities, and for what purpose.**

Financiers and investors play a significant role; LCFE is a financing bridge for commodity stakeholders. Investors invest in commodity contracts listed on the Exchange through their brokers. Institutional and retail investors participate on the Exchange.

- **6.3.2 Please describe the main enablers and challenges to the participation of financiers and investors. Please provide recommendations from your experience.**

The availability of tradeable commodities in the exchange enables the participation of financiers on the Exchange. The ability of the exchange and other capital market operators to de-risk these instruments provide the necessary comfort for financiers to participate on the Exchange.

- **6.3.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating financiers and investors.**

The value and impact of participating financiers and investors are inestimable. Their participation is necessary to inject the needed liquidity into the market.

- **6.3.4 Please describe how you have been able to overcome the following challenges with respect to financiers and investors (as may be applicable):**

- Excessive risk perceptions with respect to agricultural and commodities.
We developed de-risked commodity products and established frameworks that support the listing and trading of these products both in the primary and secondary market.
- Excessive risk perceptions with respect to farmers, FOs and SMEs.
Developing an efficient profiling and onboarding process to carefully select farmers and corporations that meet the minimum operating standards.
- High interest rates.
The Exchange provides access to alternative sources of finance to participants. Interest yields on instruments are determined by a lot of factors, especially the macro-economic elements and expectations of investors.
- Lack of liquidity.
Onboarding of various institutions to act as liquidity providers and market makers for market instruments.
- Lack of bank capacity.
The banks in the Nigerian financial system, being regulated by the CBN, are well capitalised to undertake any transaction on our Exchange.
- Legal or regulatory challenges.
Although the market and its regulations are evolving, we currently have adequate rules governing the market operations.
- Other bottlenecks/challenges you have observed.
Not applicable.

6.4 Institutions (e.g. government marketing board, food reserve agency, humanitarian agencies, institutional buyers like schools, hospitals, military, prisons)

- 6.4.1 Please describe the extent to which institutions participate in your markets, and how: which types of institution, with respect to which commodities, and for what purpose.

The institutions are categorised as aggregators/sellers and investors/buyers on the Exchange. They have access through their brokers to sell/offtake commodity contracts on the exchange. There is no limit to the products they can sell/purchase. They can also onboard specialised contracts for products sale/offtake on the Exchange.

- 6.4.2 Please describe the main enablers and challenges to the participation of institutions. Please provide recommendations from your experience.

The presence and implementation of a transparent regulatory framework enables members, institutions, sellers, buyers, and financiers to participate on the Exchange. The regulatory body creates an enabling environment for the Exchange's existence.

- 6.4.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating institutions.

The impacts are enormous, as we serve the producers, processors, and investors. The Exchange, through its strategic partners, has introduced products that solve lingering issues in the ecosystem to the market. Producers have access to market, capital, price control and hedging instruments. Processors have access to quality products, alternative supply chain network, capital, and hedging instruments. Investors have access to instrument that can generate revenue and return on their investments in commodity instruments.

- 6.4.4 Please describe how you have been able to overcome the following challenges with respect to institutions (as may be applicable):

- Aligning with Institutional Mandate.
Advocacy and collaboration with market stakeholders, policy makers and regulators.
- Aligning with Rules and Procedures.
Consultation with stakeholders and regulators before establishing required rules and procedures.
- Aligning with Exchange Quality Standards.
Enforcement of quality standards on market participants.
- Acceptance of using the Exchange's Storage Facilities.
Onboarding of third-party storage facilities.
- Institutional Capacity.
Capacity building with market stakeholders.
- Other.
Not applicable.

08 NCX, Nigeria

- **Name of Exchange:** NIGERIAN COMMODITY EXCHANGE (NCX)
- **Name of Respondent:** ELENWOR IHUA
- **Job Title of Respondent:** INTERIM COORDINATOR
- **Date of Response:** 08 / 06 / 2023

Section 1 HISTORICAL DEVELOPMENT

1.1 In which year did your exchange launch?

The Nigeria Commodity Exchange (NCX) was established in June 1998 and steps to revitalise the Exchange commenced in 2021 with the development of a Strategic Execution Plan (SEP) document to guide the repositioning process of the Nigeria Commodity Exchange (NCX) directed by the President of Nigeria which led to the Central Bank of Nigeria (CBN) inaugurating a new Board and Management for the NCX in January 2022.

1.2 How long did it take to prepare the Exchange for launch? What were the key steps?

Two years. The key steps that were taken in preparation for the launch included:

- **1. Development of the legal and regulatory framework:** This involved the development of the rules, regulations, and procedures for the operations of the Exchange.
- **2. Business Planning** involved setting up NCX's corporate structure and establishing an effective business plan.
- **3. Technology** involved procuring a trading platform and developing a secure storage and communications infrastructure.
- **4. Capacity building:** This involved conducting training sessions for staff, brokers, especially on the deployment and use of technology infrastructure and sundry activities on the functioning of the Exchange.

1.3 Who were the initiators of and investors into the Exchange, and for what reasons? (i.e. government, financial institutions, farmers, private sector, etc).

The investors in the Nigeria Commodity Exchange included the CBN, National Insurance NICON Insurance Plc, Nigerian Industrial Development Bank (NIDB), Nigeria-Reinsurance, and Nigeria Bank for Commerce and Industry (NBCI). CBN is the majority shareholder with about 60% stake, while the partner investors hold the remaining stakes. The interest of the Federal Government of Nigeria was to ensure the development of the agricultural commodity value chain, improvement of the livelihood of the farmers and producers of primary commodities. The CBN also aims to support the development of the agricultural commodities value chain and Exchange itself, as well as ensure price transparent, price discovery and price moderation.

Section 2

ORGANISATIONAL STRUCTURE AND GOVERNANCE

2.1 As what type of organisation is your Exchange structured (e.g. public limited company, partnership, mutually owned, non-profit, etc), and why? What kinds of organisation, if any, own your Exchange (i.e. hold equity, membership and/or 'seats', as applicable)?

The Exchange is a public limited company.

2.2 Please describe the governance structures of your Exchange.

The Board of Directors provides leadership, direction, and oversight roles to the NCX. The Management is currently headed by an Interim Coordinator (IC) and supported by two (2) executive management.

2.3 Please describe how, if at all, your Exchange engages with policymakers (e.g. within policy dialogues, official reporting mechanisms/committees, governance structures, informal contacts, etc). Please describe the strengths and weaknesses of policy engagement at your Exchange and provide recommendations from experience.

As an Exchange, the NCX engages with both the public and private sectors as part of its activities. As part of its advocacy role, the Exchange engages with policymakers, ministries, departments, and government agencies to advocate for initiatives that support critical elements in the commodity ecosystem. The Exchange is also a member of the inter-agencies committee instituted by various MDAs in the country.

• Strengths:

- 1. The Exchange has established a strong network of stakeholders, including government agencies, financial institutions, farmer groups, and buyers and sellers in the agricultural sector. This network provides the Exchange with access to reliable market information, such as prices and availability of commodities, and allows for direct interaction with stakeholders.*
- 2. The NCX has also implemented an effective policy engagement program that actively engages stakeholders to ensure the Exchange's policies align with the current market conditions. This has helped the Exchange improve its understanding of the agricultural sector and better tailor its policies to meet the needs of the different stakeholders.*
- 3. The Exchange has also successfully attracted new participants to the market, which has increased the market's liquidity and helped stabilize prices.*

• Weaknesses:

- 1. Bureaucracy involved in public sector engagement.*
- 2. The Exchange's activities are often not well-understood.*

• Recommendations:

- 1. Establish a dedicated policy engagement unit to ensure that the Exchange's policies are well-understood by all stakeholders and that the Exchange is better able to respond to changes in the market.*
- 2. Develop an online forum to enable stakeholders to engage directly with the Exchange and to provide feedback on the Exchange's policies.*
- 3. Expand the scope and medium of market information dissemination.*
- 4. Strengthen the participation of farmers in policy formulation and implementation by leveraging existing networks such as cooperatives and farmer associations.*
- 5. Increase the Exchange's capacity for policy research and analysis to ensure that policies are well-informed, and evidence based.*

2.4 Please describe by which agency/authority your Exchange is regulated (if applicable), under what legal framework, and licensing arrangements? Please describe how your Exchange engages with its regulator(s). Please describe the strengths and weaknesses of regulator engagement at your Exchange and provide recommendations from experience.

The Exchange is regulated by the Securities and Exchange Commission (SEC) under the Investment and Securities (ISA) Act of 2007. The SEC is responsible for licensing, supervising, and regulating all securities Exchanges in Nigeria.

SEC requires the NCX to obtain a license from it before it can commence trading. The license is renewed yearly. Exchanges must submit regular returns detailing its financial and operational performance to the SEC. The NCX must also comply with all applicable capital requirements, market conduct, and disclosure rules.

• **Strengths:**

- *The SEC has provided support and guidance to the Exchange.*
- *The SEC carries out effective regulation and supervision of the Exchanges.*
- *The SEC has developed a comprehensive regulatory framework for the commodities Exchange that is consistent with international best practice.*

• **Weaknesses:**

- *Not applicable.*

• **Recommendations:**

- *The SEC should emplace policies and regulations that promotes the development of the Exchange.*
- *Continued engagement with SEC on regulatory improvement.*

Section 3

OFFERING

3.1 For which commodities/assets does your Exchange offer markets?

The Nigeria Commodity Exchange offers markets for commodities such as Cocoa, Cashew, Cotton, Coffee, Sesame, Soybeans, Millet, Maize, Sorghum, Paddy rice, and Wheat for now, with a plan to trade more agro-commodities, solid minerals, derivatives/futures products and energy in future.

3.2 For which instruments does your Exchange offer markets (e.g., spot, forward, futures, brokered solutions, indices, other)?

The Exchanges currently offers both spot, forward contract and over the counter transactions with plan to develop other products in the medium term.

3.3 How many contracts and/or MTs (as applicable) has your Exchange traded per commodity per year - last year, and in your most successful year?

As part of the repositioning effort of the Exchange in 2022, the Exchange commenced spot contracts while volumes were minimal, the Exchange traded commodities on a test basis. In 2023 the Exchange has focused on over the counter (OTC) transactions, with over 50,000MT traded thus far.

3.4 Approximately what proportion of total national production is traded through your Exchange for each commodity?

The Exchange traded less than 0.1% of the total national production, with plans to aggressively increase the numbers in the coming years.

3.5 Apart from Exchange-trading and relating clearing and settlement services, what other services does your organisation offer?

The Exchange provides market surveillance, price discovery, testing and grading, advocacy and warehousing services.

3.6 Please describe how membership, and market access more generally, is structured at your Exchange (i.e. who is entitled to participate, on what basis/eligibility, under what kinds of category...).

Membership of the Nigeria Commodity Exchange (NCX) is open to all categories of trading participants and market operators. The NCX has three membership categories, namely Broker-Dealer member, Dealer Members and Broker Members. Subject to Board approval, special membership is open to settlement bank, financing bank, insurance company, collateral management company and is renewable yearly. Special members can only buy/sell commodities and settle trades through trading members.

3.7 To what extent does your Exchange perform price discovery? Please describe the prices that are discovered - are they by commodity type, by grade, by location etc.

Currently, price discovery at the Exchange is a combination of simultaneous bidding and offering carried out by several buyers and sellers from major commodities markets across the country.

3.8 Please appraise to what extent are the Exchange's prices used by value chain actors as references in their transactions. Please also describe the limitations and bottlenecks to price discovery at your Exchange – what is holding back the Exchange's prices from being further adopted by the value chain as benchmarks. Kindly provide recommendations from your experience.

The Nigerian commodity market is currently largely an informal market. Exchanges in the country are expected to drive formal trading using Exchanges' platforms. Consequently, price discovery is largely based on prices extracted from major commodities markets across the country. The NCX is currently positioning itself as a major reference point in price discovery. The Exchange is currently undergoing a repositioning exercise. This will enable it to drive formal commodity trades on its platform and position it as an effective price discovery organisation, as part of its advocacy engagements, the Exchange seeks to support the "Mandation" of key commodities to enable the formal commodity market.

Section 4

OPERATIONS (STORAGE, FINANCE, QUALITY, SETTLEMENT, TECHNOLOGY, CROSS-BORDER)

4.1 Please describe the Exchange's storage footprint – what type of storage (bag warehouse, bulk silo, other), how many storage facilities, in how many and what kinds of locations (e.g., rural, upcountry centres, wholesale/consumption markets, industrial areas, port), what storage capacity overall and on average per facility (in MT or m2).

The Commodity Exchange has a storage footprint across the country with a mix of leased and partner-owned facilities comprising of warehouses, silos, and hermetic storage solution with a combined capacity of 339,000 MT. The Exchange has developed a three-tiered storage strategy aimed at increasing its own storage infrastructure capacity to 5 million MT within the next five years.

4.2 Are the storage locations for single or multiple commodities? Please describe.

Most of the storage facilities are single commodity storage comprising of warehouses, silos, and cocoons (hermetic storage solution).

4.3 Please describe which commodities are identity-preserved, and which are commingled. When commingled, please describe the commingling methodology (e.g. by quality grade).

Commodities are stored based on commodity types and are moved on a First-in-First-out (FIFO) basis. Commingling of commodities are avoided.

4.4 Please describe how warehouse management is organised at your Exchange. Is there a warehouse operator who controls the storage facility? Do the storage facilities allow third-party operators or collateral managers? Who is responsible for the various warehouse services (e.g., maintaining stock, fumigation, labour force)?

Warehouse management at the Exchange is primarily a mix of the Exchange operation team (for leased warehouses) warehouse operators/collateral managers for partner warehouses and silos. Warehouse services

are provided by relevant warehouse owners and superintended by warehouse operators/warehouse managers, while warehouse manage by the warehouse operation team are supervised by the staff of the Exchange.

4.5 Please describe the strengths and weaknesses of your storage model. What has worked well, and what have been the constraints? Kindly provide recommendations from your experience.

• **Strengths:**

- The three-tiered storage model is developed to support storage at farm-gate and aggregation level.
- The model enables value added services such as cleaning, grading and re-bagging to be carried out at farm-gate.
- The model encourages traceability of commodities.
- The Exchange plans to develop model warehouses to be adopted by the industry.

• **Weaknesses:**

- Absence of adequate standard storage infrastructure across the country.

• **Recommendations:**

- Encouraging and unlocking private capital to close the storage infrastructure gap.
- Partnering Exchanges to develop model integrated warehouses with relevant ads-on services such as drying, cleaning and sorting.

4.6 Please describe the utilisation levels of the Exchange's storage facilities over the course of the season. To what extent does your Exchange cover its costs on warehousing service provision?

Due to the current level of operation at the Exchange, utilization of storage capacity is low. However, the Exchange acknowledges that model warehouses require huge and patient capital outlay, which returns are spread over a number of years. In line with its repositioning effort, the Exchange is therefore committed to delivering 5 million MT of storage capacity in the next five years to recoup its cost over a long period.

4.7 Do financiers - banks, MFIs etc - finance the stock in the Exchange's storage facilities via warehouse receipt finance, collateral management agreement, or something similar? (please specify which).

Some Banks in Nigeria financed stock of commodities where there is evidence of availability of the commodity. However, a formal warehouse receipt financing arrangement is currently being developed and is expected to unlock liquidity to support commodity financing.

4.8 If the answer to 4.7 is yes, please identify for which commodities, for which kinds of borrower, and the basic terms of the financing (interest rate, term, loan to value ratio, currency, minimum and maximum loan amount).

The warehouse receipt system is yet to be operational.

4.9 What were the main drivers to enabling the finance, and the main challenges to overcome? Please provide recommendations from your experience.

• **Main driver:**

- The development of the framework for warehouse receipt and the relevant legal backing

• **Recommendation:**

While Exchanges awaits a legal backing for warehouse receipt in Nigeria, existing commodities financing models adopted by financial institutions should be explored in partnership with the Exchanges.

4.10 Please describe the process by which your organisation developed quality standards for the commodities offered?

The Exchange as an organisation that provides assaying services has a robust testing and grading infrastructure and ensures quality standard are consistent with relevant standard bodies in Nigeria.

4.11 What weight and quality testing facilities are present in your storage facilities? Are there weighbridges/ weigh scales? Uniform bag sizes? Equipment for quality assessment and testing apparatus? Is there a Standard Operating Procedure (SOP) governing storage and quality processes?

NCX's storage infrastructure has a variety of weight and quality testing facilities. These include platform weighing scales, equipment for quality assessment and testing apparatus. There is also a Standard Operating Procedure (SOP) governing storage and quality processes. The SOP outlines the process for assessing the quality of commodities, conducting weight tests, and ensuring the integrity of the storage facility.

4.12 What have been the main successes and challenges for market participants with adopting the Exchange's quality standards? Please provide recommendations from your experience.

Main Successes:

- The NIS standards adopted by the Exchange has enabled market participants to trade in higher-quality commodities, and reduced risks associated with product quality.
- The increased transparency and trust in transactions have enabled market participants to build relationships and facilitate better deals.
- Improved communication and access to market information have enabled market participants to make better decisions and improve their operations.

Main Challenges:

- Challenges in ensuring that all stakeholders understand and comply with the quality standards.
- Difficulty in convincing stakeholders who currently are in the informal commodities market to participate in a formal Exchange market.

Recommendations:

- Create awareness on the various assaying services of the Exchange and the benefits to stakeholders.
- Pursue adoption of "Mandation" for commodity trading in Nigeria.
- Continued engagements with various standard setting bodies in Nigeria.

4.13 To what extent does market pricing reflect the various levels of quality within the defined standard? (e.g. fixed premiums and discounts, market-discovered premiums and discounts etc).

Market pricing is largely determined by the quality of the commodity being offered. The higher the quality, the higher the price, and vice versa.

4.14 Do the Exchange's quality standards include or address the following, and if so how:

- Intangible factors such as taste, aroma, origin, variety
- Traceability
- Social certification schemes

NCX quality standards addresses a number of the above mentioned factors.

4.15 Please describe the clearing and settlement arrangements on your Exchange (e.g. delivery versus payment, central counterparty), and how it works. (You are kindly invited to respond to those detailed technical questions, as per the footnote²¹, which are applicable to your Exchange.) Please provide recommendations from your experience.

Commodities are made available by a seller at the Exchange's accredited warehouses. The commodities are received by the warehouse/collateral manager, upon receipt of the commodities, which are weighed, graded, and tested, Goods Received Note, and eCR is issued to the seller evidencing the commodities provided. The eCR is then made available on the Exchange to be traded based on the commodity contract parameters through it brokers. A buyer, through its broker, confirms the availability of commodity to be traded on the Exchange and makes an offer to buy on the Exchange. The NCX trading engine matches the trade and consummates the transaction. Following the clearing and settlement, process value is given to the seller, and authorisation is given to the buyer to pick the commodity. The Exchange operates a Settlement Guarantee Fund which serves as a risk management mechanism in the event of a default of either parties. The Exchange also provides arbitration services to address issues of dispute between buyers and sellers.

4.16 Please describe the technology that you use for trading, clearing/payments, warehouse management, warehouse receipting and finance, market data and other services. Please identify physical processes where technology is not used. (You are kindly invited to respond to those detailed technical questions, as per the footnote²², which are applicable to your Exchange.) Please provide recommendations from your experience.

Trading:

The Exchange uses a bespoke trading and warehouse management solution that matches trade of commodity contracts between buyers and sellers and ensures operation of clearing and settlement are carried out. The solution currently accommodates spot trade, forward contract, and over-the-counter transactions. Spot trades are carried out through brokers on behalf of buyer and seller on a DVP system. The solution also allows electronic commodity receipt (eCR) generated via the warehouse management system and consistent with the commodity contract to be traded on the Exchange. The Exchange is currently redesigning its website to allow members access their accounts in real time; the solution has also been customised for Android and IOS systems. Daily trading on the Exchange using the trading solution is done within specified times, trading can be carried out remotely or on premises at the Exchange's trading floor. All trades are monitored via work screen by relevant staff of the Exchange. The trading solution generate series of report including end of day portfolio report, etc., relevant for the Exchange regulators and other market actors. Adequate attention is given to issue of cyber security and business continuity management.

4.17 Please describe the types of market data that your Exchange disseminates, and the channels it uses for dissemination.

The Exchange disseminate data on commodity prices, volume and value of trades to its regulator, the Security and Exchange Commission and makes available market data to interested persons on request.

²¹ Please describe how fast settlement takes (e.g. T+1)? How does the exchange handle defaults? Please describe experiences in practice. Does your exchange have a settlement guarantee fund? If so, please describe. Does your exchange offer an arbitration service? If so, please describe.

²² Does the Exchange have a website through which members can access their account in real time? Is there an application (android, ios, etc) that enables account access, management and activity? Does the Exchange trading platform handle trading position limits and daily price-based circuit breakers? How many orders can the matching engine receive simultaneously? Does the front-end trader workscreen allow position monitoring, provide data analytics and portfolio analysis functionality? Does the system generate reports – real-time, end-of-day, end-of-month/year etc – for the regulator and market actors? Is there a FIX gateway for brokers to connect to the Exchange in real time? Please describe system cyber-security and business continuity arrangements.

4.18 Do your markets feature any cross-border activity? If so, please state what, and describe how it works. (You are kindly invited to respond to those detailed technical questions, as per the footnote²³, which are applicable to your Exchange.) Please provide recommendations from your experience.

Currently, the Exchange does not carry out cross border activities, however the Exchange facilitates trade of export commodity and is seeking to explore opportunities under the Africa Continental Free Trade Area Agreement [AFCFTA]. Also, as part of its repositioning effort the Exchange seeks to position itself as a major facilitator in key export commodities across the African continent.

4.19 Otherwise, what do you see as the main cross-border opportunities for your Exchange, and the challenges to realise them.

Cross-border opportunities: Leveraging on the AFCFTA and other international markets, the Exchange can benefit on a larger market to improve non-oil export earnings and address the disparity in export commodities pricing.

Challenge:

- Majority of commodity exports in Africa, especially in Nigeria, are done through informal commodity market.
- Absence of adequate infrastructure for example storage and logistics.
- Differences in regulatory and compliance standards across the continent.

Section 5

IMPACT, SUCCESSES AND CHALLENGES

5.1 Please describe the main commercial and developmental impacts your Exchange has made since launch.

The following are some of the impacts and achievements LCFE has recorded.

1. The emergence and launch of the Exchange has resulted to increase interest in the use of commodity Exchanges for commodity trade transactions in the country.
2. Increased attention of private sector investment in commodity Exchange ecosystem.
3. Increase attention for smallholders' farmers by addressing challenges of storage, liquidity, and agronomical practices.
4. Improvement in commodity price discovery.
5. Improvement in commodity contracts sanctity devoid of defaults.
6. Introduction of innovation in commodity infrastructure delivery, example, hermetic storage solutions.
7. Improved liquidity provision to the agricultural sector.
8. Improved quality standards of commodities.

5.2 Please elaborate, if your Exchange doesn't offer them already, what additional impacts/benefits could be created by offering forward, futures and options contracts. Please also outline what would be the challenges of introducing these instruments in your jurisdiction.

These contracts/instruments would:

1. Improve liquidity.
2. Improve price risk management.
3. Enhance commodity price moderation.
4. Promote market driven production.
5. Deepen commodity exchange market.
6. Attract investors seeking such innovative products.
7. Improve competency of operators and regulators in these contracts.

5.3 Please describe the extent to which your Exchange has become commercially sustainable, and the reasons for this – i.e., the enablers of sustainability, and/or the challenges in becoming sustainable.

The Exchange is currently undergoing a repositioning exercise and it aims to be commercially sustainable by the end of 2024. To ensure the target is met, the repositioning effort is focusing on building a robust Exchange that facilitate commodity trading (for local and export market) and encourage more stakeholders to trade on the Exchange. Also, attention is being given to up-scaling the Exchange assaying services, increase storage capacity, support upstream production of agricultural commodities, engage and encourage participation of financial institutions in the commodity trading ecosystem. The absence of an enabling environment and government policy support (example, absence of a warehouse receipt regulation) could be considered as a challenge towards achieving commercial sustainability.

5.4 Overall, please summarize the main successes and challenges your Exchange has faced.

Successes:

Provision of an organised formal market for trading agricultural commodities resulting in price transparency which has positively impacted storage management, reduction of post-harvest-losses and the impact of middlemen in commodity market.

Challenges:

The commodity market is still largely informal and requisite infrastructure to support commodity ecosystem is in short supply.

5.5 Please describe - illustrated by examples where possible - how the pricing and trading on your Exchange is impacted by events in:

Regional markets:

The Exchange operates in Nigeria, which is the largest economy in the west Africa sub-region. Consequently, commodities produce within the country are often taken to other countries in the sub-region and this has adversely affected availability of such commodities and the prices of such commodities, especially grains. However, pricing of commodities that are largely consumed in the country are insulated from the regional markets as there are no regional reference prices.

Global markets:

The event of Russia/Ukraine crisis had an impact on the price of wheat resulting in increased price of wheat on the Exchange. Also, commodities such as cocoa and sesame with international reference prices which are locally produce in Nigeria are impacted by movement in the reference prices.

Section 6

STAKEHOLDER EXPERIENCES

This section comprises four sub-sections:

- **6.1 Farmers/farmer organisations (FOs)/intermediaries**
- **6.2 Agribusiness buyers (e.g. processors, manufacturers, exporters)**
- **6.3 Financiers and investors**
- **6.4 Institutions (e.g. government marketing board, food reserve agency, humanitarian agencies, institutional buyers like schools, hospitals, military, prisons)**

6.1 Farmers / Farmer Organisations (FOs) / Intermediaries

- **6.1.1 Please describe the extent to which farmers participate in your markets, and how: which types of farmers, for which commodities, for what purpose, and explain whether they do so directly or through producer organisations.**

Farmer deposits commodity into accredited warehouse where delivery takes place after trading on the Exchange trading platform. Farmer/FO instructs broker to sell on his behalf after which his account is credited with the value of the transaction. Farmer/FOs may delay sales by obtaining an electronics commodity receipt (eCR) which can be financed by participating financing institutions.

Farmers are not necessarily compelled to sell through producer organisations, however, because the Exchange is a wholesale market, commodity aggregation is encouraged by the FOs to enhance the ease of logistics. The procedures described above apply to the eleven focal crops of the NCX, albeit attention is presently focused more on maize, wheat, paddy and soyabeans.

- **6.1.2 Please describe the extent to which intermediaries (aggregators, traders, distributors etc) participate in your market, for which commodities, and for what purpose.**

The Exchange currently focuses on ensuring commodities are sold directly to major processors, reducing the influence of aggregators and other intermediaries to prevent cost layering, it is important to know that increased commodity prices constitute a major part of inflation computation in Nigeria.

- **6.1.3 Please describe the main enablers and challenges to the participation of each of these stakeholders (farmers, FOs, intermediaries). Please provide recommendations from your experience.**

Farmers are encouraged by the availability of ready market that enable them to sell at the right prices and are aware that quality parameters are a major consideration in determining prices, as premium quality attracts premium price. The Exchange also ensures contract performance.

Challenges:

Farmers are challenged by poor yield because of poor agronomic practices, poor quality of input, limited access to credit, agro-climatic factors such as drought, poor farm management practices, pests, and diseases.

Recommendations:

Training of farmers on GAP, Farm Management, and linking them to financial services providers, use of eCR, extension services and farmers' education will increase farmers participation on the Exchange.

• **6.1.4 Please identify, describe, and if possible, quantify, the value and impacts realised for participating farmers, FOs and intermediaries .**

Farmers are able to improve on post-harvest operations leading to reduction in post-harvest losses, carry out Good Agronomic Practices (GAP), farm management, leading to improvement in yield per hectare of maize, paddy and sell at market prices leading to better livelihood.

• **6.1.5 Please describe how you have been able to overcome the following challenges with respect, separately, to farmers, FOs and intermediaries (as may be applicable):**

- a. Farmer/FO/intermediary preference for cash on delivery/collection.
No cash payment.

Transaction cycle of T+1 is observed.

Delivery takes place ex-warehouse, however, for delivery at factory gate, the buyer is linked to third party logistics company.
- b. Farmer/FO/intermediary capacity to achieve minimum quality, weight and packaging requirements.
Farmers are educated on the minimum contract size i.e. 1MT, quality standards and compliance is sacrosanct.

Farmers, FOs adhere to bagging commodities in 100kg bags and use of polypropylene bags for bagging grains.
- c. Farmer/FO/intermediary capacity to manage paper or electronic documents, in lieu of cash.
Farmers/FOs are required to open trading accounts where there is direct settlement of funds. Cash transaction is not allowed.

eCR is an electronic document and is transmitted electronically.
- d. Farmer/FO/intermediary capacity to transport goods to an Exchange warehouse.
The Exchange has entered Partnership with transportation and logistics companies to provide third-party services to interested clients.
- e. Farmer/FO/intermediary capacity to successfully apply for, receive and repay warehouse receipt finance loans.
Lien is placed on commodities pledged for loans.

After sales, the Exchange net-off loan and indebtedness to financing institutions and pay the balance to the farmer.
- f. Farmer/FO/intermediary capacity to make marketing decisions to realise returns and mitigate price risk.
Farmer can utilize forward contract to lock-in prices to mitigate price risk. Buyer is obligated to buy at the agreed price thus protecting the farmer against adverse price movement.

Farmer can make use of the eCR to obtain financing and sell commodities at a later date when prices are right.
- g. Farmer/FO/intermediary capacity to utilize gains from post-harvest finance to fund productivity gain.
eCR serves as an instrument that can be utilised by farmer in obtaining finance to support production.
- h. Farmer/FO/intermediary resistance to payment of fees.
Fees are netted-off at source through the clearing and settlement and back-end accounting processes.
- i. Farmer/FO/intermediary nervousness concerning transparency (e.g. due to taxation, or fear of competitors).
Agricultural commodities impact food security and are currently tax exempt.

The Exchange thrives on transparency of its processes including payments of fees.

The Exchange is an organised and transparent commodity trading platform for price discovery.
- j. Concerns from intermediaries about being disintermediated through the Exchange.
The Exchange encourages intermediaries to function as brokers, the brokers earn commission set by the Exchange. The requirement of brokerage is in line with regulatory requirements.

k. Other bottlenecks/challenges you have observed.

The Exchange activities are in compliance with extant rules and regulations and in tandem with its vision, mission, and core values.

6.2 Agribusiness buyers (e.g. processors, manufacturers, exporters)

• 6.2.1 Please describe the extent to which agribusiness buyers participate in your markets, and how: which types of buyer, for which commodities, and for what purpose.

Agro processing companies buy maize, and soyabeans, from the Exchange to produce food, animal feeds and edible oil.

• 6.2.2 Please describe the main enablers and challenges to the participation of agribusiness buyers. Please provide recommendations from your experience.

The main enablers to participation of agribusiness is the value-added services provided by the Exchange such as, quality assurance, price discovery and reduction in transaction costs.

The Exchange does not encourage activities of middlemen, to curb unnecessary price movement.

• 6.2.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating agribusiness buyers.

To the agribusiness buyers, the Exchange is a reliable source of quality-certified commodities.

Value derived by agro-processing companies from the Exchange includes production efficiency through consistent supply of raw materials.

• 6.2.4 Please describe how you have been able to overcome the following challenges with respect to agribusiness buyers (as may be applicable):

a. Agribusiness preference for delivery to factory gate over collection from remote site.

The Exchange partnership with third-party logistics company is leveraged to ensure delivery at factory gate which comes at an additional cost to the buyers.

b. Agribusiness reluctance to pay quality-linked prices.

The Exchange highlight the principle of premium quality attracts premium price to its buyers and there is a general understanding of it.

c. Agribusiness lack of requirement for warehouse receipt finance due to existing access to finance arrangements (e.g. pledge of fixed assets, inventory finance under CMA, trade finance).

The eCR framework articulate the requirement for warehouse receipt financing.

d. Agribusiness resistance to payment of fees.

The trading application system and the back-end accounting processes are deployed to net-off payment of fees. The Exchange also run a DVP (Delivery versus Payment) where payment of fees is deducted at source. Sellers and buyers are also acquainted with the Exchange fees structure.

e. Agribusiness nervousness to expose their trade to transparency (e.g. due to taxation, or fear of competitors)

The Exchange process ensures that delivery notices and Net Obligation Report (NOR) are sent to buyers and sellers of commodities in a trade as it pertains to them. The fact that agricultural commodities are tax exempt provides comfort to the buyers and sellers.

f. Other bottlenecks/challenges you have observed

Ongoing partnerships and engagements with stakeholders and value chain actors has enabled the Exchange overcome observed challenges.

6.3 Financiers and Investors

- **6.3.1 Please describe the extent to which financiers and investors participate in your markets, and how: which types of financier/investor, with respect to which commodities, and for what purpose.**

Financiers and investors have recently become increasingly interested in Nigeria's commodity Exchange markets. These range from local, institutional, and high-net-worth individuals. All these categories of investors focus on agricultural commodities such as soyabeans, cocoa, paddy rice, and maize. The purpose of these investments is to diversify their portfolios and to take advantage of potential price movements in the markets.

- **6.3.2 Please describe the main enablers and challenges to the participation of financiers and investors. Please provide recommendations from your experience.**

The main enablers for financiers and investors to participate in the Exchanges are:

- 1. Regulatory Framework:** The market regulator has put in place a comprehensive regulatory framework to ensure the efficiency and transparency of the commodity Exchanges. This framework gives investors' confidence in the Exchanges and encourages them to participate.
- 2. Technology:** Technology infrastructure such as electronic trading systems, that allow market participants to access real-time data on the prices of commodities and make informed decisions has enabled investors to participate in the market more efficiently and timely.
- 3. Quality:** The adoption of NIS quality parameters has encouraged processors to source their agro commodities from the platform of NCX.
- 4. Storage:** The provision of storage facilities has helped reduce post-harvest losses and invariably increase the volume of commodities traded on the Exchange platform.

The main challenges to the participation of financiers and investors in the NCX are:

- 1. Infrastructure:** Poor infrastructure across Nigeria has made it difficult for investors to access the Exchange. This has hindered the participation of investors, especially those who are located outside of the major cities.
- 2. Lack of Education and Awareness:** There is a lack of education and awareness among investors on the activities and benefits derivable from the Exchange.

- **6.3.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating financiers and investors.**

The NCX creates a formalized process for the buying and selling of commodities. The benefits of trading on the Exchange are as follows:

- (i) An Organised Market Place** - The Exchange provides a convenient and electronic marketplace where members can meet at specified hours and transact business according to well-established rules and regulations.
- (ii) Transparency and Efficiency** - The process of price discovery enables buyers and sellers to set the market prices of commodities as this mechanism sets out what the sellers are willing to accept and what buyers are willing to pay thereby creating an efficient market driven by the forces of demand and supply. The NCX provides investors access to real-time market prices. This helps them to make more informed and profitable decisions.
- (iii) Standardization** - The NCX encourages trade standardisation based on commodity contracts and price determination across comparable quality of commodities which makes commodity trades seamless.
- (iv) Electronic Commodity Receipt (eCR):** The e-CR affords the beneficial holders' access to financing by Participating Financial Institutions.

(v) Regulated Trading: The Exchange as an SRO establishes and enforces rules and regulations with a view to facilitating trade on standard terms, which enhances the reliability and integrity of trades.

(vi) Market Information: The Exchange provides market information on trends of price and the prospects of a rise or fall in prices of commodities, which guides the financier and investors in making decisions. The Exchange maintains statistical data on trade transactions.

(vii) Grading of Commodities: Commodities that are traded on the Exchange are tested and graded in accordance with quality parameters issued by standard-setting bodies and accredited conformity assessment agencies.

(viii) Dispute Resolution: The Exchange provides machinery for expedited arbitration of trade disputes.

(ix) Lower Transaction Cost: The Exchange provides a one-stop-shop for the procurement of bulk orders. It saves the client the cost of going to different markets.

(x) Export Potential: Tradable commodities are largely of export standards.

(xi) Other Value-Add Services: The Exchange facilitates other value-added services such as logistics and commodity fumigation services.

(xii) Risk Management: The NCX has a Settlement Guarantee Fund, which assures investors of their funds in case of default, this helps them manage their risk exposure.

(xiii) Returns: The NCX allows investors to generate returns on their investments.

• **6.3.4 Please describe how you have been able to overcome the following challenges with respect to financiers and investors (as may be applicable):**

- a. Excessive risk perceptions with respect to agricultural and commodities
To overcome excessive risk perceptions with respect to agricultural and commodities, we have focused on educating financiers and investors about the potential benefits and rewards of such investments, as well as providing them with reliable data about the markets, trends, and opportunities. We have also identified ways to mitigate risks, such as by diversifying investments across different commodities and ensuring that insurance policies are in place.
- b. Excessive risk perceptions with respect to farmers, FOs and SMEs
To address the excessive risk perceptions with respect to farmers, we have provided financiers and investors with information about farmers' associations, their operations, and their capabilities. We have also sought to educate them about the various risks involved with investing in such association, as well as ways to mitigate those risks.
- c. High interest rates
To address the high interest rates, we have explored alternative financing options, which typically have lower interest rates than traditional loans. We have also sought to negotiate lower rates with financiers and investors, by emphasizing the potential rewards associated with investing in agricultural and commodities.
- d. Lack of liquidity
To address the lack of liquidity, we have identified ways to increase liquidity, such as encouraging farmers and farmers' cooperative to access agricultural loans through the Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL) and participating financial institutions (PFIs). We have also explored alternative financing options, such as institution cooperative organisation and non-conventional financial institutions which typically have higher liquidity than traditional loans.
- e. Lack of bank capacity
To address the lack of bank capacity, we have sought to partner with banks and other financial institutions to provide financial services to farmers, and FOs. We have also explored alternative financing options, which typically have higher capacity than traditional banks.

f. Legal or regulatory challenges

To address legal or regulatory challenges, we have sought to educate financiers and investors about the various laws and regulations governing agricultural and commodities investments, as well as ways to mitigate the risks associated with such investments. We are also working with governments at all levels and other stakeholders to create more favourable regulations and policies.

g. Other bottlenecks/challenges you have observed

Other bottlenecks/challenges we have observed include limited access to markets, lack of access to quality inputs, and limited access to training and support services. To address these issues, we have sought to create linkages between farmers, FOs, financiers and investors, and other stakeholders. We have also sought to provide access to training and support services, and to identify alternative markets for agricultural commodities investments.

6.4 Institutions (e.g. government marketing board, food reserve agency, humanitarian agencies, institutional buyers like schools, hospitals, military, prisons)

• 6.4.1 Please describe the extent to which institutions participate in your markets, and how: which types of institution, with respect to which commodities, and for what purpose.

Participation of institutional buyers such as World Food Programme (WFP), National Emergency Management Agency (NEMA), State Emergency Management Agency (SEMA), School Feeding Programme of the Federal Government and the Food and Strategic Reserve (FSR) is a work in progress and is expected to yield desirable results in no distant future. Commodities of interest are millet, maize, sorghum.

• 6.4.2 Please describe the main enablers and challenges to the participation of institutions. Please provide recommendations from your experience.

Main Enablers:

- Quality assurance of commodities purchase
- Price discovery

Challenge:

- Proposed payment terms by the institutions not being in sync with the Exchange T+1 transaction cycle and settlement terms.

• 6.4.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating institutions.

Work in progress.

• 6.4.4 Please describe how you have been able to overcome the following challenges with respect to institutions (as may be applicable):

a. Aligning with Institutional Mandate

The Exchange is focussed on its mandate of trade facilitation and is engaged in an ongoing process of supporting development of infrastructure such storage, technology, logistics, testing and grading.

b. Aligning with Rules and Procedures

As a Self-Regulatory Organisation (SRO) the Exchange is guided by its rules and regulations, as well as the market rules of the regulatory agency.

c. Aligning with Exchange Quality Standards

The Exchange thrive on conformity with quality standards as one of its selling points. Quality checks are carried out by the in-house quality control staff. Commodities are traded based on their quality grades.

d. Acceptance of using the Exchange's Storage Facilities

The Exchange adheres to its guidelines on deposit of commodities at the warehouses, testing and grading. Collateral managers are certified to manage the inventories which is linked to the Exchange trading platform.

e. Institutional Capacity

Developing institutional capacity is an ongoing process, and the Exchange continues to develop the capacity of its staff to deliver quality services through training, staff appraisals etc.

f. Other

N/a

09 TMX, Tanzania

- **Name of Exchange:** Tanzania Mercantile Exchange (TMX)
- **Name of Respondent:** Godfrey Daimon Malekano
- **Job Title of Respondent:** Chief Executive Officer
- **Date of Response:** 27 / 04 / 2023

Section 1 HISTORICAL DEVELOPMENT

1.1 In which year did your exchange launch?

November, 2015.

1.2 How long did it take to prepare the Exchange for launch? What were the key steps?

About 5 Years.

Key Steps:

- The 'Road Map' for the Establishment and Development of the Commodity Exchange in 2011;
- Preparation of a Legal and Regulatory Framework for Tanzania Commodity Exchange in 2013;
- Feasibility Study and Design a Robust Trading System for Tanzania's Commodity Exchange in 2013;
- Review of Tanzania's Warehouse Receipts System (WRS) and recommendations on linkages between the WRS and proposed Tanzania Commodity Exchange;
- Awareness program to key stakeholders including members of parliament in 2016;
- Commodity Exchange Act passed by Legislature in 2015;
- Business Plan Preparation in 2016;
- Operationalization of the Exchange in 2018.

1.3 Who were the initiators of and investors into the exchange, and for what reasons? (i.e. government, financial institutions, farmers, private sector, etc).

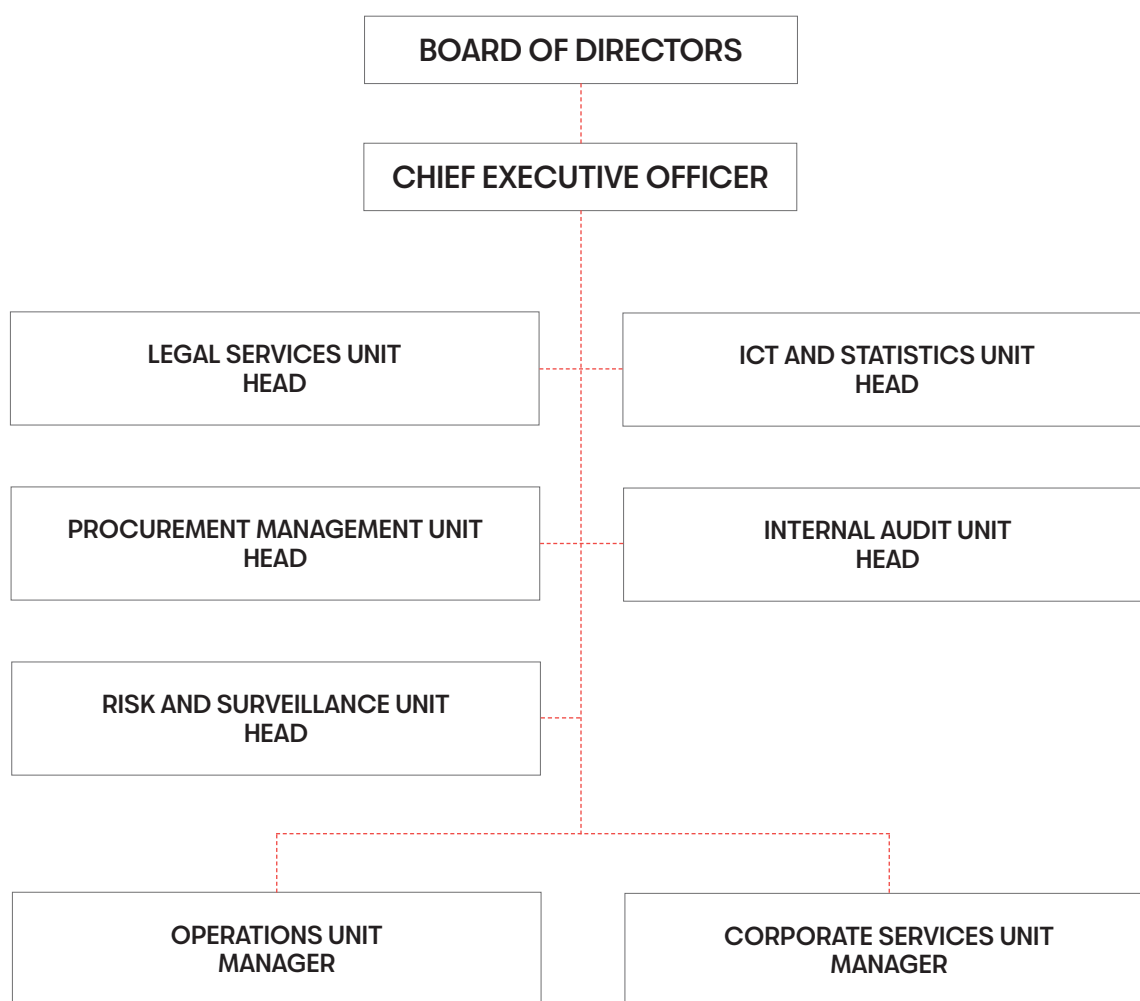
- Private Sector
- Farmers
- Government

Section 2 ORGANISATIONAL STRUCTURE AND GOVERNANCE

2.1 As what type of organisation is your exchange structured (e.g. public limited company, partnership, mutually owned, non-profit, etc), and why? What kinds of organisation, if any, own your exchange (i.e. hold equity, membership and/or 'seats', as applicable)?

- Public Private Partnership (PPP)
- Public Limited Company
- TMX has Four Shareholders namely - Treasury Registrar; Public Service Social Security Fund (PSSSF); TIB Development Bank; Tanzania Federation of Cooperatives Limited.

2.2 Please describe the governance structures of your exchange.



2.3 Please describe how, if at all, your exchange engages with policymakers (e.g. within policy dialogues, official reporting mechanisms/committees, governance structures, informal contacts, etc). Please describe the strengths and weaknesses of policy engagement at your exchange and provide recommendations from experience.

TMX engages with policy makers through:

- Meetings and seminars organised by TMX;
- Participation in meetings and seminars organised by other government and private sector institutions;
- Submission of various reports to parent ministry, regulator and Treasury Registrar;

During these engagement TMX has been facing one major challenge where by some of the policy makers are beneficiary of informal market hence at some point oppose the establishment of formal market systems.

2.4 Please describe by which agency/authority your exchange is regulated (if applicable), under what legal framework, and licensing arrangements? Please describe how your exchange engages with its regulator(s). Please describe the strengths and weaknesses of regulator engagement at your exchange and provide recommendations from experience.

TMX is licensed and regulated by Capital Markets and Securities Authority (CMSA) in accordance with the Commodity Exchanges Act, 2015 and the Commodity Exchanges Regulations of 2016.

Section 3

OFFERING

3.1 For which commodities/assets does your exchange offer markets?

- Sesame seeds
- Cocoa
- Coffee
- Cashew nuts
- Green gram
- Lentils

3.2 For which instruments does your exchange offer markets (e.g. spot, forward, futures, brokered solutions, indices, other)?

Currently TMX offers Spot Market.

3.3 How many contracts and/or MTs (as applicable) has your exchange traded per commodity per year - last year, and in your most successful year?

Crop (MT)	Y - 2019	Y - 2020	Y - 2021	Y - 2022
Sesame	520	20,068	-	137
Green Gram	-	1,124	14,112	-
Cashew Nuts	-	19,868	-	-
Lentils	-	104	-	-
Cocoa	-	-	260	284.48
Coffee	-	-	-	49,260

3.4 Approximately what proportion of total national production is traded through your exchange for each commodity?

Crop (MT)	Estimated Percentage
Sesame	15%
Green Gram	70%
Cashew Nuts	8%
Lentils	5%
Cocoa	30%
Coffee	20%

3.5 Apart from exchange-trading and relating clearing and settlement services, what other services does your organisation offer?

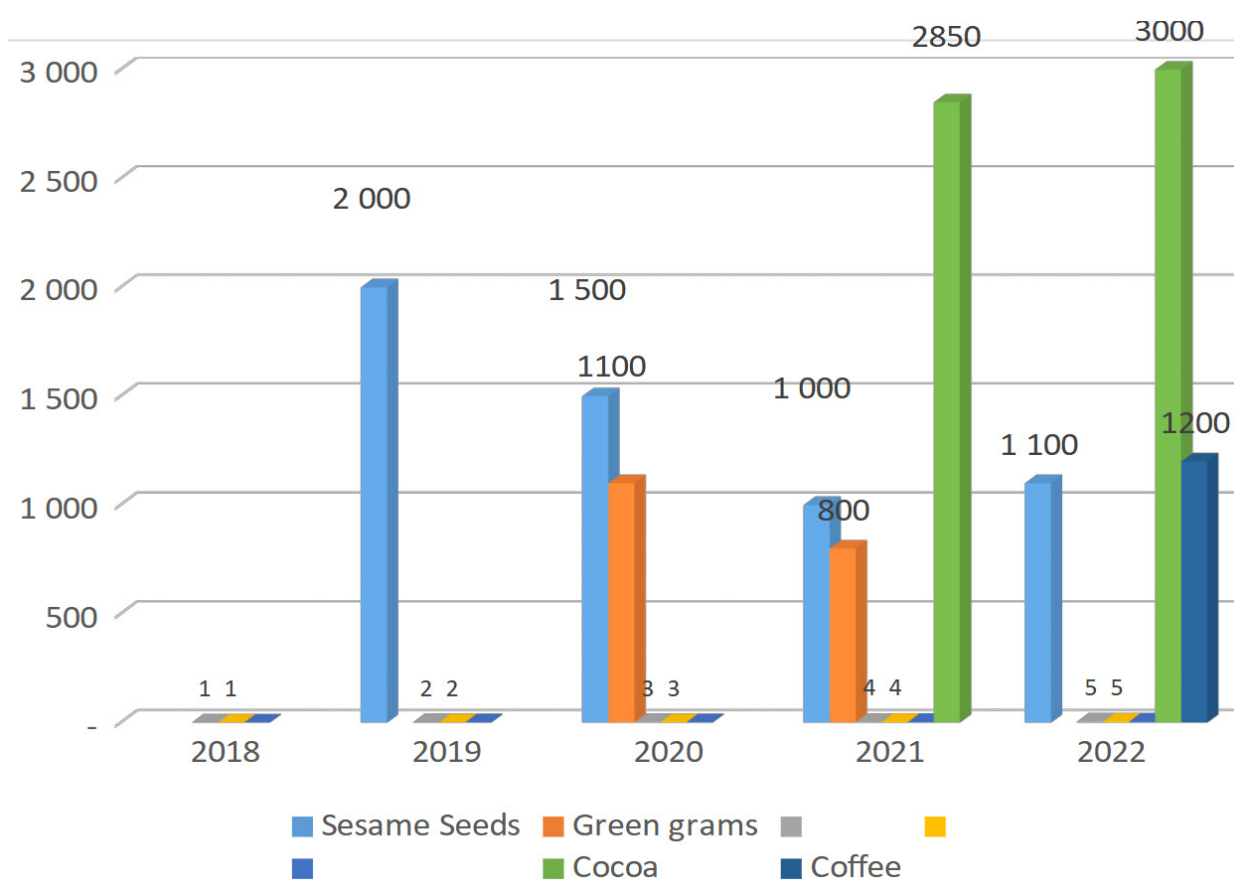
None for now.

3.6 Please describe how membership, and market access more generally, is structured at your exchange (i.e. who is entitled to participate, on what basis/eligibility, under what kinds of category...).

- Sellers
- Buyers
- Broker

3.7 To what extent does your exchange perform price discovery? Please describe the prices that are discovered - are they by commodity type, by grade, by location etc.

Earning to Farmer per Kilogram by Trading through TMX, Average gaining per kilogram to farmers – TZS 1,600/- which was discovered by Commodity.



3.8 Please appraise to what extent are the exchange's prices used by value chain actors as references in their transactions. Please also describe the limitations and bottlenecks to price discovery at your exchange – what is holding back the exchange's prices from being further adopted by the value chain as benchmarks. Kindly provide recommendations from your experience.

Existence of the Commodity Exchange has helped improvement of farm gate price in various commodities i.e. green gram in Singida, price per kg was TZS 400 but after trading through TMX platform the price increased up to TZS 700 – 900 per kg.

One of the limitations facing the exchange is limited number of buyers and low volume of commodities.

Section 4

OPERATIONS (STORAGE, FINANCE, QUALITY, SETTLEMENT, TECHNOLOGY, CROSS-BORDER)

4.1 Please describe the exchange's storage footprint – what type of storage (bag warehouse, bulk silo, other), how many storage facilities, in how many and what kinds of locations (e.g. rural, upcountry centres, wholesale/consumption markets, industrial areas, port), what storage capacity overall and on average per facility (in MT or m2).

The exchange does not own a warehouse facility, however the warehouses used to trade commodities are licensed by Warehouse Receipt Regulatory Board (WRRB) and operated by private sector companies. Those warehouses are located in different parts of the country. Average capacity is around 200MT – 15,000MT.

4.2 Are the storage locations for single or multiple commodities? Please describe.

Multiple commodities but at different commodity seasons.

4.3 Please describe which commodities are identity-preserved, and which are commingled. When commingled, please describe the commingling methodology (e.g. by quality grade).

Commodities are commingled by quality grade.

4.4 Please describe how warehouse management is organised at your exchange. Is there a warehouse operator who controls the storage facility? Do the storage facilities allow third-party operators or collateral managers? Who is responsible for the various warehouse services (e.g., maintaining stock, fumigation, labour force)?

Please refer 4.1.

4.5 Please describe the strengths and weaknesses of your storage model. What has worked well, and what have been the constraints? Kindly provide recommendations from your experience.

Storage model under Warehouse Receipt System is regulated by Warehouse Receipt Regulatory Board with strong strengths on the assurance of quality and quantity during trading. However, the system is not fully automated to ensure smooth linkage with the Exchange.

There are few commodities incorporated under warehouse receipt system which lead to limitation of trading some commodities through the exchange.

4.6 Please describe the utilisation levels of the exchange's storage facilities over the course of the season. To what extent does your exchange cover its costs on warehousing service provision?

The Exchange has no storage facilities as described in 4.1.

4.7 Do financiers - banks, MFIs etc - finance the stock in the exchange's storage facilities via warehouse receipt finance, collateral management agreement, or something similar? (please specify which).

Yes, through Warehouse Receipt Financing and Collateral Management Agreement.

4.8 If the answer to 4.7 is yes, please identify for which commodities, for which kinds of borrower, and the basic terms of the financing (interest rate, term, loan to value ratio, currency, minimum and maximum loan amount).

Yes, to all commodities under warehouse receipt system and the maximum amount is up to 65% of market value of the respective commodity. Concerning the interest rate, loan to value ratio and can be answered by Warehouse Receipt Regulatory Board.

4.9 What were the main drivers to enabling the finance, and the main challenges to overcome? Please provide recommendations from your experience.

Existence of well organised cooperative societies and financial institutions willing to finance.

4.10 Please describe the process by which your organisation developed quality standards for the commodities offered?

Quality standards are developed and governed by Tanzania Bureau of Standards.

4.11 What weight and quality testing facilities are present in your storage facilities? Are there weighbridges/ weigh scales? Uniform bag sizes? Equipment for quality assessment and testing apparatus? Is there a Standard Operating Procedure (SOP) governing storage and quality processes?

There are weighbridges/ weigh scales, Uniform bag sizes, Equipment for quality assessment and testing apparatus such as moisture meters etc.

Yes, SOP governing storage and quality processes are issued by Warehouse Receipt Regulatory Board.

4.12 What have been the main successes and challenges for market participants with adopting the exchange's quality standards? Please provide recommendations from your experience.

The Exchange is adopting quality standards from Tanzania Bureau of Standards and market participants got challenges when the traded quantity and quality parameter differs from the delivered commodities.

Recommendation; proper equipment and technology in stock management.

4.13 To what extent does market pricing reflect the various levels of quality within the defined standard? (e.g. fixed premiums and discounts, market-discovered premiums and discounts etc.).

Market pricing reflect the various levels of quality within the defined standard by market – discovered premiums and discounts.

4.14 Do the exchange's quality standards include or address the following, and if so how:

- Intangible factors such as taste, aroma, origin, variety
- Traceability
- Social certification schemes

The mentioned factors are addressed by Tanzania Bureau of Standards in collaboration with Warehouse Receipt Regulatory Board through standards and guidelines.

4.15 Please describe the clearing and settlement arrangements on your exchange (e.g. delivery versus payment, central counterparty), and how it works. (You are kindly invited to respond to those detailed technical questions, as per the footnote²⁴, which are applicable to your exchange.) Please provide recommendations from your experience.

The settlement takes place at T+1.

Defaults are handled through performance bond deposit by Warehouse Operators through Warehouse Receipt Regulatory Board and Buyers deposit at the Exchange.

Currently the Exchange does not have settlement guarantee fund but to have it in future.

The exchange has no arbitration services; however, disputes are handled through meetings and negotiations between the aggrieved parties and regulatory authorities.

4.16 Please describe the technology that you use for trading, clearing/payments, warehouse management, warehouse receipting and finance, market data and other services. Please identify physical processes where technology is not used. (You are kindly invited to respond to those detailed technical questions, as per the footnote²⁵, which are applicable to your exchange.) Please provide recommendations from your experience.

TMX is currently using a web-based solution for facilitating online commodity trading enabling buyers and sellers to participate in trade with no need of physical contact. For various commodities traded including sesame seeds, cashew nuts, green grams, chickpeas, cocoa and coffee, TMX has used PHP Programming language and MySQL for the database. The system features included registration of users, trade session management, live trade features, clearing and settlement features and reporting features. However, not all processes were automated. Currently, TMX is in a phase of upgrading the system to use a better framework that will improve performance, automate some of the manual processes and enhance some of the security features.

TMX solution has focused on providing a digital platform that is not different from the traditional way of commodity trading (mostly being auctioning). This aims at getting most of the stakeholders accustomed to digital solutions before introducing other complex features such as spot trade (that uses an auto-matching engine) and futures contracts. TMX solution has a live trade view during active trade sessions which allows stakeholders to follow up in real time. Trade results are availed on TMX website.

Moreover, TMX does not have a Mobile Application on Android OS or Apple IOS. Also, TMX's Online Trading System is not linked to Warehouse Receipt System (WRS) that is under the supervision of the Warehouse Receipt Regulatory Board (WRRB). Also, TMX is not yet linked to settlement banks directly, instead internet banking was used for settling of payments to the sellers.

TMX envisions to go through another phase of upgrade that will incorporate more features and integrate with the above-mentioned systems and other relevant systems.

4.17 Please describe the types of market data that your exchange disseminates, and the channels it uses for dissemination.

The types of market data disseminated are commodity types, prices and volumes traded.

The channels used for market data dissemination are website and price tickers (digital displays).

²⁴ Please describe how fast settlement takes (e.g. T+1)? How does the exchange handle defaults? Please describe experiences in practice. Does your exchange have a settlement guarantee fund? If so, please describe. Does your exchange offer an arbitration service? If so, please describe.

²⁵ Does the Exchange have a website through which members can access their account in real time? Is there an application (android, ios, etc) that enables account access, management and activity? Does the Exchange trading platform handle trading position limits and daily price-based circuit breakers? How many orders can the matching engine receive simultaneously? Does the front-end trader workscreen allow position monitoring, provide data analytics and portfolio analysis functionality? Does the system generate reports – real-time, end-of-day, end-of-month/year etc – for the regulator and market actors? Is there a FIX gateway for brokers to connect to the Exchange in real time? Please describe system cyber-security and business continuity arrangements.

4.18 Do your markets feature any cross-border activity? If so, please state what, and describe how it works. (You are kindly invited to respond to those detailed technical questions, as per the footnote²⁶, which are applicable to your exchange.) Please provide recommendations from your experience.

Yes, International market actors can participate in the exchange, they participate themselves and in near future the exchange expect to start using brokers when trading tea. However, they have to use local transport agency for delivery purposes.

Payments can be done through local custodian bank.

Commodities are sold at ex-warehouse.

Local actors are allowed to trade in overseas market through their front -end trader work screen but we do not have enough information on this so far.

4.19 Otherwise, what do you see as the main cross-border opportunities for your exchange, and the challenges to realise them.

Cross border opportunities exist for food crops in the regional market, however the main challenges among others is food crops trade restriction among EAC member countries.

Section 5 IMPACT, SUCCESSES AND CHALLENGES

5.1 Please describe the main commercial and developmental impacts your exchange has made since launch.

- Price discovery
- Market transparency
- Increase of productive volume
- Accurate production data and
- Low cost of doing business to both sellers and buyers

5.2 Please elaborate, if your exchange doesn't offer them already, what additional impacts/benefits could be created by offering forward, futures and options contracts. Please also outline what would be the challenges of introducing these instruments in your jurisdiction.

The exchange does not offer forward, future and options contracts but challenges would be;

- It is often costly/difficult to find a willing counterparty
- The market for forwards is illiquid due to their idiosyncratic nature so they are not sold to other parties
- Absence of Central Depository Unit

5.3 Please describe the extent to which your exchange has become commercially sustainable, and the reasons for this – i.e. the enablers of sustainability, and/or the challenges in becoming sustainable.

At this promotional stage the exchange operates through government subvention, but expects to start generating sufficient income after fully trading of cashew nut, maize and paddy/rice.

²⁶ Can international market actors participate in your exchange? If so, must they trade through a locally resident broker, or are offshore brokers permitted? Can they send trading orders in from abroad? Can they use hard currency for trading and repatriate profits? If not, are their bottlenecks to access and convert local currency? How do international actors take local delivery? Does your exchange offer international delivery points for any of its contracts? Or international-origin commodities? Can local actors trade in overseas markets through their front-end trader workscreen?

The main enabler of sustainability is policy decision to allow cashew nut, maize and paddy/rice to be traded through the exchange.

5.4 Overall, please summarize the main successes and challenges your exchange has faced.

Successes

- Price discovery
- Market transparency
- Increase of productive volume
- Accurate production data and
- Low cost of doing business to both sellers and buyers

Challenges

- Opposition from some local traders who are beneficiaries of informal market
- Low volume of traded commodities
- Policy decision to allow some commodities to be traded through the exchange

5.5 Please describe - illustrated by examples where possible - how the pricing and trading on your exchange is impacted by events in:

Regional markets

- Drop in commodities prices due to corona pandemic

Global markets

- Drop in commodities prices due to corona pandemic

Section 6

STAKEHOLDER EXPERIENCES

This section comprises four sub-sections:

- **6.1 Farmers/farmer organisations (FOs)/intermediaries**
- **6.2 Agribusiness buyers (e.g. processors, manufacturers, exporters)**
- **6.3 Financiers and investors**
- **6.4 Institutions (e.g. government marketing board, food reserve agency, humanitarian agencies, institutional buyers like schools, hospitals, military, prisons)**

6.1 Farmers / Farmer Organisations (FOs) / Intermediaries

- **6.1.1 Please describe the extent to which farmers participate in your markets, and how: which types of farmer, for which commodities, for what purpose, and explain whether they do so directly or through producer organisations.**

Farmers participate in the market through Warehouse Receipt System through their cooperative societies.

- **6.1.2 Please describe the extent to which intermediaries (aggregators, traders, distributors etc) participate in your market, for which commodities, and for what purpose.**

Intermediaries are allowed to participate through Cooperative Societies.

- **6.1.3 Please describe the main enablers and challenges to the participation of each of these stakeholders (farmers, FOs, intermediaries). Please provide recommendations from your experience.**

Existence of strong cooperative societies has helped a lot to increase participation of intermediaries. Our recommendation is that there is a need to form strong farmers organisation to ensure everyone is on board.

- **6.1.4 Please identify, describe, and if possible, quantify, the value and impacts realised for participating farmers, FOs and intermediaries.**

- **6.1.5 Please describe how you have been able to overcome the following challenges with respect, separately, to farmers, FOs and intermediaries (as may be applicable):**

- a. Farmer/FO/intermediary preference for cash on delivery/collection.
Farmers can use Warehouse Receipts as collateral for loan to finance advance payment/cash on delivery.
- b. Farmer/FO/intermediary capacity to achieve minimum quality, weight and packaging requirements.
Aggregation and comingling and use of cooperative societies to procure packaging materials.
- c. Farmer/FO/intermediary capacity to manage paper or electronic documents, in lieu of cash.
Trainings have been offered to all cooperative societies' personnel.
- d. Farmer/FO/intermediary capacity to transport goods to an exchange warehouse.
The exchange does not receive goods from producers, commodities are kept at licensed warehouses located in production areas.

- e. Farmer/FO/intermediary capacity to successfully apply for, receive and repay warehouse receipt finance loans.
Banks are custodian of warehouse receipts with loans and all payments are done through banking system where farmers have accessed loan, therefore it is easy to track loan repayment.
- f. Farmer/FO/intermediary capacity to make marketing decisions to realise returns and mitigate price risk.
Currently, we conducting capacity building on this area since most of them it's a challenge to make proper marketing decision and mitigate price risk.
- g. Farmer/FO/intermediary capacity to utilize gains from post-harvest finance to fund productivity gain.
Most of farmers are small scale farmers, therefore productivity is very low to meet the return on investment.
- h. Farmer/FO/intermediary resistance to payment of fees.
We provide training on the advantage of using the commodity exchange market.
- i. Farmer/FO/intermediary nervousness concerning transparency (e.g. due to taxation, or fear of competitors).
Farmers appreciate transparency since they get better prices compared to when they sell their commodities through the informal market. However, aggregators fear transparency due to losing profit margin but we keep on training concerning a better way of doing business.
- j. Concerns from intermediaries about being disintermediated through the exchange.
This is obvious but we keep on encouraging them to become commodity broker.
- k. Other bottlenecks/challenges you have observed.

6.2 Agribusiness buyers (e.g. processors, manufacturers, exporters)

• 6.2.1 Please describe the extent to which agribusiness buyers participate in your markets, and how: which types of buyer, for which commodities, and for what purpose.

Mostly these are exporters and processors: exporters are interested in commercial crops and processors are interested in food crops.

• 6.2.2 Please describe the main enablers and challenges to the participation of agribusiness buyers. Please provide recommendations from your experience.

Existence of strong cooperative societies, warehouse receipt systems and online trading platform operated by TMX.

RECOMMENDATIONS

Successful commodity exchange needs strong farmers organization and reliable stock handling system and trusted platform to trade

• **6.2.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating agribusiness buyers.**

TMX ONLINE COMMODITY TRADING DATA (2019-2022)										
S/N	COMMODITY	REGIONS COVERED	VOLUME TRADED (KGS)	HIGH PRICE (TZS/Kg)	LOW PRICE (TZS/Kg)	AMOUNT PAID TO FARMERS (TZS)	DISTRICT COUNCIL REVENUE (TZS)	TCDC FEES (TZS)	VALUE (TZS)	REMARKS
2019										
1	Sesame Seeds (Ufuta)	Dodoma, Manyara	519,891	3,195	2,745	1,472,107,220	29,113,896	2,599,455	1,573,485,965	All Price includes other charges and fees as per respective guidelines
2020										
2	Green Grams (Choroko)	Mwanza, Shinyanga, Tabora, Singida	1,124,453	1,531	1,120	1,311,128,961	35,982,496	5,622,265	1,485,419,176	All Price includes other charges and fees as per respective guidelines
3	Sesame Seeds (Ufuta)	Mtwara, Pwani, Dodoma, Manyara, Morogoro, Katavi, Singida	20,068,265	2,420	1,641	32,477,375,498	1,099,694,424	100,341,325	37,651,622,377	
4	Chick Peas (Dengu)	Shinyanga	104,000	1,180	1,145	105,040,000	3,120,000	520,000	122,720,000	
5	Raw Cashew nuts (Koroshu) - 2020/2021	Mtwara, Lindi, Ruvuma, Pwani	19,867,811	2,698	1,458	42,507,819,279	1,117,564,369	99,339,055	42,507,819,279	
2021										
6	Green Grams (Choroko)	Mwanza, Shinyanga, Tabora, Simiyu, Singida	14,112,074	1,809	1,306	20,190,630,493	451,586,368	70,560,370	22,603,319,507	All Price includes other charges and fees as per respective guidelines
7	Sesame Seeds (Ufuta)	Songwe, Manyara	310,873	2,529	2,246	682,653,623	20,253,581	1,554,365	754,218,551	
8	Cocoa (Kakao)	Morogoro	260,120	5,259	4,459	1,226,411,830	32,775,120	3,901,800	1,292,578,070	
2022										
9	Sesame Seeds (Ufuta)	Songwe	136,650	3,333	3,154	400,023,700	17,217,900	2,049,750	435,827,200	* All Price includes other charges and fees as per respective guidelines * For Coffee, under TCDC column includes All other charges apart from CESS
10	Cocoa (Kakao)	Morogoro	903,770	5,119	3,964	4,007,880,310	113,875,020	13,556,550	4,237,437,890	
11	Coffee - Arabica	Kagera	1,036,970	4,000	3,001	3,113,826,345	103,137,255	220,944,900	3,437,908,500	
12	Coffee - Arabica Clean	Kagera	220	4,005	4,005	807,807	26,433	46,860	881,100	
13	Coffee - Robusta	Kagera	34,536,000	2,400	1,730	59,939,748,980	2,081,317,020	7,356,168,000	69,377,234,000	
14	Coffee - Robusta Certified	Kagera	14,024,000	2,225	1,752	24,168,167,410	839,860,590	2,987,325,000	27,995,353,000	
15	Coffee - Robusta Clean	Kagera	124,000	5,045	3,305	387,992,450	12,817,950	26,454,600	427,265,000	
TOTAL			107,129,097			191,991,613,905	5,958,342,422	10,890,984,295	213,903,089,614	

• **6.2.4 Please describe how you have been able to overcome the following challenges with respect to agribusiness buyers (as may be applicable):**

- a. Agribusiness preference for delivery to factory gate over collection from remote site.
All commodities are sold ex-warehouse, therefore buyers are required to collect their commodities at the warehouse after trade.
- b. Agribusiness reluctance to pay quality-linked prices.
Currently commodities are sold at general standardized quality, therefore there is no quality linked prices at the moment.
- c. Agribusiness lack of requirement for warehouse receipt finance due to existing access to finance arrangements (e.g. pledge of fixed assets, inventory finance under CMA, trade finance).
Warehouse receipt finance is directly related to farmers only, while traders have got their own separate arrangements to access finance.
- d. Agribusiness resistance to payment of fees
They do not resist payment of fees.
- e. Agribusiness nervousness to expose their trade to transparency (e.g. due to taxation, or fear of competitors).
Through trainings, we keep on showing up the advantage of trading through formal systems.
- f. Other bottlenecks/challenges you have observed.
Quality difference during delivery, we are working closely with warehouse receipt regulatory board to overcome quality management issues.

6.3 Financiers and Investors

- **6.3.1 Please describe the extent to which financiers and investors participate in your markets, and how: which types of financier/investor, with respect to which commodities, and for what purpose.**

To facilitate issuance of loans and facilitate payments before and after trade to all commodities. Most of financier are commercial banks.

- **6.3.2 Please describe the main enablers and challenges to the participation of financiers and investors. Please provide recommendations from your experience.**

Existence of warehouse receipt act which support commodity financing, strong cooperative society and Regulated trading platform.

- **6.3.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating financiers and investors.**

Commercial Banks do not disclose this kind of information.

- **6.3.4 Please describe how you have been able to overcome the following challenges with respect to financiers and investors (as may be applicable):**

- Excessive risk perceptions with respect to agricultural and commodities.
Introduction of warehouse receipt system and collateral management.*
- Excessive risk perceptions with respect to farmers, FOs and SMEs.
Introduction of warehouse receipt system and collateral management.*
- High interest rates.
Farmers are advised to apply overdraft rather than long term loan to avoid high interest rate.*
- Lack of liquidity.*
- Lack of bank capacity.*
- Legal or regulatory challenges.*
- Other bottlenecks/challenges you have observed.*

6.4 Institutions (e.g. government marketing board, food reserve agency, humanitarian agencies, institutional buyers like schools, hospitals, military, prisons)

- **6.4.1 Please describe the extent to which institutions participate in your markets, and how: which types of institution, with respect to which commodities, and for what purpose.**

We work closely with Crop Boards to prepare guidelines and providing regulatory functions during marketing season of a particular crop.

Food Reserve Agency and other government institutions buy directly from farmers.

• **6.4.2 Please describe the main enablers and challenges to the participation of institutions. Please provide recommendations from your experience.**

Existence of various commodity acts, e.g. coffee, tea and cashew nut etc.

• **6.4.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating institutions.**

At this stage of the Exchange it is not easy to quantify the value and level of participating institutions.

• **6.4.4 Please describe how you have been able to overcome the following challenges with respect to institutions (as may be applicable):**

- a. Aligning with Institutional Mandate.
Preparation of guidelines which adhere to different laws and regulations governing the relevant participating institutions.
- b. Aligning with Rules and Procedures.
Preparations of guidelines governing trading of commodities on the TMX platform.
- c. Aligning with Exchange Quality Standards.
Working closely with Warehouse Receipt Regulatory Board and Tanzania Bureau of Standards.
- d. Acceptance of using the Exchange's Storage Facilities.
The exchange does not own storage facilities at the moment.
- e. Institutional Capacity.
The exchange staff are capacitated through training and study tours to other successful commodity exchanges in the world.
- f. Other.



APPENDIX

Survey Template



Name of Exchange:

Name of Respondent:

Job Title of Respondent:

Date of Response:

Section 1 - Historical Development

- 1.1** In which year did your exchange launch?
- 1.2** How long did it take to prepare the exchange for launch? What were the key steps?
- 1.3** Who were the initiators of and investors into the exchange, and for what reasons? (i.e. government, financial institutions, farmers, private sector, etc)

Section 2 - Organisational Structure and Governance

- 2.1** As what type of organisation is your exchange structured (e.g. public limited company, partnership, mutually owned, non-profit, etc), and why? What kinds of organisation, if any, own your exchange (i.e. hold equity, membership and/or 'seats', as applicable)?
- 2.2** Please describe the governance structures of your exchange
- 2.3** Please describe how, if at all, your exchange engages with policymakers (e.g. within policy dialogues, official reporting mechanisms/committees, governance structures, informal contacts, etc). Please describe the strengths and weaknesses of policy engagement at your exchange and provide recommendations from experience.
- 2.4** Please describe by which agency/authority your exchange is regulated (if applicable), under what legal framework, and licensing arrangements? Please describe how your exchange engages with its regulator(s). Please describe the strengths and weaknesses of regulator engagement at your exchange and provide recommendations from experience.

Section 3 - Offering

- 3.1** For which commodities/assets does your exchange offer markets?
- 3.2** For which instruments does your exchange offer markets (e.g. spot, forward, futures, brokered solutions, indices, other)?
- 3.3** How many contracts and/or MTs (as applicable) has your exchange traded per commodity per year - last year, and in your most successful year?
- 3.4** Approximately what proportion of total national production is traded through your exchange for each commodity?
- 3.5** Apart from exchange-trading and relating clearing and settlement services, what other services does your organisation offer?

- 3.6** Please describe how membership, and market access more generally, is structured at your exchange (i.e. who is entitled to participate, on what basis/eligibility, under what kinds of category...)
- 3.7** To what extent does your exchange perform price discovery? Please describe the prices that are discovered - are they by commodity type, by grade, by location etc.
- 3.8** Please appraise to what extent are the exchange's prices used by value chain actors as references in their transactions. Please also describe the limitations and bottlenecks to price discovery at your exchange – what is holding back the exchange's prices from being further adopted by the value chain as benchmarks. Kindly provide recommendations from your experience.

Section 4 - Operations (Storage, Finance, Quality, Settlement, Technology, Cross-Border)

- 4.1** Please describe the exchange's storage footprint – what type of storage (bag warehouse, bulk silo, other), how many storage facilities, in how many and what kinds of locations (e.g. rural, upcountry centres, wholesale/consumption markets, industrial areas, port), what storage capacity overall and on average per facility (in MT or m2)
- 4.2** Are the storage locations for single or multiple commodities? Please describe
- 4.3** Please describe which commodities are identity-preserved, and which are commingled. When commingled, please describe the commingling methodology (e.g. by quality grade).
- 4.4** Please describe how warehouse management is organised at your exchange. Is there a warehouse operator who controls the storage facility? Do the storage facilities allow third-party operators or collateral managers? Who is responsible for the various warehouse services (e.g., maintaining stock, fumigation, labour force)?
- 4.5** Please describe the strengths and weaknesses of your storage model. What has worked well, and what have been the constraints? Kindly provide recommendations from your experience.
- 4.6** Please describe the utilisation levels of the exchange's storage facilities over the course of the season. To what extent does your exchange cover its costs on warehousing service provision?
- 4.7** Do financiers - banks, MFIs etc - finance the stock in the exchange's storage facilities via warehouse receipt finance, collateral management agreement, or something similar? (please specify which).
- 4.8** If the answer to 4.7 is yes, please identify for which commodities, for which kinds of borrower, and the basic terms of the financing (interest rate, term, loan to value ratio, currency, minimum and maximum loan amount)
- 4.9** What were the main drivers to enabling the finance, and the main challenges to overcome? Please provide recommendations from your experience.
- 4.10** Please describe the process by which your organisation developed quality standards for the commodities offered?
- 4.11** What weight and quality testing facilities are present in your storage facilities? Are there weighbridges/ weigh scales? Uniform bag sizes? Equipment for quality assessment and testing apparatus? Is there a Standard Operating Procedure (SOP) governing storage and quality processes?
- 4.12** What have been the main successes and challenges for market participants with adopting the exchange's quality standards? Please provide recommendations from your experience.
- 4.13** To what extent does market pricing reflect the various levels of quality within the defined standard? (e.g. fixed premiums and discounts, market-discovered premiums and discounts etc)

- 4.14** Do the exchange's quality standards include or address the following, and if so how:
- intangible factors such as taste, aroma, origin, variety
 - traceability
 - social certification schemes
- 4.15** Please describe the clearing and settlement arrangements on your exchange (e.g. delivery versus payment, central counterparty), and how it works. (You are kindly invited to respond to those detailed technical questions, as per the footnote²⁷, which are applicable to your exchange.) Please provide recommendations from your experience.
- 4.16** Please describe the technology that you use for trading, clearing/payments, warehouse management, warehouse receipting and finance, market data and other services. Please identify physical processes where technology is not used. (You are kindly invited to respond to those detailed technical questions, as per the footnote²⁸, which are applicable to your exchange.) Please provide recommendations from your experience.
- 4.17** Please describe the types of market data that your exchange disseminates, and the channels it uses for dissemination.
- 4.18** Do your markets feature any cross-border activity? If so, please state what, and describe how it works. (You are kindly invited to respond to those detailed technical questions, as per the footnote²⁹, which are applicable to your exchange.) Please provide recommendations from your experience.
- 4.19** Otherwise, what do you see as the main cross-border opportunities for your exchange, and the challenges to realise them

Section 5 - Impact, Successes and Challenges

- 5.1** Please describe the main commercial and developmental impacts your exchange has made since launch
- 5.2** Please elaborate, if your exchange doesn't offer them already, what additional impacts/benefits could be created by offering forward, futures and options contracts. Please also outline what would be the challenges of introducing these instruments in your jurisdiction.
- 5.3** Please describe the extent to which your exchange has become commercially sustainable, and the reasons for this – i.e. the enablers of sustainability, and/or the challenges in becoming sustainable
- 5.4** Overall, please summarize the main successes and challenges your exchange has faced
Successes
Challenges
- 5.5** Please describe - illustrated by examples where possible - how the pricing and trading on your exchange is impacted by events in:
Regional markets
Global markets

²⁷ Please describe how fast settlement takes (e.g. T+1)? How does the exchange handle defaults? Please describe experiences in practice. Does your exchange have a settlement guarantee fund? If so, please describe. Does your exchange offer an arbitration service? If so, please describe.

²⁸ Does the exchange have a website through which members can access their account in real time? Is there an application (android, ios, etc) that enables account access, management and activity? Does the exchange trading platform handle trading position limits and daily price-based circuit breakers? How many orders can the matching engine receive simultaneously? Does the front-end trader workscreen allow position monitoring, provide data analytics and portfolio analysis functionality? Does the system generate reports – real-time, end-of-day, end-of-month/year etc – for the regulator and market actors? Is there a FIX gateway for brokers to connect to the exchange in real time? Please describe system cyber-security and business continuity arrangements.

²⁹ Can international market actors participate in your exchange? If so, must they trade through a locally resident broker, or are offshore brokers permitted? Can they send trading orders in from abroad? Can they use hard currency for trading and repatriate profits? If not, are there bottlenecks to access and convert local currency? How do international actors take local delivery? Does your exchange offer international delivery points for any of its contracts? Or international-origin commodities? Can local actors trade in overseas markets through their front-end trader workscreen?

Section 6 - Stakeholder Experiences

This section comprises four sub-sections:

- 6.1 Farmers/farmer organisations (FOs)/intermediaries
- 6.2 Agribusiness buyers (e.g. processors, manufacturers, exporters)
- 6.3 Financiers and investors
- 6.4 Institutions (e.g. government marketing board, food reserve agency, humanitarian agencies, institutional buyers like schools, hospitals, military, prisons)

6.1 Farmers / Farmer Organisations (FOs) / Intermediaries

- 6.1.1 Please describe the extent to which farmers participate in your markets, and how: which types of farmer, for which commodities, for what purpose, and explain whether they do so directly or through producer organisations.
- 6.1.2 Please describe the extent to which intermediaries (aggregators, traders, distributors etc) participate in your market, for which commodities, and for what purpose.,
- 6.1.3 Please describe the main enablers and challenges to the participation of each of these stakeholders (farmers, FOs, intermediaries). Please provide recommendations from your experience.
- 6.1.4 Please identify, describe, and if possible, quantify, the value and impacts realised for participating farmers, FOs and intermediaries
- 6.1.5 Please describe how you have been able to overcome the following challenges with respect, separately, to farmers, FOs and intermediaries (as may be applicable):
- a. Farmer/FO/intermediary preference for cash on delivery/collection
 - b. Farmer/FO/intermediary capacity to achieve minimum quality, weight and packaging requirements
 - c. Farmer/FO/intermediary capacity to manage paper or electronic documents, in lieu of cash
 - d. Farmer/FO/intermediary capacity to transport goods to an exchange warehouse
 - e. Farmer/FO/intermediary capacity to successfully apply for, receive and repay warehouse receipt finance loans
 - f. Farmer/FO/intermediary capacity to make marketing decisions to realise returns and mitigate price risk
 - g. Farmer/FO/intermediary capacity to utilize gains from post-harvest finance to fund productivity gain
 - h. Farmer/FO/intermediary resistance to payment of fees
 - i. Farmer/FO/intermediary nervousness concerning transparency (e.g. due to taxation, or fear of competitors)
 - j. Concerns from intermediaries about being disintermediated through the exchange

6.2 Agribusiness buyers (e.g. processors, manufacturers, exporters)

- 6.2.1 Please describe the extent to which agribusiness buyers participate in your markets, and how: which types of buyer, for which commodities, and for what purpose.
- 6.2.2 Please describe the main enablers and challenges to the participation of agribusiness buyers. Please provide recommendations from your experience.
- 6.2.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating agribusiness buyers.

6.2.4 Please describe how you have been able to overcome the following challenges with respect to agribusiness buyers (as may be applicable):

a. Agribusiness preference for delivery to factory gate over collection from remote site

b. Agribusiness reluctance to pay quality-linked prices

c. Agribusiness lack of requirement for warehouse receipt finance due to existing access to finance arrangements (e.g. pledge of fixed assets, inventory finance under CMA, trade finance)

d. Agribusiness resistance to payment of fees

e. Agribusiness nervousness to expose their trade to transparency (e.g. due to taxation, or fear of competitors)

f. Other bottlenecks/challenges you have observed

6.3 Financiers and Investors

6.3.1 Please describe the extent to which financiers and investors participate in your markets, and how: which types of financier/investor, with respect to which commodities, and for what purpose.

6.3.2 Please describe the main enablers and challenges to the participation of financiers and investors. Please provide recommendations from your experience.

6.3.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating financiers and investors

6.3.4 Please describe how you have been able to overcome the following challenges with respect to financiers and investors (as may be applicable):

a. Excessive risk perceptions with respect to agricultural and commodities

b. Excessive risk perceptions with respect to farmers, FOs and SMEs

c. High interest rates

d. Lack of liquidity

e. Lack of bank capacity

f. Legal or regulatory challenges

g. Other bottlenecks/challenges you have observed

- 6.4** Institutions (e.g. government marketing board, food reserve agency, humanitarian agencies, institutional buyers like schools, hospitals, military, prisons)
- 6.4.1 Please describe the extent to which institutions participate in your markets, and how: which types of institution, with respect to which commodities, and for what purpose.
- 6.3.2 Please describe the main enablers and challenges to the participation of institutions. Please provide recommendations from your experience.
- 6.3.3 Please identify, describe, and if possible quantify, the value and impacts realised for participating institutions
- 6.3.4 Please describe how you have been able to overcome the following challenges with respect to institutions (as may be applicable):
- a. Aligning with Institutional Mandate
 - b. Aligning with Rules and Procedures
 - c. Aligning with Exchange Quality Standards
 - d. Acceptance of using the Exchange's Storage Facilities
 - e. Institutional Capacity
 - f. Other

THANK YOU FOR TAKING TIME TO COMPLETE THIS TEMPLATE!