Africa’s Agricultural Commodity Exchanges, Warehouse Receipt Systems and New Standards
Agricultural Market Access Sub-Strategy for Africa:
Commodity Exchanges, Warehouse Receipt Systems, and New Standards
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Effective market access is key to Africa’s Agricultural Transformation Agenda (ATA). It is the reason why market access institutions, such as commodity exchanges and warehouse receipt systems (WRS), are important contributors to the African Development Bank’s High 5s vision, a blueprint for Africa’s economic transformation, especially the Feed Africa Strategy.

The Bank’s interest in setting the strategic framework and agenda for a functioning agricultural market system that would drive agricultural production systems, which involves millions of smallholder farmers, including women and the youth, has been a critical factor in this direction.

This study is yet another timely move by the Bank to deepen the collective understanding and offer more insight into Africa’s commodity exchange and WRS terrain, its policy foundations and capacity-building and long-term investment requirements. This diagnostic work builds on the earlier publication by the Bank -- The Guidebook on African Commodity and Derivatives Exchanges (2013) -- funded by the Bank, as well as the Pan-African Workshop for Regulators of Commodity and Derivative Exchanges (2012).

Ensuring market access for all of Africa’s value chain actors is a pre-requisite for achieving broad-based inclusion, and prosperity to agricultural market players, including smallholder farmers, and in particular, women and youth.

Beyond policy formulation, there is the need to provide practical guides for African countries, both for governments and the private sector players on effective implementation of broad-based strategy, which is hinged on the Bank’s Strategic goals for agricultural transformation and existing continent-wide agricultural policy initiatives, such as Pillar II of the African Union Commission’s/New Partnership for Africa’s Development (NEPAD’s) Comprehensive Africa Agriculture Development Programme (CAADP).

The African Development Bank, in its role as a catalyzing agent, in partnership with institutions, such as the United Nations Economic Commission for Africa (UNECA), Alliance for a Green Revolution in Africa (AGRA), Food and Agriculture Organisation of the United Nations (FAO), and the International Trade Centre, Geneva (ITC), is building a strong foundation for the functioning of African agricultural markets, and the financial services markets through instruments that are consistent with Africa’s current, as well as potential growth.

The study drew on the status of marketing systems in 15 African countries, which are at varying degrees of development.

In order to achieve significant traction on the development and implementation of functional commodity and WRS, there is need to draw on the practices of other emerging economic jurisdictions and leverage on both existing and possible African experiences.

It is expected that this strategic direction, being offered by the Bank, would drive national, sub-regional and regional strategies and investments, as well as play a critical role in bringing about strong synergies between Africa’s smallholder’s farmers, financial and commodity markets.

JENNIFER BLANKE
Vice-President
Agriculture, Human and Social Development
African Development Bank
PREFACE

The report blends a diagnostic assessment of the situation of Commodity Exchanges and WRS in 15 countries, drawn from across the African Continent, and builds on the learnings from it, a holistic strategy for support by the Bank and its partners to Africa’s comex and WRS sector through packages of policy, investment and capacity-building measures.

The Report is in two parts: Part One covers the diagnostic component. It appraises the status of the African comex and Warehouse Receipt System (WRS) sector, learning lessons from both the African and the wider international experience. Part One has three sections:

- Section One: Underlying Causes that Make Access to Markets More Difficult.
- Section Two: Performance Assessment of African and International Exchanges.
- Section Three: Lessons of Experience, including Drivers of Success and Failure.

Part Two proposes a strategic framework for the Bank and its partners to apply the lessons arising from the diagnostics stage through concrete sectoral promotion measures to be undertaken within a coherent framework of action for the promotion of agricultural market access as a lever for unlocking Africa’s agricultural transformation. Part Two has six sections:

- Section Four: A Framework for Policies, Investments and Capacity-Building Measures.
- Section Five: Specification of Financial Instruments, Old and New.
- Section Six: Addressing the Potential to Foster Regional Integration, and Options for Interconnecting Institutions.
- Section Seven: Appraising how to Generate Stakeholder Buy-In.
- Section Eight: Conditions for Development of Risk Management Tools, including Futures and Options.
- Section Nine: Implementation Modalities.
The strategic component of the Study proposes to the Bank and its partners an Agricultural Market Access Sub-Strategy (AMASS), which is aligned closely with the Bank's 'Feed Africa' Strategy for Agricultural Transformation in Africa (2016-2025), and, more broadly, with the AfDB's "High 5s" priorities for African economic transformation.

AMASS is conceived as a two-dimensional matrix. The first dimension comprises a range of sectoral promotion measures, known as AMASS 'Products', that emerge in this Study from a structured diagnostic in the African context of the pillars and building blocks from which comex and WRS are built. Each Product comprises a coherent package of investment, policy, and capacity-building interventions, implemented by the Bank and its partners that are tailored to overcome the bottlenecks faced by comex/WRS in Africa.

The second dimension comprises two workstreams through which these Products are deployed. Each Workstream is framed to address strategic imperatives in Part One, as follows:

The Comex Reinforcement (CORE) Workstream aims to provide support for 'Established or Pipeline Institutions' (EPIs). CORE Products are calibrated to create price discovery and market liquidity alongside smallholder market linkages as foundations for sustainable and inclusive institutional development.

The Africa Derivatives Development (ADDED) Workstream aims to create space for the emergence of derivatives markets in Africa within the context of regional integration.

The institutional focus for implementation of ADDED is proposed to be a select number of 'Pan-African Exchanges' (PAEs). These are recommended among other things to:

i. emerge through an open, transparent tendering and licensing process;

ii. operate across an initially small, but steadily growing integrated African space, created under the auspices of a 'PAE Regulatory Council' (PAERC);

iii. provide investment and transactional gateways to the Continent that are competitive with international peers; and

iv. partner and synergise with EPIs to ensure that benefits for stakeholders are realized at the sub-national, national and regional levels.

The AMASS Implementation Methodology frames deployment of sectoral promotion measures around comex or WRS designated as 'Credible Anchor Institutions' (CAIs). CAIs include the EPIs under the CORE Workstream and the PAEs under the ADDED Workstream. Taking inspiration from CAADP, it is proposed that each CAI develops a 'CAI Investment Plan' (CAIP). These are the functional equivalent of the CAADP National and Regional Agricultural Investment Plans (NAIPs, RAIPs) as applied to the comex/WRS sector.

The study report was prepared by six experts on Africa's commodity exchanges and warehouse receipt systems with many years of experience in the area.

It is expected that this study report will provide practical guidance in the implementation of a robust, effective and functioning comex and WRS sector, and thus, shape the Continent's market systems as catalysts for Africa's agricultural transformation.

CHIJI OJUKWU

Director
Agriculture and Agro-industry Department
African Development Bank
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The report is the product of collaborative work between the African Development Bank and its partners, namely, the Food and Agriculture Organization of the United Nations (FAO), United Nations Economic Commission for Africa (UNECA), Alliance for a Green Revolution in Africa (AGRA) and the International Trade Centre (ITC) in Geneva. The technical insights of their staff: Jamie Morrison, Suffyan Koroma, Wadzanai Katsande, Adama Ekberg Coulibaly, Nasiou Ba, Medhat El-Helepi, Guy Ranaivomanana, Stephen Karingi, Anne Mbaabu, Matieyedou Konlambigue, and Robert Skidmore, greatly helped to shape the orientation of the study.

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## ACRONYMS AND ABBREVIATIONS

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<td>ACTESA</td>
<td>Alliance for Commodity Trade in Eastern and Southern Africa</td>
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<td>Africa Derivatives Development Workstream</td>
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<td>ADF</td>
<td>African Development Fund</td>
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<td>AF</td>
<td>Agence Francaise de Développement</td>
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<td>African Development Bank</td>
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<td>Africa Exchange</td>
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<td>AMASS</td>
<td>Agricultural Market Access Sub-Strategy</td>
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<td>AMMA-F</td>
<td>Africa Market Maker and Arbitrage Fund</td>
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<td>APDS</td>
<td>AMASS Product Deployment Schedule</td>
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<td>ARDP</td>
<td>Agriculture and Rural Development Policy</td>
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<td>ARRE</td>
<td>Autorité de Régulation du Système de Récépissés d’Entreposage</td>
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<td>African Organisation for Standardisation</td>
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<td>Abuja Securities and Commodities Exchange</td>
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<td>Africa’s Agricultural Transformation Agenda</td>
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<td>AUC</td>
<td>African Union Commission</td>
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<td>BdDEX</td>
<td>Bond and Derivatives Exchange of Zambia</td>
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<td>BIS</td>
<td>Bank for International Settlements</td>
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<td>Bolsa Mercantil de Colombia</td>
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<td>Bank Market Enhancement programme</td>
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<td>BMM</td>
<td>Bolsa de Mercadorias de Moçambique</td>
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<td>BNA</td>
<td>Bolsa Nacional Agropecuaria or National Agricultural Exchange</td>
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<td>BRVM</td>
<td>Bourse Régionale des Valeurs Mobilières</td>
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<td>Comprehensive Africa Agriculture Development Programme</td>
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<td>Credible Anchor Institution</td>
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<td>CAI Investment Plan</td>
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<td>CBO</td>
<td>Community-Based Organisation</td>
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<td>C-CAIP</td>
<td>Continental CAIP</td>
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<td>CCP</td>
<td>Central Counterparty Clearinghouse</td>
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<td>Certificado de Direitos Créditórios do Agronegócio/Certificate of Agribusiness Credit Rights (Brazil)</td>
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<td>CIF</td>
<td>Cost Insurance Freight (Incoterm)</td>
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<td>CLICS</td>
<td>Permanent Interstate Committee for Drought Control in the Sahel</td>
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<td>CIU</td>
<td>Comex/WRS Information Unit</td>
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<td>CMA</td>
<td>Collateral Management Agreement</td>
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<td>Chicago Mercantile Exchange</td>
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<td>COMESA</td>
<td>Common Market for Eastern and Southern Africa</td>
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<td>COMEX</td>
<td>Comex Reinforcement workstream</td>
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<td>CORE</td>
<td>Cédula de Produto Rural</td>
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<td>Certificado de Recebíveis do Agronegócio / Agribusiness Receivables Certificate (Brazil)</td>
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<td>CRA</td>
<td>Technical Centre for Agriculture and Rural Cooperation EU-ACP</td>
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<td>CTA</td>
<td>Department for International Development (UK)</td>
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<td>DFID</td>
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<td>Acronym</td>
<td>Full Form</td>
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<tr>
<td>DVP</td>
<td>Delivery versus Payment</td>
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<td>EAC</td>
<td>East African Community</td>
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<td>EAGC</td>
<td>Eastern Africa Grain Council</td>
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<td>EAX</td>
<td>East African Exchange</td>
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<td>ECAWWS</td>
<td>Economic Community of West African States</td>
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<td>EFP</td>
<td>Exchange of Futures for Physical</td>
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<td>EPA</td>
<td>Export Prepayment Agreement (Brazil)</td>
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<td>EPI</td>
<td>Established or Pipeline Institution</td>
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<td>ESG</td>
<td>Environmental, Social, Gender and Governance Factors</td>
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<td>ESTA</td>
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<td>EU</td>
<td>European Union</td>
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<td>FAO</td>
<td>Food and Agriculture Organisation of the United Nations</td>
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<td>FFL</td>
<td>Fully Flexible Loan</td>
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<td>FMA</td>
<td>Framework for Improvement of Rural Infrastructure and Trade-Related Capabilities for Market Access (CAADP Pillar II)</td>
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<td>FOB</td>
<td>Free on Board (Incoterm)</td>
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<td>FRAME</td>
<td>Food Reserve Agency Market Enhancement programme</td>
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<td>FSL</td>
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<td>G20</td>
<td>Group of 20 Nations</td>
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<td>GCX</td>
<td>Ghana Commodity Exchange</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>Ghana Grains Council</td>
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<td>Global Warehouse Finance Programme (IFC)</td>
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<td>HACCP</td>
<td>Hazard Analysis Critical Control Points</td>
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<td>HLC</td>
<td>High Level Conference</td>
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<td>ICE</td>
<td>InterContinental Exchange</td>
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<td>ICT</td>
<td>Information and Communications Technology</td>
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<td>IFAD</td>
<td>International Fund for Agricultural Development</td>
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<td>IFC</td>
<td>International Finance Corporation</td>
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<td>IOSCO</td>
<td>International Organisation of Securities Commissions</td>
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<td>ISDA</td>
<td>International Swaps and Derivatives Association</td>
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<td>ISV</td>
<td>Independent Software Vendor</td>
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<td>ITC</td>
<td>International Trade Centre</td>
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<td>Johannesburg Securities Exchange</td>
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<td>KPI</td>
<td>Key Performance Indicator</td>
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<td>Letra de Crédito do Agronegócio / Agribusiness Credit Letter (Brazil)</td>
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<td>Market Access-Oriented Logistics Efficiency and Enhancement Programme</td>
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<td>LOC</td>
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<td>Loan to Value ratio</td>
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<td>MAI-F</td>
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<td>Mwandamia Farmers Organisation</td>
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<td>MII-F</td>
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<td>Mauritius International Derivatives Exchange</td>
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<td>Market Information System</td>
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<td>MMOU</td>
<td>Multilateral Memorandum of Understanding (IOSCO)</td>
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<tr>
<td>MT</td>
<td>Metric Tonne</td>
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Agricultural Market Access Sub-Strategy for Africa:
Commodity Exchanges, Warehouse Receipt Systems, and New Standards

MWK Malawian Kwacha
NCX Nigeria Commodity Exchange
NAIP National Agriculture Investment Plan
NEPAD New Partnership for Africa’s Development
NRA National Food Reserve Agency (Malawi)
NGN Nigerian Naira
NGO Non-Governmental Organisation
NIRSAL Nigeria Incentive-Based Risk Sharing System for Agricultural Lending
NMC Nkhotakota Milling Company (Malawi)
NSGL Non-Sovereign Guaranteed Loan
NSE Nairobi Stock Exchange
NTB Non-Tariff Barrier to Trade
OITC Transportation and ICT Department (AfDB)
OTC Over the Counter
PFD Financial Sector Development Department
RIID Regional Integration and Trade Department (AfDB)
PISD Private Sector Development Department (AfDB)
P4P Purchase for Progress (WFP Initiative)
PAE Pan-African Exchange
PAERC Pan-African Exchange Regulatory Council
PCG Partial Credit Guarantee
PPP Public Private Partnership
PRG Partial Risk Guarantee
QCCP Qualifying CCP
RAIP Regional Agricultural Investment Plan
RAROC Risk-Adjusted Return on Capital
REC Regional Economic Commission
RIMS Regional Integration Monitoring Service
RMC Regional Member Country
ROI Return on Investment
RORAC Return on Risk-Adjusted Capital
RPA Risk Participation Agreement
RTGS Real Time Gross Settlement
RUBICON-F Rural Brokerage and Inclusive Connectivity and Technology Incubation Fund
SAFEX South Africa Futures Exchange (incorporated into the JSE)
SCFF Soft Commodity Financing Facility
SGL Sovereign Guaranteed Loan
SME Small-and-Medium-Sized Enterprise
SOE Sovereign-Owned Entity
SPS Sanitary and Phytosanitary Standards
SRO Self-Regulatory Organisation
TEND-F Fund for Taking Equity in New Contract Development
TMX Tanzania Mercantile Exchange
TOR Terms of Reference
TWLB Tanzania Warehouse Licensing Board
UCE Uganda Commodity Exchange
UCX Uganda Commodity Exchange
UEMOA Union Economique et Monétaire Ouest Africaine
UNECA United Nations Economic Commission for Africa
UNCTAD United Nations Conference on Trade and Development
USAID United States Agency for International Development
<table>
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<td>United States Dollar</td>
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<td>VaR</td>
<td>Value at Risk</td>
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<td>West African Capital Markets Integration</td>
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<td>West Africa Economic and Monetary Union</td>
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<td>West Africa Grain Network</td>
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<td>Warehouse Receipt System</td>
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<td>World Trade Organisation</td>
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<td>Zambia Agricultural Commodity Exchange</td>
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EXECUTIVE SUMMARY

Market access has been established as one of four key organizing components of CAADP through Pillar II, ‘Framework for Improvement of Rural Infrastructure and Trade-Related Capabilities for Market Access’ (FIMA). In October 2015, the African Development Bank (‘the Bank’) – in association with the African Union Commission (AUC), United Nations Economic Commission for Africa (UNECA) and the Government of Senegal – organised in Dakar, Senegal, a High-Level Conference (HLC), ‘Feeding Africa: An Action Plan for African Agricultural Transformation’. The purpose of the conference was to map out within the CAADP goals and Malabo Commitments how to unlock Africa’s agricultural transformation. Within this framework, delegates agreed inter alia to bolster support for agricultural market access development through the establishment of warehouse receipt (WR) financing and agricultural commodity exchanges (‘comex’).

With this objective in mind, the Study comprises two interlinked components:

- **Diagnostic component:** to understand the status of the African comex and warehouse receipt system (WRS) sector, learning lessons from both the African and the wider international experience; and
- **Strategic component:** to apply those lessons through concrete sectoral promotion measures to be undertaken within a coherent framework of action proposed to the Bank and its partners – AGRA, FAO, ITC and UNECA – for promotion of agricultural market access as a lever for unlocking Africa’s agricultural transformation.

The diagnostic component, leveraging country missions by experts to fifteen African RMCs (refer to Annexure IV), identifies positive developments in the recent African experience:

- A broader array of institutions has emerged which are now generating meaningful transaction volumes, creating innovative structures for smallholder market linkages to output and increasingly also to input markets, and unlocking WR finance for the value chain.
- No one model – either for comex or for WRS – emerges as the African model. Rather, the diversity across institutions in terms of products, structures and approaches demonstrates genuine efforts to custom-serve the requirements of different African jurisdictions, value chains and stakeholders according to context.
- Value appears to be being created – as reflected by increasing levels of voluntary private sector participation – much more through ‘over the counter’ bilateral models and through forward contracting rather than through traditional exchange structures per se, with the exceptions of the JSE and ECX, the latter controversially benefitting from the mandating of trade through the exchange.

However, the African sectoral experience with comex and WRS is at present incomplete:

- Many institutions are still young and face not only the test of time, but also the tests of sustainability and scalability.
- With the exception of South Africa and, to a lesser extent Ethiopia, focus to date has been on smallholder market linkages. While such linkages are critically important in the prevailing context of rural poverty and under-development, they should be seen as supplements to, rather than replacements for the foundational imperatives of an exchange: price discovery and market liquidity, two essential public goods for all value chain participants.
- The government-driven multi-stakeholder ‘PPP’-style approach, most prominently reflected in the experiences of Ghana and Tanzania, have faced implementation challenges, despite the apparent advantages, inter alia, of support at the policy and regulatory levels. In light of similar challenges in Eastern Europe, a thorough examination is required concerning their effectiveness.
- There has been an absence of exchange-traded derivatives – both for commodities and for financial assets – outside of South Africa. Derivatives do not just complete the landscape, they also enable it. Their absence hinders private sector agribusiness and financiers from being able to manage key risks arising from, inter alia, trading with and financing smallholders.
- There has been resistance to the emergence of regional approaches. The lack of scale and the resultant market fragmentation hinders the efforts to create commercially sustainable institutions, increases transaction costs, and precludes in, most Regional Member Countries, the emergence of exchange-traded derivatives whose success is particularly contingent on high levels of liquidity.
International experience with comex – in both mature and developing jurisdictions – has been predominantly derivatives-focussed. The experience of countries, such as China, India, Brazil and Malaysia, can provide rich inspiration for African jurisdictions in structuring derivative instruments to serve domestic and export value chains, food staples and cash crops. China and India also offer successful precedents for the pursuit of derivative comex development in the context of a regional market integration strategy.

The international experience with spot comexes has been less extensive than is commonly thought. Activity has been undertaken, mainly in Eastern Europe and Central Asia, where there appears to have been consistently poor outcomes based on a range of conceptual misconceptions, policy errors, and approaches that the literature characterises as bureaucratic and politicised. There have been particular challenges for spot comex to create sufficient value to draw in voluntary participation from private sector agribusiness. Overall, there is limited evidence that a spot comex on its own represents a viable model. Rather, a spot comex may work best as an accompaniment to an established derivatives exchange filling in gaps where value chains are not otherwise able to organise.

The achievements and gaps in the African experience, amid consideration of the broader international situation, have shaped the strategy proposed through this Study for the Bank and its partners on how to support the sector to go forward.

- To augment the achievements, there is a strategic imperative to deploy sectoral promotion measures – investment, policies and capacitation – to support continuing growth, innovation, and nurturing of smallholder market linkages.

- To fill in the gaps, there is also a special additional thrust required to deploy sectoral promotion measures – investments, policies and capacitation – that create price discovery, market liquidity and the emergence of derivatives and regional approaches to institutional development.

The strategic component of the Study culminates in the proposal to the Bank and its partners of an Agricultural Market Access Sub-Strategy (AMASS). AMASS is aligned closely with the Bank’s ‘Feed Africa’ Agriculture Strategy (2016-2025), and more broadly with the organisation’s High 5s priorities, a vision for Africa’s economic transformation.

AMASS is conceived as a two-dimensional matrix. The first dimension comprises a range of sectoral promotion measures, known as AMASS ‘Products’. These emerge in this Study from a structured diagnostic in the African context of the pillars and building blocks from which comex and WRS are built. Each Product comprises a coherent package of investment, policy, and capacity-building interventions implemented by the Bank and its partners that are tailored to overcome the bottlenecks faced by comex/WRS in Africa.

The second dimension comprises two workstreams through which these Products are deployed, each Workstream framed to address the strategic imperatives identified above, i.e.,

- **The Comex Reinforcement (CORE) Workstream** aims to provide support for ‘Established or Pipeline Institutions’ (EPIs). CORE Products are calibrated to create price discovery and market liquidity alongside smallholder market linkages as foundations for sustainable and inclusive institutional development.

- **The Africa Derivatives Development (ADDED) Workstream** aims to create space for the emergence of derivatives markets in Africa within the context of regional integration.

ADDED is inspired, on the one hand by successful Chinese and Indian experiences with derivatives development in the context of regional integration; and on the other, by the application of existing international regulatory mechanisms and practices to support cross-border activity.

The institutional focus for implementation of ADDED is proposed to be a select number of ‘Pan-African Exchanges’ (PAEs). These are recommended: to emerge through an open, transparent tendering and licensing process; to operate across an initially small, but steadily growing integrated African space created under the auspices of a “PAE Regulatory Council” (PAERC); to provide investment and transactional gateways to the Continent that are competitive with international peers; and to partner and synergise with EPIs to ensure benefits for stakeholders are realised at the sub-national, national and regional levels.

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The CAIP is intended as an instrument for a comex or WRS to comprehensively drive the development of its enabling ecosystem in collaboration with its stakeholders. Each CAIP constitutes a selection from the AMASS Product suite chosen by the CAI in consultation with stakeholders. CAIP formulation would, thereby, create a comprehensive pipeline of linked investment, policy and capacitation measures designed to achieve institutional development, ecosystem enablement and broader agricultural transformation.

To ensure alignment with Bank strategy, CAIPs are intended to incentivise the focus of comex/WRS activity around the Bank’s priority value chains, ensure agriculture’s ‘Feed Africa’ imperative is realised in consonance with the other High 5s, and ensure a gender- and youth-inclusive approach to ecosystem development. In response to each CAIP, the Bank and its partners would formulate a five-year ‘AMASS Product Deployment Schedule’ (APDS) for purposes of fulfilling the CAIP.

The scope of a pan-African strategy is by its nature ambitious – the Continent is large, diverse and complex. However, all Bank strategies are, by definition, Pan-African in scope, and prior experience with continental frameworks, such as CAADP, shows that positive results can be generated. In order to ensure achievability through AMASS, two sub-principles are emphasised:

- all programmatic actions and initiatives provide scope for customisation to specific national and regional contexts; and
- each workstream will develop an incremental, phased country build-out based on the willingness and readiness of each RMC and Regional Economic Community.

Implementation of AMASS is proposed by this study to be driven by a new unit – the ‘Comex/WRS Information Unit’ (CIU) – hosted by the Bank to coordinate activities across the Bank and its partners. The CIU Management Function would comprise eight full-time employees, and would work alongside Advisory and Oversight Committees, respectively, to provide technical expertise and good governance. The envisaged three-year AMASS implementation budget is projected to be USD 7.84 million.

The CIU would implement the two AMASS workstreams, CORE and ADDED, as well as develop the appropriate materials, analysis, case studies, application templates and training resources to support awareness-raising, buy-in and demand for each AMASS Product. Other roles for the CIU would include compiling information on comex/WRS performance, conducting monitoring and evaluation, performing impact assessment including quantifying value creation and transformation at micro-level, and performing donor and technical agency coordination to optimally direct risk-sharing instruments, grants and technical assistance, alongside investments.

It is further proposed for the Bank to host three AMASS Special Funds for purposes of realising the investment components of each AMASS Product. The Funds would be similar in structure to established Special Fund mechanisms, hosted by the Bank, such as the African Fertiliser Financing Mechanism, the African Water Facility and the NEPAD Infrastructure Project Preparation Facility, in accordance with Article 8 of the Agreement establishing the Bank.

The three Funds would focus, respectively, on: debt and infrastructure financing; commodity, trade and working capital finance; and equity and quasi-equity finance. Each given a clear mandate, these structures are intended not only as the means to deploy Bank resources, but also to ‘crowd in’ additional financing from other finance and investment institutions to co-invest with the Bank in agricultural market access in Africa.

Finally, the Study proposes an implementation workplan, division of roles and responsibilities, and pipeline. The provisional pipeline of USD 1.4 billion, compiled during the country missions, sits within a broader market opportunity for AMASS Products that may be quantified as in excess of USD 19 billion and potentially as high as USD 62 billion.
Summary of Key Recommendations for the Bank and its Partners

- **Strategy:** Establish AMASS as a sub-strategy to the Bank’s ‘Feed Africa’ Strategy for Agricultural Transformation in Africa (2016-2025), comprising two workstreams, CORE and ADDED, to promote market access through comex and WRS as a lever for unlocking Africa’s agricultural transformation;

- **Implementing Body:** Establish the CIU as a cross-cutting unit which interfaces with departments and complexes across the Bank, as well as with the Bank’s partners, to oversee AMASS implementation, coordinate donor and technical agency activity, perform monitoring and evaluation, and compile and disseminate sectoral performance information; and

- **Governance:** Establish AMASS Advisory and Oversight Committees comprising, respectively, technical experts and representatives of the Bank and its partners.

- **Organising Framework:**
  - Develop the CORE Workstream to provide support for EPIs, with a key goal to nurture price discovery and market liquidity alongside smallholder market linkages as foundations for sustainable and inclusive comex/WRS development on the Continent;
  - Develop the ADDED Workstream to promote emergence of derivatives exchanges in Africa, framed around regulatory development under PAERC, and with implementation driven by PAEs, licensed after competitive tender, the key goals to create an initially small, but steadily growing integrated African space and internationally competitive continental investment gateways; and
  - Prepare a suite of sectoral promotion measures (‘AMASS Products’) – each one a coherent package of policy, investment and capacity-building interventions implemented by the Bank and its partners, as proposed in this Study, that are tailored to overcome the bottlenecks faced by comex/WRS in Africa.

- **Implementation Methodology:**
  - Establish the CIU, hosted by the Bank, as the coordinating mechanism for the Bank and its partners to implement AMASS, and
  - Establish three Special Funds as the means to deploy Bank resources and ‘crowd in’ additional financing resources from other finance and investment institutions to co-invest with the Bank into agricultural market access in Africa.
  - Establish PAERC, hosted by the Bank, to:
    - put in place application and tendering processes, respectively for EPIs and PAEs as the ‘credible anchor institutions’ around which AMASS is implemented; and
    - devise a pan-African regulatory framework.

- Mobilise each EPI and PAE to formulate a CAIP – an investment plan equivalent to the CAADP, NAIPs and RAIPs as applied to the comex/WRS sector, drawing from across the AMASS Product suite in consultation with stakeholders;

- Create an institutionalised response mechanism to each CAIP by the Bank and its partners through a five-year APDS as the framework for deployment of AMASS Products and fulfilment of the CAIP;

- Deploy AMASS Products – i.e., integrated packages of investment, policy and capacity-building interventions – in line with each APDS, and

- Perform monitoring and evaluation to track implementation, performance and impact.
Agricultural Market Access Sub-Strategy for Africa: Commodity Exchanges, Warehouse Receipt Systems, and New Standards
INTRODUCTION

Background

1. Agriculture accounts for about 15 percent of Africa's GDP, with a wide variation in the share of GDP among countries. The agriculture sector is also the main source of income for about 90 percent of Africa's rural population; it accounts for approximately 90 percent of the total export value and provides employment for an estimated 57 percent of the labour force.

2. High and sustained agricultural performance is critical for stimulating growth and development, alleviating poverty, and improving food and nutrition security. Yet, agriculture has been under-performing. Agricultural growth has been generally achieved by cultivating more land and mobilizing a larger agricultural labour force, which produces very little improvement in yields, and is also unsustainable. The poor performance of the agricultural sector is attributable to factors, including declining investment in the sector, inadequate physical infrastructure, limited access to regional and international markets, high cost of farm inputs, including fertilizers and high quality seeds, limited access to credit, lack of conducive policy environment, including for land, lack of industrialisation and restrictive barriers to trade.

3. On the other hand, Africa’s agriculture sector is rife with opportunities, including abundant arable land and vast water resources; an increasingly large gap between regional demand and supply in agricultural products, and between regional supply and global demand, which is conducive to the development of an African agri-food sector; high population growth and rapid urbanization; surge in growth of the middle class, which is good news for demand growth in food systems; and growing agriculture and agribusiness opportunities arising from the combined effects of steady and rapid population growth in food demand, as well as the emergence of a middle class with higher purchasing power.

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2 Per the Terms of Reference for this study
4. **African countries have not made significant progress in boosting regional trade.** On the basis of recorded trade, during 2007 to 2011, the average share of intra-African exports in total merchandise exports in Africa was 11 percent, compared with 50 percent in developing Asia, 21 percent in Latin America and the Caribbean and 70 percent in Europe. However, the composition of the informal cross-border trade is broad. It includes handicrafts, foodstuffs and non-foodstuffs, as well as low-quality manufactured and processed goods, contra-bands and counterfeit goods imported from some Asian countries. It should also be noted that a huge volume of informal cross-border trade takes place in Africa and capturing it helps to present a more balanced perspective. Unfortunately, the African continent lost its status as a net exporter of agricultural products in the 1980s when prices for raw materials fell and production stagnated. Since then, imports of agricultural products have grown faster than cultural exports.

5. **Africa is a net importer of agricultural products, with patterns of agricultural exports largely characterised by a small number of primary commodities and dependency on preferential access to a few markets in developed countries.** Only about 90–95 percent of local agricultural production is marketed and intra-African agricultural exports account for barely 19 percent of total intra-African exports. The regional agricultural trade also remains largely informal. For example, the value of informal cross-border trade in Southern Africa, 70 percent of which is conducted by women, is estimated to be above USD 7 billion. Not surprisingly, at around USD 1 billion, the total intra-regional trade in food staples is a tiny fraction of Africa’s USD 95 billion annual food import bill. Many African countries have actually undertaken economic and trade policy liberalization. This means that these countries have liberalized tariff regimes, with low tariff bands to encourage cross-border trade. Tariffs liberalization has, effectively, been the main reason for entering into regional trade agreements, such as Free Trade Areas, Customs Union, Common Market, etc. Considerable efforts have been made as well in eliminating non-tariff barriers (NTBs), but unfortunately, these keep on proliferating. Some Regional Economic Communities (RECs) have put in place policies and regulatory mechanisms to eliminate NTBs, but it is a major challenge to remove these.

6. **Yet, trade and markets are critical to Africa in many ways.** Achieving food security is virtually impossible without improving the channels through which food is bought, transformed and sold – and ensuring that local producers participate in those channels. Hence, building Africa’s national and regional markets will provide the most immediate opportunities to increase trade, engender regional integration and, by so doing, also help to enhance food security.

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*This statistic is sourced from the Terms of Reference. A detailed analysis tracing the source of this statistic can be found in FAO (2011a). This analysis suggests, the commonly cited 70% benchmark may be drawn from early studies by UNECA (1972) and FAO (1984). However, studies from the World Bank (2015) and the FAO (2011a) suggest the figure may be between 40%-50%. This does not, in any way, undermine the case for targeting women farmers through sound policy and capacity-building measures.*
7. Expanding regional trade could also provide an opportunity for African countries to address a major constraint to export competitiveness, stemming from the small size of their economies, enabling African enterprises to enhance competitiveness through exploiting the economies of scale, economies of complementarity and economies of vertical integration associated with having a large market.

Institutional Context

8. Report: This report is the final deliverable due under the study commissioned by the African Development Bank ('the Bank') in collaboration with its partners, namely, the United Nations Economic Commission for Africa (UNECA), the Alliance for a Green Revolution in Africa (AGRA), the Food and Agriculture Organization of the United Nations (FAO) and the International Trade Centre (ITC) – Geneva.

9. Africa’s Comex History: The need for a comex in Africa was first recognised at continental level in the Abuja Treaty of 1991, establishing the African Economic Union. After intervening years of extensive background policy research by international organisations, including the World Bank, through its International Task Force on Commodity Risk Management, and the United Nations Organisation, in particular, through the United Nations Conference on Trade and Development (UNCTAD), the Arusha Declaration and Plan of Action for African Commodities, issued by the Ministers of Trade of the Member States of the African Union in 2005, explicitly recognised comex and WRS as important mechanisms for addressing market access constraints.

10. Market Access within the emerging CAADP Framework: Work to support the emergence of the African comex sector dovetailed with the developments leading up to and beyond the Maputo Declaration, issued by the Heads of State and Government of the African Union in 2003, which established the Comprehensive Africa Agriculture Development Programme (CAADP) as part of the African Union’s New Partnership for Development (NEPAD). CAADP created the strategic framework for African agricultural transformation, subsequently strengthened in light of the Malabo Declaration by the Heads of State and Government of the African Union in 2014. Market access has been established as one of four key organising components of CAADP through Pillar II, ‘Framework for Improvement of Rural Infrastructure and Trade-Related Capabilities for Market Access’ (FIMA).

11. Continent-Wide Development: Subsequently, promotion of market access, including through mechanisms, such as comex and WRS, has become a widespread policy priority across the Continent at regional, national and sub-national levels. By some counts, over 30 countries – more than half of Africa’s jurisdictions – and four regional organisations have initiated activities towards comex and WRS development. Moreover, a diverse and increasing number of eminent African institutions and development partners have provided support for comex and WRS development, including through funding for research and analysis, capacity-building, and support for institutions active in the sector.

12. Market Access at Dakar: In October 2015, the Bank – in association with the African Union Commission (AUC), UNECA and the Government of Senegal – organised in Dakar, Senegal, a High-Level Conference (HLC), ‘Feeding Africa: An Action Plan for African Agricultural Transformation’. The purpose of the conference was to map out within the CAADP goals and Malabo commitments how to unlock Africa’s long-term agricultural transformation. Within this framework, delegates agreed, inter alia, to bolster support for agricultural market development through the establishment of warehouse receipt (WR) financing and agricultural comexes.

13. Bank Activities in the Sector: The Bank’s initial engagement with the comex and WRS sector came through its sponsorship of the first Pan-African Workshop for Regulators of Derivatives and Commodity Exchanges, held in Gaborone, Botswana, during 2012. Subsequently, the Bank published in 2013 the Guidebook on African Commodity and Derivatives Exchanges. The Guidebook, a landmark document which, for the first time, provided a comprehensive profile of the African commodity and derivatives exchange space, encompassed views on benefits, conditions and constraints, questions of regional scope and the regulatory requirement, and short country profiles.
14. **Bank Priorities:** The Bank is taking forward its engagement with the comex and WRS sector as a means to support its emerging strategy towards Africa’s economic transformation. In 2016, the Bank announced its five priorities for accelerating Africa’s economic transformation, in line with its Ten-Year Strategy (2013-22). These ‘High Fives’ positioned the agricultural imperative, ‘Feed Africa’, alongside the energy imperative, ‘light up and power Africa’, the industrial imperative, ‘industrialise Africa’, the regional integration imperative, ‘integrate Africa’, and the inclusivity imperative, ‘improve the quality of life for the people of Africa’. Sectoral sub-strategies have been developed, including those pertaining to Agriculture (2016-25), Regional Integration (2014-23), Gender (2014-18), Financial Sector Development (2014-19) and Private Sector Development (2013-17).

15. **The Bank’s Agriculture Strategy**

- eliminate extreme poverty by 2025;
- end hunger and malnutrition by 2025;
- make Africa a net food exporter; and
- move Africa to the top of export-oriented global value chains where it has a comparative advantage.

16. **Value Chains:** Taking a value chain approach, the strategy applies these goals to four types of identified priority African value chains, generating objectives specific to value chain type:

- to achieve self-sufficiency in key commodities (rice, wheat, fish, palm oil, horticulture, cassava);
- to move up the value chain in key export-oriented commodities (cocoa, coffee, cotton, cashew);
- to create a food secure Sahel (sorghum, millet, cowpea, livestock); and
- to realise the potential of the Guinea Savannah (maize, soybean, livestock).

17. **Bank Agricultural Strategy Enablers and their Market Access Implication:** The Bank’s Agriculture Strategy identifies seven general enablers to help realise the envisaged transformation:

- Increase productivity by catalyzing the development of effective input distribution systems and reduction in post-harvest waste and loss;
- Realise the value of increased production by facilitating increased investment into output markets and supporting market incentives for value addition;
- Increase investment into enabling infrastructure, both hard infrastructure (such as, roads, energy and water), as well as soft infrastructure (especially, information and communications technologies (ICT), which can have positive effects);
- Create an enabling agribusiness environment with appropriate policies and regulation;
- Catalyze flows of capital (especially, commercial lending and private investment) to scale agribusinesses;
- Ensure that transformation delivers on broad-based needs of Africans, by ensuring inclusivity, sustainability and effective nutrition beyond what the market may deliver otherwise; and
- Coordinate purposeful and forward-looking partnership activities to kick-start transformation, align activities and investments of different actors, and guide initial activities to the point where private sector actors can be crowded in.

Integrating considerations of market access into the framework of the Bank’s Agricultural Strategy enablers, it is seen that market access, as promoted through comex, WRS and new standards, can play an important role across all seven of the enablers identified above:

- Provides market signals that enable value chain players to calculate return on investment (ROI) and, thus, justify measures to improve productivity and reduce post-harvest loss;

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1 http://www.uneca.org/pages/overview

2 https://agra.org/who-we-are/

- Stimulates the emergence of output markets that are demand-driven, yet supply-enabling, providing incentives for producers and processors about what, when and how to supply;
- Defines and consolidates commodity flows from the producer to consumer areas, and from surplus to deficit countries and sub-regions, around which infrastructure can be created;
- Nurtures the emergence of rule-based commodity trade and finance under which agribusiness can invest to increase onshore value addition;
- Supports the development of instruments that mitigate key investment risks, including credit risk, market risk, price risk and – looking more broadly – currency and interest rate risk;
- Levels the playing field to provide access to information, storage, finance and markets that can support livelihood development and grassroots transformation; and
- Acts as small, but growing ‘island of excellence’ in an otherwise disorganised economy around which broader gains from transformation and inclusivity can be structured through development partnerships.

18. Towards an Agricultural Market Access Sub-Strategy (AMASS): The Bank’s Agricultural Strategy represents the frame of reference within which this Study is undertaken, and from which an Agricultural Market Access Sub-Strategy (AMASS) is proposed. In particular, AMASS is designed to leverage the Bank-identified priority value chains and the seven enablers – along with the Bank’s current and/or new financial products, and the capabilities of its partners – to guide the implementation plan presented in this Study Report.

19. Partners: For the purposes of this Study and the emerging Sub-Strategy, the Bank is working with four lynchin sectoral partners:

- UNECA: UNECA is one of the United Nations’ five regional commissions with 54 African member States. Its mandate is to promote the economic and social development of its member-states, foster intra-regional integration, and promote international cooperation for Africa’s development. Thematic areas of focus are: macroeconomic policy; regional integration and trade; food security, agricultural transformation, agribusiness and risk management; social development; natural resources; innovation and technology; gender; and governance.

- AGRA: AGRA is an Africa-led alliance of partners seeking to double yields and incomes for 30 million African farmer-households by 2020, dedicated to changing the reality of African farming from a solitary struggle to survive into a business that can thrive. For nearly a decade, AGRA has focussed on distinct problems related to seed production, soil health and agricultural markets, but is now embarking on a more ambitious and integrated approach in selected countries.

- FAO: The FAO is the specialised agency of the United Nations in the area of food and agriculture, an intergovernmental organisation with 194 Member-Nations. The organisation has in place five strategic objectives: help eliminate hunger, food insecurity and malnutrition; make agriculture, forestry and fisheries more productive and sustainable; reduce rural poverty; enable inclusive and efficient agriculture and food systems; increase the resilience of livelihoods from disasters. These objectives are pursued through five activities: putting information within reach and supporting the transition to sustainable agriculture; strengthening political will and sharing policy expertise; bolstering public-private collaboration to improve smallholder agriculture; bringing knowledge to the field; supporting countries prevent and mitigate risks.

- ITC-Geneva: The ITC is a joint agency of the World Trade Organisation and the United Nations with the remit to foster inclusive and sustainable economic development through the internationalisation of small-and-medium-sized enterprises (SMEs). Its goals are to: strengthen the integration of the business sector of developing countries and economies in transition into the global economy; improve the performance of trade and investment support institutions for the benefit of SMEs; and improve the international competitiveness of SMEs. These goals are pursued through six work areas: providing trade and market intelligence; building a conducive business environment; strengthening trade and investment support institutions; connecting to international value chains; promoting and mainstreaming inclusive and green trade; and supporting regional economic integration and south-south links.
 Terms of Reference (TOR)

20. The full Study TOR are set out in Annexure I. An abridged version, containing the key components, is set out here:

21. Overall Objectives

- "to enhance the analytical contributions of the African Development Bank to Regional Member Countries (RMCs) and Regional Economic Communities (RECs) by generating and disseminating innovative knowledge that guides policies, capacity-building and investments in the area of agricultural market access promotion, especially through comex and WRS, with particular emphasis on exchanges benefitting the agricultural sector";

- "to respond to the paramount problem of inadequate market access for Africa's agricultural inputs and outputs";

- "to effectively identify and propose strategies and partnerships for developing the ecosystem components within which effective comex and WRS can be developed";

- "to take into account the fact that about 80 percent of Africa’s smallholder farmers are women; they are responsible for key components of household production, such as weeding, harvesting and processing and produce, at least, 70 percent of food in Sub-Saharan Africa".

22. Specific Deliverables

- "to gauge the underlying causes which make accessing markets more difficult, whether through an exchange or directly, such as Non-Tariff Barriers (NTBs), food standards, financial regulation, logistics, and competition policy, especially in transport and related areas";

- "to add value to and build on past studies that examined the causes of failure of Africa's comexes by, amongst other things, conducting a more comprehensive and diagnostic review and assessment of the performance of past and existing comexes in Africa and other parts of the developing world, such as Asia and Latin America, where such comexes might have worked";

- "to identify lessons of experience, causes of failures and success factors, in order to determine whether … exchanges have had a positive impact on farmer marketing channels, as well as propose concrete measures that could be adopted to assist existing agricultural comexes and the successful establishment and long-term viability of future agricultural comexes in Africa";

- "to examine the potential of comexes and WRS to foster regional market integration through the establishment of (sub) regional systems … [and] to explore the option of interconnecting some comexes in Africa at the regional or continental levels";

- "how to generate the buy-in and active participation of a broader range of actors, especially financial institutions, investors, and farmers/their organisations, along with traders, in order to enhance the value proposition of comexes and help them to develop their full potential";

- "to emphasise the requisite conditions for developing risk management tools – futures and options";

- "to propose, after an analysis of existing financial products of the Bank, how the Bank can directly support existing and future comexes";

- "to generate concrete proposals and a sequenced roadmap on how the Bank, using its current and/or new financial products, as well as its partners, could best approach promotion of agricultural comexes, WRS and/or other appropriate market development mechanisms, as part of an overall strategy to foster agriculture-driven growth and shared prosperity for all in Africa".

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11 It is noted that other risk management instruments, such as pre-selling, may also be considered.

12 It is noted that other risk management instruments, such as pre-selling, may also be considered.
Methodology and Workplan

23. **Methodology**: As part of the consultants' technical approach, investigations have been conducted at two levels. At the continental and sub-regional levels, analysis has been directed to uncover and shape a general set of best practice recommendations and a strategic agenda for successful development of comex and WRS on the Continent. At the country level, analysis has been directed to identify success drivers and constraints that can shape a structured approach to policy framework development, stakeholder buy-in, capacity-building and investment pipeline development.

24. **Country level analysis** has consisted of five assessments, based on a templated approach for in-country data gathering, completed for each of the countries assessed: value chain assessment, leading to opportunity quantification; policy and regulatory assessment, leading to gap analysis and roadmaps; institutional assessment, leading to market assessment, gap analysis and investment pipeline development; infrastructure assessment, leading to gap analysis and investment pipeline development; stakeholder needs assessment, leading to capacity-building framework.

25. **Workplan**:

- **Preparatory phase** – entailed preparation of an *Inception Report* (see Annexure II), outlining overall objectives and methodology, study framework and process, organisational arrangements and timeframes, and other pertinent details of the study.

- **Interim phase** – entailed preparation of a *Background Report* (see Annexure III), comprising a comprehensive desk review of country, regional and international experience on the benefits and pre-requisites for a successful agricultural comex and WRS, with specific attention given to cases from African countries and other developing regions of the world.

- **Country work** – constituted a variety of interviews with concerned entities at the country level and culminated in country and mission reports (see Annexure IV). The country work focussed on a selection of fifteen countries agreed upon with the Bank, as per justification set out in the Inception Report:

<table>
<thead>
<tr>
<th>Région</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anglophone West Africa</td>
<td>Ghana, Nigeria</td>
</tr>
<tr>
<td>Francophone West Africa and North Africa</td>
<td>Côte d’Ivoire, Egypt, Morocco, Senegal</td>
</tr>
<tr>
<td>Central Africa</td>
<td>Cameroon</td>
</tr>
<tr>
<td>East Africa</td>
<td>Ethiopia, Kenya, Mozambique, Rwanda, Tanzania</td>
</tr>
<tr>
<td>Southern Africa</td>
<td>Malawi, South Africa, Zambia</td>
</tr>
</tbody>
</table>

Regional experts, acting as part of the consulting team, met and held extensive discussions with key public, private and civil society stakeholders involved in agricultural value chains, including primary producers, farmer organisations, agro-processors, end users of selected commodities, agricultural and non-agricultural commodity exchanges, agricultural warehouse operators, government agencies, including National Investment Authorities, RECs, development partners active in supporting the agricultural sector, and commercial banks.

- The objectives of this Final Report are, firstly, to synthesise the key issues that have emerged from the wide-ranging research and analysis that has been undertaken under the Study, including the various papers referenced above; and, secondly, to present a coherent strategy to address the requirements specified in the Terms of Reference.
Report Structure:

26. The TORs are broad-ranging. Synthesizing the TORs, the Study components are presented in diagrammatic form below which is adopted as the section structure of this Report:

<table>
<thead>
<tr>
<th>STUDY SCOPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Market access for Africa’s agricultural inputs and outputs</td>
</tr>
<tr>
<td>• Comex and WRS, with particular emphasis on the agricultural sector</td>
</tr>
<tr>
<td>• Taking into account prominence of women in African agriculture</td>
</tr>
<tr>
<td>• Inclusive of livestock, fisheries, horticulture and forestry products</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DIAGNOSTIC</th>
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<tbody>
<tr>
<td>• Underlying causes that make access to markets more difficult</td>
</tr>
<tr>
<td>• Performance assessment of African and global exchanges</td>
</tr>
<tr>
<td>• Lessons from experience, including drivers of success and failure</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>STRATEGY FOR THE BANK AND ITS PARTNERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Framework for policies, capacity-building and investments to support existing and future exchanges</td>
</tr>
<tr>
<td>• Specification of financial instruments, existing and new</td>
</tr>
<tr>
<td>• Addressing potential to foster regional integration, and option of interconnecting institutions</td>
</tr>
<tr>
<td>• Appraising how to generate stakeholder buy-in</td>
</tr>
<tr>
<td>• In that regard, emphasising conditions for development of risk management tools including futures and options</td>
</tr>
<tr>
<td>• Implementation modalities</td>
</tr>
</tbody>
</table>

27. Reflecting the TOR, the Final Report is presented in two overarching sections – the first, a diagnostic; the second, a strategy proposed for the Bank and its partners, reflecting the content identified above.

28. Attention is again directed to the Inception Report, the Background Report, and the Country and Mission Reports. Each of these documents contains substantial information and argumentation.

29. Acknowledgement is reiterated to a large number of stakeholders across the Continent, and beyond, who have provided significant input, opinion and feedback that have immeasurably helped to shape the Study and this Report. However, all misunderstandings and errors are solely those of the authors.
PART ONE: DIAGNOSTIC

SECTION ONE: UNDERLYING CAUSES THAT MAKE ACCESS TO MARKETS MORE DIFFICULT

A Starting Point – Towards an Actionable Definition of Agricultural Market Access

30. The term ‘agricultural markets’ includes different types of markets relating to agricultural value chains: output and input markets, and markets for financial and other services provided to value chain role players. A market, in this sense, is an economic concept not necessarily referring to a specific place or institution, but rather, any “means by which the exchange of goods and services takes place as a result of buyers and sellers being in contact with one another, either directly or through intermediating agents or institutions” (Encyclopaedia Britannica). Such markets can operate at different levels of jurisdiction – national, regional and global. The common foundation in the agricultural context is the supply of and demand for goods and services that support the functioning of an agricultural value chain or chains at national, regional or global level.

31. ‘Agricultural market access’ could be understood in a minimalistic sense as a purely dichotomous term – i.e., either a value chain player has or does not have market access. This may be seen to operate at several levels. At the level of the smallholder producer, it could mean the difference between purely subsistence production and a possibility being there to sell somewhere, somehow a marketable surplus, however defined; or the difference between zero input purchases and a possibility being there to purchase somewhere, somehow agricultural inputs. Simply put, it is linking smallholders to both inputs and outputs markets. At the level of the commercial value chain, it could mean the difference domestically between zero supply and a possibility being there somewhere, somehow to supply an agricultural product or service to a specific buyer, or to any buyer; or internationally between zero exports and a possibility being there somewhere, somehow to export an agricultural product or service to a specific jurisdiction, or to any jurisdiction. Simply put, it is linking commercial agriculture to both domestic, regional and international markets. However, these examples of total market exclusion are comparatively rare. Accordingly, a purely dichotomous definition of market access does not provide a sufficiently actionable metric against which to promote market access through institutions, such as comex and WRS.

32. ‘Access’ can, therefore, be better understood as a spectrum – i.e., a value chain player can enjoy improved market access or suffer from deteriorating market access, but market access need not be an all or nothing proposition.

33. However, moving along this market access spectrum does not purely depend on volume. Volume is a part of the story, but it is not the entire story. A farmers’ organisation may readily sell the entire output of thousands of farmers at heavily-discounted prices to a farmgate aggregator. An exporter may readily move huge quantities of commodity across borders, despite high import tariffs and transportation costs. In these examples, the volume of the transaction may be high, but the returns for the stakeholders on their economic activity can be low or negative. More broadly, several economic theories – for example, the Cobweb Theorem, and the Fallacy of Composition – posit negative consequences of increasing volume. Thus, volume-based definitions also do not alone provide a sufficiently actionable metric against which to promote market access – there is little sense in promoting something which may not be of benefit.

34. Rather, it is here argued, a value-based definition provides the most actionable metric for promotion of market access. Value, in this sense, is understood as a stakeholder’s averaged return on the costs incurred from participation in a given market. In this value-based definition, improving or promoting market access for a stakeholder or set of stakeholders is achieved through increasing their return on the costs of participation in a given market. Broadly speaking, market access increases for a stakeholder in proportion to the value they generate through participating in that market. Increasing value in this way can be achieved by:

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1 Some exceptions remain, for example, with respect to non-tariff barriers to trade which can keep imports out of a jurisdiction altogether and the widespread exclusion of African value chains from usable price risk management instruments.
- Changing the market in which the stakeholder participates: for example, by changing from an over the counter (OTC) to an exchange-traded market, or vice versa; or from selling into a regional rather than a national market, or vice versa; or by distributing inputs through rural agro-dealer networks rather than through urban wholesalers, or vice versa. In other words, the improvement to market access can be realised through changes to, inter alia, the market mechanism, the jurisdiction, and/or the counterparty.

- Improving terms of access to a market within which a stakeholder already participates: here the market does not change, but the terms of access to that market changes in a way that affects the value created for the stakeholder. An example of this kind of market access impact is a reduction of tariffs for importing a given commodity into a defined jurisdiction – the exporter continues to export the same product to the same market, but the terms on which exports enter that market have become more advantageous. In terms of a comex, this kind of market access impact may be attained in various ways – inter alia, trading fees could be reduced; market liquidity could be increased; and/or more efficient means for users to interface with the exchange could be developed:

However, returns that accrue solely from changes in the performance of the market in which a stakeholder is already participating does not represent a material change to the terms of market access. For example, if a seller held their commodity three months after harvest and sold in a comex for a return of 30% in season one, but realised a return of 40% pursuing the same strategy in season two within the same comex, under the same conditions ceteris paribus, this would not reflect an improvement in market access. This explains why the value calculus references an averaged return on cost across a time period sufficient to accommodate the ordinary cycle of volatility from season to season or from year to year.

There are various benefits that arise from the value-based definition of market access.

35. The most immediate benefit is that it is measurable, objective and actionable – measurable in so far that one can calculate the value that accrues to a stakeholder from participation in one market over another, or in the same market on different terms; objective in so far that such calculations can underpin an evidence-based analysis of market access options; and actionable in so far that the outcome of the calculations can underpin a fact-based assessment of the best course(s) of action to promote market access for any given stakeholder.

36. By way of example, an analysis has been conducted by the United States Agency for International Development (USAID) Southern Africa Trade and Investment Hub on returns to smallholder maize producers in Malawi from participation in the comex and WRS of the Agricultural Commodity Exchange for Africa (ACE). The analysis has been conducted against a baseline market access mechanism, the sale of commodity to primary aggregators at farmgate. Data from three seasons was used, with one of those seasons coinciding with an election year in which pricing is, traditionally, most erratic, driven by heightened government intervention in the underlying commodity markets. This speaks to the need articulated under (34) above for averaging returns on participation in a market to cover the ordinary cycle of volatility.

The USAID analysis models the potential benefits to producers from selling into a competitive market – a bulking premium and a market price/quality premium; as well as the price realisation benefits from deferring sale until later in the season under WRS. The analysis also models the prospective costs to producers from participating in the ACE markets – the costs of aggregation and transportation to reach the comex delivery warehouse, and the costs of storage, finance and receipting associated with a deferred sale under WR finance.

The analysis finds that a producer could make a net return of 20-30% by selling immediately through a comex compared with at farmgate. The analysis also shows a net return in excess of 30% – sometimes well in excess, although with downside risks as well – by deferring sale and placing the commodity under storage and taking on finance.

37. The above analysis reveals salient considerations about market access promotion.

- Firstly, it supports an evidence-based conclusion in this instance that a comex and WRS can effectively improve market access for smallholder maize producers in Malawi. Smallholders benefit, even in the face of Malawi’s high transport costs and 35%-plus interest rates, and even under conditions of heightened government intervention. Promotion of market access in this sense would, therefore, correspond to the enabler in the Bank’s Agriculture Strategy: “Realize the value of increased production by facilitating increased investment into output markets and supporting market incentives for value addition”.

Agricultural Market Access Sub-Strategy for Africa:
Commodity Exchanges, Warehouse Receipt Systems, and New Standards
- Secondly, the analysis also shows the extent of such benefit in this instance, relative to the baseline market access mechanism otherwise used by a smallholder farmer. A 20-30% net return after all costs – including the high costs of finance and transportation in the Malawian context – represents a margin that would be considered healthy by many businesses.

- Thirdly, it enables the emergence of a comparative view as to which kind of market access mechanism – not necessarily always and everywhere a comex or WRS – creates the most value for a given stakeholder. This can yield important developments in the thinking around comex and WRS – to what kinds of value chain, in what kinds of circumstance, are comex and WRS most applicable? And conversely, are there other market access mechanisms – as a complement or as a substitute for comex and WRS – which should be considered?

- Fourthly, the analysis also helps quantify some of the value ‘drivers’ and ‘destroyers’ around market access in any given situation. In particular, it allows sensitivities to be calculated around the variables that contribute to market access. For example, the Malawi analysis suggests that every 10 km of distance from the warehouse costs smallholders 1% of their incomes. Other variables include the costs and availability of aggregation, the costs and availability of transportation, the costs of storage and finance, and the impact of government intervention in commodity markets. Were such analysis to be performed on a cross-border transaction, the analysis would also allow sensitivities to be calculated around variables, such as tariff barriers and NTBs, costs of logistics, costs and risks of foreign exchange transactions, costs of delays and impropriety at the border, and the arbitrage opportunities arising from market pricing differentials between countries.

- Fifthly, an analysis of this kind helps illuminate some of the levers required to bring about agricultural transformation in Africa. In this instance, it reveals the limitations of focussing market access promotion on only one type of market – output markets. While 20-30% net returns on participation in a comex/WRS may represent reasonable net returns, and while this extra income could, no doubt, be deployed by the beneficiary for a range of critically important social and economic purposes, for a smallholder producer with total income under USD 900 per year, that producer remains poor with or without the comex/WRS. In other words, 20-30% net returns from improved access to output markets would not be sufficient alone to trigger the kind of agricultural transformation to which the Bank aspires.

- Rather, to make a meaningful difference to the producer’s livelihood in this instance, some of the gains from improved access to output markets would need to be channelled positively into productive investments – expansion of area under cultivation, increased application of inputs and equipment, improved quality realisation, improved diversification, etc., – in order to trigger the kind of far-reaching transformation that will meaningfully reduce the poverty experienced by rural populations and support sustainable livelihood development. The channelling of returns into productive investments in this sense would, therefore, correspond to the enabler in the Bank’s Agriculture Strategy: “Increase productivity by catalyzing the development of effective input distribution systems and reduction in post-harvest waste and loss”.

- Sixthly, it should be emphasised, not only are input markets, financial and other services required to achieve this, so too are the market signals that can incentivise such investments. As outlined in greater detail below, market signals achieve this by enabling a stakeholder to calculate the value that can be created by improved usage of inputs, equipment and post-harvest services. In other words, it is not enough for the stakeholder simply to be given access to outputs, inputs, equipment and post-harvest services – they also need to be presented with a motivation to invest in using them, specifically a means for projecting their return on investment. Market signals play this role. Given that such projections reference a future event, this explains why future prices, generated in derivative markets, are vital and spot prices alone are insufficient.

Thus, market signals are required to drive another of the enablers within the Bank’s Agriculture Strategy: “Catalyze flows of capital (especially commercial lending and private investment) to scale agribusinesses”. 

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69See Annexure V for the full analysis. The case study of ACE has been used because the data and analysis has been readily available. It is not to imply that other African comex and WRS are unable to generate similar returns. However, as will be argued later, micro-level analysis of this kind has generally been lacking in the Africa comex space.

70This analysis – presented in more detail in Annexure V – includes a detailed build-up of the costs, benefits and margins to the market participant in the specific context of the maize value chain in Malawi. The outcomes are not generalizable beyond Malawian maize, however, as the costs and revenues are in practice significantly variable across contexts.
However, as outlined below, investment should not be considered an activity that is only undertaken by agribusiness. Importantly, inter alia, the smallholder producer, small trader and the small-scale rural processor should also be considered as investors in the sense that they too are seeking a return on their investments, be those investments in increased input or equipment usage, expanded land under cultivation, setting up a new storage facility, etc. When market signals can be accessed by a wide range of actors, not only by agribusiness, it corresponds to a fourth of the enablers within the Bank’s Agriculture Strategy: “Ensure that transformation delivers on broad-based needs of Africans, by ensuring inclusivity, sustainability and effective nutrition beyond what the market may deliver otherwise”.

Beyond this, there are further benefits that accrue from a value-driven approach.

38. **One benefit is that it puts all value chain players on the same footing as concerns market access promotion.** Every player is treated with equal dignity as a business-oriented decision-maker, and as an investor with an eye to generate returns on investment. Measures to improve market access translate into a bottom-line impact just as much for an individual smallholder producer as for a multinational company. What is meaningful for the individual producer through this prism of analysis can be calculated through the same metric as what is meaningful for the multinational corporation – a return on investment. Where trade-offs need to be made between the different interests in the value chain, a common baseline can be adopted for understanding which actors are the winners and which the losers of any given change to market access parameters.

39. **This is not to imply that value chain players do or should act to maximise only short-term and financial returns.** Nor does it imply that external players such as government or development partners need to take a crude short-term profit-maximising approach when calibrating their interventions to promote market access. In particular, calculation of return on investment can be moderated with respect to two important factors:

- **Adjustment for risk** – as is evident from the rising importance of the financial metric used by analysts, Risk-Adjusted Return on Capital (RAROC), mitigation of risk to attain sustainable long-term returns is important for a smallholder producer just as it is for an agribusiness. The risks may be different – for example, around preservation of food security and livelihood diversification – but the need to account for risk and its mitigation in the decision-making framework remains the same.

- **Adjustment for externalities** – investment analysts now commonly take into account ‘environmental, social, gender and governance’ (ESG) factors to drive a so-called ‘triple-bottom-line’ assessment of the value calculus. In this sense, the returns on the costs of participation in a given market can be moderated to incorporate non-monetary returns and non-monetary costs, so long as the same calculus is consistently applied to all stakeholders and scenarios.

A value-based definition of market access promotion, then, can allow for the benefits associated with risk mitigation and the promotion of positive externalities reflected by ESG factors. It would do so in the same way that progressive institutional investors are increasingly integrating such considerations into their investment decisions.
A second benefit follows from (39) – by incorporating considerations of risk mitigation into the value calculus, there is scope to consider the promotion of access to price risk management instruments as a form of market access. Instruments, such as futures and options – or alternatively, forward contracting within the value chain – help value chain role players lock in a return on their investment. A producer, that knows the price they will realise for selling their product several months ahead, is better positioned to calibrate the level of investment into inputs, equipment and post-harvest activities that should be undertaken to maximise returns. Without knowing the price, such investments will be taken to a certain extent in the dark. Accordingly, given the historically high levels of price volatility in African agriculture, it has been argued that many producers adopt a low investment, low return strategy which persists today, acting as a drag on the Continent’s agricultural transformation.

The third benefit from a value-based definition is that, it provides the basis for understanding the term ‘agricultural market access’ to reference not only actual transactions carried out in agricultural markets, but also, the signals received from those markets. In other words, it recognises that market signals can create value for stakeholders, irrespective of whether the stakeholder actually participates in the market or not – i.e., that value can be created for a stakeholder, even if the volume is zero. Market signals achieve this effect by generating information (‘price discovery’) and disseminating that information (‘price transparency’) – often, but not always, pricing information – which can act as the basis to drive improved decision-making in matters of production, investment and marketing such as:

- to guide crop mix and drive decisions around diversification;
- to guide investment into inputs, equipment and post-harvest services so as to optimise returns on yield and quality enhancements;
- to guide decisions about when to store, and where and when to sell, so as to optimise returns on improved price realisation; and
- to guide investment into agricultural infrastructure and value addition, etc.

Each of these decisions are important as they represent the levers that can drive agricultural transformation. Read together with (40) above, it becomes clear then that price discovery, when combined with price risk management – in other words, the core services provided by a derivatives comex – are key catalysts for unlocking agricultural transformation.

An important, but counter-intuitive implication arising from a value-based definition of market access is that, it is possible that market access institutions, such as comex and WRS, can actually reduce market access if they destroy value for their market participants. Such a situation could conceivably arise in two types of circumstances:

- **Value creation relative to other market access mechanisms:**

  Firstly, under certain circumstances, other forms of market access mechanism may create more value for a stakeholder than a comex or WRS. As indicated in the Study’s Background Report, this may be the case for an agribusiness that has already invested to set up its own infrastructures and relationships for securing supply, for example through contract farming models, outgrower schemes, and rural collection points.

  - Even if total transaction costs may be lower through a comex, as is often theorized, the marginal costs of switching to a comex may actually be higher. This is because some of the costs associated with participating in an alternative market access mechanism have already been sunk.

  - Furthermore, some forms of return may be less efficiently captured by a comex operating on a spot basis than through vertically integrated value chains in which suppliers and buyers establish a long-term relationship, for example returns arising from providing traceability, supporting organic production, and conforming to fairtrade standards.
Some agribusiness, in the course of discussions held under the auspices of this Study, have also substantiated arguments made in the Study’s Background Report (32.1) that under certain circumstances, trader-led procurement models may be more efficient for processors and exporters than comex-led procurement mechanisms, given factors not only relating to lower cost, but also, advantages arising from low process overhead, flexibility, and informality. Faster settlement cycles through a comex may drive adoption, especially by producers. However, as many traders deal in cash on the spot for both buying and selling, traders may have a ‘settlement advantage’ over some comex/WRS, particularly as cash management and security challenges inhibit movement of large-scale quantum of money to warehouse locations.

More analysis is required to quantify value differentials among market access models. If such analysis can objectively confirm in defined circumstances that comex and WRS create more value for producers than other mechanisms, and/or if they are confirmed to be more broadly catalytic for agricultural transformation, this may justify putting in place incentives to adjust the value equation for agribusiness accordingly towards stimulating greater use of comex and WRS.

- **Value destruction in absolute terms:**

Secondly, it is conceivable that participation in a comex or a WRS may be consistently loss-making for a stakeholder, in most cases, such an eventuality would not be possible. Market participants – as business-oriented decision-makers – would simply abstain from participating in those institutions through which losses are generated. However, a danger arises where a market participant is mandated (i.e., compelled) to participate in a comex or WRS. In this scenario, even if losses are made, the stakeholder has little legitimate choice other than to participate if they wish to continue their business. This argument is not to provide a blanket condemnation of those jurisdictions or institutions that have chosen to mandate participation in a comex or WRS. Rather, it is to set the bar high and to emphasise the need for measurement, transparency and ongoing analysis to identify whether such interventions can truly be justified.

**43. Taking account of the argumentation presented above, by way of summary, the problem around market access is not a simple dichotomous question of providing market access where none existed before. Nor is it a question of how much volume can be achieved – for example, selling more product, accessing more inputs, providing or supplying more services. Rather, the promotion of market access is here defined in the most actionable sense as a function of value – increasing for a stakeholder their averaged return on the costs of participation in a given agricultural market, be it an output market, an input market, or a market for financial or other services at national, regional or international level.**

**What factors make accessing markets more difficult?**

**44. In light of the above argumentation, it becomes easier to understand the factors that can make accessing markets more difficult, as identified in the table below, and as further elaborated under Section Two of the Study’s Background Report.**

<table>
<thead>
<tr>
<th>Product Selection</th>
<th>Production</th>
<th>Marketing</th>
</tr>
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<tbody>
<tr>
<td>Barriers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Informational barriers to understanding market demand and pricing</td>
<td>• Informational barriers to understanding quality and other prevailing standards, and good agricultural practices</td>
<td>• Informational barriers to inform timing and location of sales</td>
</tr>
<tr>
<td>• Capacity barriers to switching or diversifying along with barriers to finance to support it</td>
<td>• Capacity barriers to achieving standards, along with barriers to finance support standards achievement</td>
<td>• Aggregational barriers to enable effective bulking</td>
</tr>
<tr>
<td></td>
<td>• Access barriers to the factors factors of production</td>
<td>• Logistics barriers</td>
</tr>
<tr>
<td></td>
<td>• Barriers to management of production risk</td>
<td>• Storage barriers</td>
</tr>
<tr>
<td></td>
<td>• Barriers arising from social exclusion</td>
<td>• Barriers to finance</td>
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<tr>
<td></td>
<td></td>
<td>• Barriers to accessing output markets</td>
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<tr>
<td></td>
<td></td>
<td>• Barriers in trade facilitation infrastructure</td>
</tr>
</tbody>
</table>

This understanding of barriers to market access, and how a comex and WRS can help overcome those barriers, will be taken forward as considerations that structure the framework for measures to promote market access in the strategy proposed to the Bank and its partners in Section Four.
SECTION TWO: PERFORMANCE ASSESSMENT OF AFRICAN AND GLOBAL EXCHANGES

Lessons from International Experience with a Focus on Developing Countries

45. An extensive review of international practice with market access through comex and WRS is set out in the Background Report (37-70), and summarised below.

46. Internationally, the comex experience has been overwhelmingly derivatives-driven. Operating models for derivatives comex are remarkably similar across countries and regions – developed, as well as developing. The main instruments (i.e., futures and options), the trading structure (i.e., bid-offer markets), the clearing and settlement methodology (i.e., central counterparty (CCP) clearing), the platform (i.e., the use of electronic screen-based trading with straight through processing into clearing and settlement), the ownership and governance model (i.e., for profit commercial corporations), and the nature and content of regulation (i.e., conformity with the International Organisation of Securities Commissions (IOSCO) Objectives and Principles) are globally standardised with few exceptions. There has also been convergence around a common institutional and regulatory model for derivatives comex as multi-asset institutions, regulated by a securities regulator.

47. One major variance from jurisdiction to jurisdiction is the specific commodities that have been listed for trade. These have been shaped by the country’s commodity profile and global trade position. In South Africa and India, agricultural derivatives trade focuses on key domestic value chains. In Brazil and Malaysia, agricultural derivatives trade focuses on key export value chains. In China, the derivatives market has supported the country’s transition from being a surplus producer of its key commodities to a net importer. In all cases, though, the role of the derivatives market is the same – to provide price discovery, a hedging mechanism, a delivery channel of last resort, and a venue for investment.

48. Another variance among developing economy experiences is the role played by the derivatives comex to achieve policy goals. In India, the futures markets have been positioned as a mechanism to drive value chain efficiency and disintermediation. In China, the derivatives markets have provided support for Chinese onshore price discovery as a net importer, enabling both producers and processors to manage price risk in this new environment. In Brazil, the markets have been a key mechanism to support the country’s massive export-led growth to which agriculture has made an important contribution, including through stimulating large-scale financing to the domestic value chain. In Malaysia, the markets have been a key component of the national diversification strategy into palm oil, creating the only price discovery mechanism worldwide for a global commodity that resides in a developing economy. In South Africa, the markets underpinned the country’s post-apartheid transition to replace the old agricultural control structures with a liberalised, market-driven system that has to date produced a twenty-year track record for avoiding the kind of government interventions in pricing and trade that are often considered to have destabilised other African economies.

49. The varying experiences of these countries can provide inspiration for African economies with respect to establishing derivatives contracts both for domestic and export crops.

With respect to domestic crops, the experiences of China and India are most pertinent. Both countries have established price discovery benchmarks for two categories of domestic value chain:

- Commodities which are traded elsewhere on global benchmark exchanges in hard currency terms for delivery in Europe or North America. Important examples in both countries include cotton and sugar. For these commodities, local currency-denominated price benchmarks have been set up, based on onshore delivery to support domestic value chains. The prices are correlated with the global benchmark exchange, but more accurately reflect the specific supply and demand configuration of the domestic market to provide more accurate price references for the value chain, as well as a delivery channel of last resort.
Commodities, which do not have an established global benchmark, and for which the Chinese and Indian exchanges have established futures markets for the first time. In India, examples include futures references for a range of pulses and spices; in China, for processed agricultural products, plastics and industrial goods. These markets play an important role for the domestic value chain, but their influence also extends offshore to the extent that such products are imported or exported in raw or processed form.

With respect to the African situation, and in line with the Bank’s Agriculture Strategy, the establishment of these kinds of futures markets could support the development of food security, self-sufficiency, processing and manufacturing industries for strategic domestic value chains on the Continent including a number of the Bank’s priority commodities – including cassava, rice, sorghum, millet, cow pea, maize, wheat, soyabean and livestock.

50. With respect to export crops, the experiences of Brazil and Malaysia are most pertinent. Both countries have established price discovery benchmarks to support export-led growth, albeit with slightly different focus:

- The Brazilian focus has been to underpin exports of commodities such as soyabean, coffee, sugar and cattle. While each of these commodities already has a global price benchmark, these benchmarks typically reference historic flows to commodity consumers in Europe and the United States. A significant portion of Brazilian exports flow to Asia, however, and a new benchmark based on delivery to the Brazilian point of export, denominated in Brazilian currency, provides a more efficient signal for the Brazilian value chain than the existing global reference prices. These Brazil-specific signals have helped stimulate massive investment into the country’s agriculture, leading to a significant increase in its global share of exports and helping it tap into the emerging sources of demand as the large Asian markets have integrated into the global economy since the 1990s.

- The focus in Malaysia has been almost exclusively on palm oil. The creation of the world’s first palm oil futures market – the first and only global price benchmark located in the developing world – has established Malaysia as the global centre for the industry, and enabled the country to take a leadership position in downstream processing and manufacturing industries for palm oil, even as other countries such as Indonesia catch up as producers and exporters of the raw commodity.

With respect to the African situation, the establishment of these kinds of futures markets could underpin not only investment into expanding production and moving up the value chain as has happened in Brazil for key export-oriented Bank priority commodities – for example, cocoa, coffee, cotton and palm oil – but also, following the Malaysian example, creating first time benchmarks for African export commodities that do not as yet have global pricing benchmarks – for example, cashew, fish, and horticultural products.

51. A range of innovative instruments have also been noted with special attention drawn to a collateralised pre-harvest financing instrument traded by the derivatives comex in Brazil, the Cédula de Produto Rural (CPR), known internationally as the ‘crop receipt’. The financing instruments available in Brazil, under the CPR and related frameworks, are widely attributed as a major contributing factor to the country’s dramatic emergence as an agricultural heavyweight since the 1990s through helping to finance agricultural expansion and productivity gains in key value chains. Importantly, the CPR also leverages comex and WRS-supported mechanisms to promote market access to both input and output markets. This is a rare distinction given that most comex and WRS focus mainly on output markets and are not known to have interfaced with pre-harvest input financing structures such as value chain finance.

52. However, when assessing the international experience with respect to regional integration, there are few direct benchmarks on which Africa can draw. The only known example of a regionally-integrated exchange-traded market worldwide for any asset class is in West Africa through the Bourse Régionale des Valeurs Mobilières (BRVM). There are no clear examples of other exchanges which either were set up explicitly to serve a regional market, or of multiple independent exchanges autonomously agreeing to integrate their platforms into a regional market. Other instances of exchange integration – for example, the NASDAQ OMX, Euronext and InterContinental Exchange (ICE) experiences with stock and derivative exchanges across Europe and North America – predominantly concern acquisitions of an institution in one country by an institution from another country. In the circumstances of a takeover, the acquiring institution has then been able to impose synergies across products, systems, processes, rules and governance procedures.
53. The closest regional integration benchmarks may be the experiences of national integration that took place in China and India. In both countries, sub-national exchanges had been prevalent. In India, until the early 2000s, comex were prevalent on a state level – Indian agriculture being under the jurisdiction of the country’s 29 states and seven union territories, rather than under the jurisdiction of the federal-level Union Government. In China, for several years after liberalisation in the early 1990s, comex were prevalent at the municipal level in major cities where they functioned around prominent wholesale markets.

In both countries, strategies were developed by the national governments to overcome barriers at sub-national level. In India, the challenges of low liquidity, low inclusivity and a focus on spot and forward contracts to the exclusion of derivatives had led to low volumes and poor performance. The government developed a strategy to introduce a limited number of pan-Indian multi-commodity derivative exchanges that would compete for liquidity to drive the organisation and growth of India’s value chains. In China, the challenges of rampant speculation led to the opposite challenge of very high volumes, but low levels of market integrity and economic contribution. In China, just as in India, the government developed a strategy to introduce a limited number of pan-Chinese commodity derivative exchanges that would develop price benchmarks for priority value chains and impose a consistent and effective regulatory framework which harmonised rules and standards across the country.

Both the Indian and Chinese experiences with market integration through derivatives comex have been major success stories. Success is not simply a question of volumes traded, even though Indian and Chinese institutions now feature prominently among the world’s largest comex. Rather, in both countries, the market integration process created the liquidity conditions in which new price discovery mechanisms could emerge for a wide range of important value chains – in India, mainly for domestic chains in which significant numbers of Indian farmers are active; in China, for both domestic and imported commodities, in which inclusivity could be created for farmers, usually indirectly through price dissemination and the passing on of forward pricing along the chain by Chinese agribusiness.

Both cases of national market integration through derivatives comex can offer inspiration for African policymakers looking for models towards regional integration across the Continent.

54. Other forms of market integration and cross-border market access promotion have been achieved in the exchanges sector without formal integration of exchange institutions. There have been instances of some exchanges enabling access to their markets using the technology of another exchange – for example, Bursa Malaysia and BM&FBovespa (Brazil) among others allow their markets to be accessed through the Chicago Mercantile Exchange’s (CME) Globex platform. There have also been instances of exchanges allowing their products to be licensed for trade on another exchange – usually a nearly identical contract specification but denominated in the home currency of the licensee exchange and settled against the prices of the licensing exchange. These arrangements are important – they contribute towards the global integration of market pricing (i.e., a single global price for an asset around a definitive price discovery mechanism), they boost liquidity in the participating venues, and they allow for new forms of market access for participants outside the national market in which a product or instrument is trading. Such models may represent viable models around which African comex can collaborate.

55. Farmer market access through derivatives comex consists of three models – direct hedging, indirect hedging and government hedging. The Background Report provides concrete examples of these different models.

56. While derivatives instruments are more sophisticated than their spot equivalents, derivatives comex can be in practice easier to establish than spot comex. They can be structured around a credible secure single delivery point which consolidates flows of buyers and sellers to create a price discovery benchmark. The consequent derivatives market pricing, hedging and delivery mechanisms can then be used by off-takers and financiers to manage the risk from buying and financing small-scale producers. The benefit can then be passed on to the smallholder, for example through fixed forward price contracts that remove the farmer’s price and market risk, and in so doing, promote his or her investment into productivity and quality upgrade, area expansion, and diversification. This compares with the more challenging requirement for a spot comex to establish multiple secure delivery points across a wider geographical terrain, and develop both the infrastructure and the capacity to link large numbers of farmers from many different locations into the market.
57. Internationally, spot-driven models are less common, being prevalent mainly in Eastern Europe, Central Asia and Turkey.\(^\text{36}\) Over 200 comex are identified in these regions, many of them spot-focused and government-driven. Almost every jurisdiction in these regions appears to have experienced a policy initiative to establish one or more comex, with the focus being on national or sub-national, rather than regional initiatives.

58. However, a largely pessimistic view is presented in the literature on the experience with spot comex to date. A range of ‘misconceptions’ are set out that FAO (2011c) identifies as hindering institutional development. These include:

- A misconceived view that government should lead comex development. However, the government in the region has generally lacked the dynamism to be responsive to private sector needs. Accordingly, “progress in the region so far [being] rather limited and stakeholders have not joined hands to support exchange initiatives”.

- A misconceived view that a trading platform is itself sufficient, whereas the reality in an emerging economy is that the exchange needs to provide the whole environment for the transaction including clearing and settlement, evaluation of quality, access to finance, and conflict resolution mechanisms.

- A misconceived view that a comex must involve the trade and exchange of the physical commodity, in contrast to risk management instruments which do not often result in delivery. Per the report, this leads to a misdirected focus of public sector support for comex development “with measures aiming to bring physical trade to the exchange (e.g., by allocating export quota or by forcing private sector or government business enterprises to buy or sell through the exchange) rather than aiming to create market transparency and financial surety”.

- A misconceived view that the focus must first be on the physical rather than derivatives trade in order to first address the ‘problems in the physical marketplace’. However, FAO (2011c) notes that “in reality, commodity market development is not necessarily sequential, from the proper organization of physical markets to the development of forward and then derivatives markets. In certain cases, a derivatives exchange can create an environment in which physical trade becomes safe, even in cases where contractual non-performance is rife and the legal system is weak, and it can thus lead the process of market development”.

- A misconceived view that if an exchange is developed, people will use it. This “often co-exists with the idea that in order to work the government has to make use of the exchanges obligatory”, the consequences of which have been a focus by comex on “strengthening political power and conspicuous consumption”, “making management complacent and uninterested in providing genuine value to the market” and driving value chain participants into illegal activities.

59. Accordingly, the results from comex in Eastern Europe and Central Asia have been poor:

- “Most of the exchanges in the Eastern Europe and Central Asia region have weak organizational and financial strength and play an insignificant role in their economies.”

- “Most exchanges would not be recognized as such by people familiar with commodity exchanges as they exist in Europe and the Americas. Exchanges resemble wholesale markets or merely act as a mechanism for registering commodity transactions for taxation purposes.”

- “Many exchanges operate at an unsustainably low transaction levels and are likely to disappear unless external support is forthcoming.”

- “All the positive examples of the relatively successful, advanced exchanges in the region (e.g., Hungary, Romania and the Russian Federation) were initiatives of the local private sector without a significant involvement of the state.”


\(^38\)The International Finance Corporation (IFC), in partnership with the FAO have launched an Africa Crop Receipts Initiative to explore the feasibility of introducing CPRs in Africa. The author is a consultant on that project.

\(^39\)See again FAO (2011b), and also UNCTAD (2009a). It is also noted in the Bank’s Agriculture Strategy how “Brazil was able to go from a negligible agricultural producer to the world’s second-largest producer of soy and beef, and largest producer of coffee beans, sugarcane, and oranges in the span of two decades”.

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60. It may be going too far to depict the region as a 'comex wasteland' littered with the wreckages of failed policy experiments. Nonetheless, the lessons seem clear – spot comex under government leadership has not mobilised private sector buy-in and initiatives have under-performed accordingly. Moreover, these initiatives have been national or sub-national, rather than regional without creating mechanisms for effective cross-border participation.

61. Turkey to a large extent mirrors the experience of Eastern Europe and Central Asia. However, there are aspects of the Turkey story that may also be more positive. Nearly 100 comex exist across the country operating on a local basis, many with a long history. The government has enshrined privileges with these comex through granting them tax registration powers, effectively making it mandatory for commodity flows to be routed through the exchanges. This has been generating flows into the system that, per FAO (2011c), most Turkish comex have failed to leverage to positively invest in developing their ecosystem.

However, some, such as Izmir Mercantile Exchange and Konya Commodity Exchange – in particular, those that have invested in strengthening physical infrastructure, moved towards creating financing and risk management mechanisms, as well as offering strong counterparty guarantees – have generated significant volumes for physical trade. Turkey, therefore, offers some hope for spot comexes.

62. The analysis of Eastern Europe, Central Asia and Turkey points to a range of factors that may have been responsible for the under-performance in these regions. These factors include bureaucratisation, non-responsiveness to stakeholders, in part, driven by enforced monopolies and mandated trade, lack of private sector buy-in, low levels of innovation, inadequate commercial models, misguided instrument focus, a missing regional integration component, and rent-seeking behaviour.

63. In summary from the international experience, while the derivative comex model seems to be well-established, there does not seem to be a convincing international proof of concept as yet to support the viability of the spot comex model. There are a number of pitfalls and dangers that have been identified with spot comex that have consistently generated poor outcomes. However, this conclusion does not seem to be apparent from a review of much of the literature on comex to date. It should, though, provide sober reading for all those engaged in the sector.

In particular, there does not seem to have yet emerged a clear set of value propositions around which private sector have been persuaded to participate in a spot comex. Private sector has participated under conditions where participation is mandated. In the case of several comex in Turkey, there are signs that private sector may also be more than merely reluctant players. However, given that trade is in fact mandated in Turkey, the hypothetical question remains whether those volumes at Turkey’s few successful spot comexes are based around genuine value creation or not.

Lessons from African Experience

64. Based on the missions undertaken to fifteen African Regional Member Countries of the African Development Bank under the auspices of this Study, an enlarged and more detailed assessment can now be made of the African experience with comex and WRS.

65. There has been a more than doubling of African WRS and comex over the last three years from four to eight established institutions. Adding to the four long-standing institutions that predate 2013 – Johannesburg Securities Exchange (JSE), Tanzania Warehouse Licensing Board (TWLB), ACE and Ethiopia Commodity Exchange (ECX) – are four new institutions: East African Exchange (EAX, Rwanda, established 2013), Auction Holdings Commodity Exchange (AHIOX, Malawi, established 2013), AFEX (Nigeria, established 2013) and the G-Soko structured trade and financing platform of the Eastern Africa Grain Council (EAGC, established 2014). These eight institutions are operational, and actively conducting trade through various instruments and structures in their respective jurisdictions.

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40 China is also understood to have experience with spot-based comex-type institutions at wholesale markets, but these do not appear to feature in the literature.

66. There is also a coming wave of eight further ‘pipeline’ institutions likely to emerge during the course of 2017. These include: Egycomex (Egypt), Tanzania Mercantile Exchange (TMX), Zambian Agricultural Commodity Exchange (ZAMACE), the commodity backed warrant scheme operated by CCH Finance House Ltd in Ghana – piloted and recently licensed by the central bank, but not yet fully operational, and which at present time leverages the Ghana Grains Council (GGC) WRS (see below) – the WRS respectively of Cote d’Ivoire and Senegal, and the comex of Cote d’Ivoire. These pipeline institutions have conducted feasibility studies, developed business plans, secured political will, put in place the legal-regulatory foundations, and have developed to various extents, the operating personnel, systems and capabilities required to implement.

67. Taken together, the scope of the sixteen ‘Established or Pipeline Institutions’ (EPIs) cover twelve African jurisdictions and all sub-regions except Central Africa. The twelve jurisdictions are Cote d’Ivoire, Ghana, Nigeria and Senegal in West Africa; Egypt in North Africa; Ethiopia, Kenya, Rwanda, and Tanzania in East Africa; and Malawi, South Africa, and Zambia in Southern Africa.

68. In addition, a further ten initiatives already exist or are in the process of establishment, but are understood to require significant work and/or structural adaptation before they can become operationally effective. These include the GGC WRS, Ghana Commodity Exchange (GCX), the Nigeria Commodity Exchange (NCX), the Akure Commodity Exchange (Nigeria), the Bolsa de Mercadorias de Mocambique (BMM), and planned initiatives in Kenya, Zimbabwe, Cameroon, Mauritius, and West Africa. In addition to these, the Uganda Commodity Exchange (UCX) – despite the name, in actuality, it functioned as a WRS – is also referenced, having closed several years back after donor funding was exhausted. The Bourse Africa initiative is also noted, scoping Botswana and Mauritius, which launched in the latter jurisdiction and while still in theory active, has been unable to build meaningful liquidity since its inception.

69. Finally, beyond the twenty-six African institutions and initiatives referenced above, use of established international comex for price referencing and hedging takes place in a range of African value chains. The global sugar reference contract traded by ICE allows for Africa delivery in six RMCs, or their customary ports. The cocoa, cotton and coffee contracts also offered by ICE are also extensively used by African value chain players. In North Africa, and to a lesser extent in East Africa and the West African Atlantic coastal countries, the Chicago Board of Trade benchmarks for imports of wheat and yellow maize are relevant. Less clear is whether there is significant use in Africa of the international comex venues which provide benchmarks in the palm oil, rubber and rice chains.

The evolving African comex and WRS landscape are depicted in the diagram below:

Some important conclusions emerge from the Country Reports generated under this Study (refer to Annexure IV).
70. In most cases, comex volumes at the eight established institutions are significant, albeit in some cases—especially, those where trade has not been mandated—remaining low as a proportion of total production.

- The JSE is in a league of its own, trading as many as twenty times the physical production of South African white maize—its core product—albeit on a derivative rather than a physical basis, although physical deliveries through the derivative market are also substantial across a delivery network scoping more than 250 silos.

<table>
<thead>
<tr>
<th>Institution</th>
<th>Commodities</th>
<th>Volume - Latest Available year (MT)</th>
<th>Proportion of National production</th>
</tr>
</thead>
<tbody>
<tr>
<td>JSE</td>
<td>White Maize, Yellow Maize, Wheat, Soyabean, Sunflower</td>
<td>193,539,000(^{30})</td>
<td>604% (Maize), 1192% (Wheat), 1174% (Soyabean), 1180% (Sunflower)</td>
</tr>
<tr>
<td>ECX</td>
<td>Coffee, Sesame</td>
<td>590,000</td>
<td>66% (Coffee), 100%+ (Sesame, Sunflower)</td>
</tr>
<tr>
<td>TWLB</td>
<td>Cashew, Coffee</td>
<td>140,932</td>
<td>100%+ (Cashew)</td>
</tr>
<tr>
<td>ACE</td>
<td>Maize, Soyabean, Pigeon Pea, Beans</td>
<td>90,000</td>
<td>3% (Maize)</td>
</tr>
<tr>
<td>G-Soko</td>
<td>Maize</td>
<td>70,000</td>
<td>0.5% (Kenya, Tanzania, Uganda)</td>
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<tr>
<td>AHCX</td>
<td>Maize, Soyabean, Pigeon Pea</td>
<td>50,000</td>
<td>2% (Maize)</td>
</tr>
<tr>
<td>AFEX</td>
<td>Maize, Sorghum, Millet, Soyabean, Peanut, Cowpea, Ginger and Chili</td>
<td>48,000</td>
<td>0.5% (Maize)</td>
</tr>
<tr>
<td>EAX</td>
<td>Maize</td>
<td>15,000</td>
<td>2% (Rwanda only)</td>
</tr>
<tr>
<td>CCH (Pilot)</td>
<td>Maize</td>
<td>12,555</td>
<td>0.5%</td>
</tr>
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</table>

- ECX’s historical volumes suggest a plateau of nearly 600,000MT traded, mainly coffee and sesame, which reflects approximately two-thirds of the country’s coffee production volume and close to—or in excess of—100% of sesame production.

- The TWLB WRS is understood to have achieved between 2011-12 and 2015-16 annual volumes ranging between 190-175,000 MTs mainly of cashew, representing at least 80% - and in some cases in excess of 100% – of the country’s cashew production under a partial mandate which prevents the participation of buying agents in the field.

- For its part, ACE has achieved nearly 90,000 MTs - mainly of maize with smaller volumes of soyabean, pigeon pea and beans – in a country in which average production size is less than 1MT, representing the output from a significant number of farmers. However, relative to total average maize production of over 3m MT – a significant proportion of which is retained on-farm for subsistence consumption – total volume represents under 3% penetration.

- Of the newer players, the EAGC’s G-Soko initiative is understood to have certified 55 warehouses in Kenya (18), Tanzania (18) and Uganda (17) comprising 146,000MT capacity, linked with 139 village aggregation centres – plus inspected a further 53 across the East Africa region. In 2015/16, it facilitated trade of 70,000MT, mostly maize with a small proportion of rice, and finance of USD 0.5m. On the trade side, this represented a significant gain on the previous season of almost 30,000MT trade. However, financing fell from a level of USD 1.9m.

- AHCX in Malawi reached 60,000MT of trade in 2015, comprising approximately 50% maize, 35% pigeon pea and 15% soya, before falling back to 50,000MT in 2016.

- AFEX – focussing on Nigeria trade – notched 48,000MT of grain traded in 2016, 85% maize with smaller volumes of sorghum, millet, soyabean, peanut, cowpea, ginger and chilli. The maize component reflects approximately 0.5% of Nigerian production. Notably, AFEX also initiated an innovative, as well as a significant volume of barter trade in inputs.
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EAX traded 15,000MT, mostly of maize within Rwanda, during 2015, a number which is understood to have fallen during 2016. This represents approximately 2% of Rwandan production, albeit a much smaller fraction of total East African production, the regional market which EAX aspires to serve.

The CCH Finance House Limited Commodity Backed Warrant scheme in Ghana managed to achieve in a six-month pilot through its repo-financing mechanism, the financing of 12,555MT of maize, to a value of EUR 1.9 million financed by Stanbic.

71. No single model can be proclaimed ‘the African comex model’ or ‘the African WRS model’. The Continent is diverse. Its value chains are diverse. Accordingly, the comex and WRS initiatives that are addressing these differing contexts are diverse. Areas of diversity include:

- **Scope of activities** – one institution is a comex affiliated with a standalone WRS (JSE); other institutions are comex fully integrated with WRS (ACE, AFEX, AHCX, EAX, ECX, G-Soko); and one institution is a standalone WRS (TWLB); and

- **Scope of value chains that are served** – some institutions focus on food staples (ACE, AFEX, EAX, G-Soko, JSE); others focus on cash crops (ECX, TWLB), and one focusses on both (AHCX).

Instruments – as depicted in the table overleaf, there is one derivatives comex (JSE), three that offer OTC forward contracts (ACE, AHCX, AFEX), one that offers barter trade of outputs for inputs (AFEX), four that offer exchange-traded spot markets (ACE, AHCX, EAX, ECX), two that offer OTC-spot trade (AFEX, G-Soko), three that offer auctions (ACE, AHCX, EAX), and all eight are understood to offer or to facilitate the offering of WR financing (ACE, AFEX, AHCX, EAX, ECX, JSE and TWLB):

<table>
<thead>
<tr>
<th>Institutions/institution</th>
<th>JSE</th>
<th>ECX</th>
<th>TWLB</th>
<th>ACE</th>
<th>G-Soko</th>
<th>AHCX</th>
<th>AFEX</th>
<th>EAX</th>
<th>CCH</th>
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<td>Derivatives</td>
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<td>OTC Spot</td>
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<td>Barter</td>
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<td>WR/Warrant Finance</td>
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</tbody>
</table>

- **User focus** – one institution is focussed on commercial players only (JSE), while the others also focus on small-scale and ‘emerging’ commercial producers, and rural enterprises.

- **Ownership model** – two institutions are fully state-owned (ECX, TWLB), one institution is a publicly-listed private sector-owned institution (JSE), three institutions are privately-held private sector-owned institutions (AFEX, AHCX, EAX), one institution has a hybrid ownership model incorporating private sector-owned and non-profit trust components (ACE), and one is a pure non-profit trust (G-Soko);

- **WRS Model**

  - Two broad types of WRS structure: the WRS as equivalent to a collateral registry, usually operated by a public agency which combines systems operation with systems regulation (TWLB, Uganda historically, with initiatives being established in Cote d’Ivoire and Senegal); and the WRS as equivalent to a central securities depository, usually a business-driven structure driven by a comex which may or may not combine systems operation with regulation, or SRO structure (ACE, AFEX, AHCX, EAX, ECX, G-Soko, South Africa)

  - Various functions that WR finance serve: the financing of commodity sold forward or hedged by producers (JSE, ACE, AHCX and AFEX); financing of agribusiness inventories (ACE); financing of smallholders to avert distress sales and/or deferral of sales until later in the season when prices are higher (ACE, AHCX and G-Soko); the financing of trader aggregation (ACE, AHCX, AFEX, EAX and TWLB (coffee); the financing of producer cash crop inventories awaiting sale (cashew, TWLB) or primary processing (coffee, TWLB and ECX), the warrantage proto-WRS initiatives of West Africa (as well as, Madagascar and Rwanda) are also noted as they allow for the village-based financing of holding commodity as inventory until later in the season for own consumption to backstop food security.
- **Warehousing model** – Several institutions operate their own warehouses (ECX historically, AHXC, AFEX, EAX) while other institutions accredit third parties (ACE, G-Soko, JSE, TWLB). All institutions have warehouses in rural areas, some with focus on rural trading centres (AFEX, EAX, ECX, TWLB) while others have warehouses deeper in the rural areas (ACE, AHXC, G-Soko, JSE).

- **Logistics model** – three institutions have ownership and operate vehicles to support the flow of commodity to and from its markets (ACE, AHXC, AFEX) and five rely on third party service providers (EAX, ECX, G-Soko, JSE, TWLB).

- **Prevalence of mandating** – one institution benefits from state-mandated trade (ECX); another institution has some areas of mandating (TWLB to a certain extent in the cashew sector); while the other institutions are reliant on voluntary approaches.

### 72. Market access models of the institutions also differ. The business model focus for one of the established platforms (TWLB) and two of the newly emerging models (AFEX, G-Soko), is understood to focus overwhelmingly on the aggregation of the commodity from smallholders at the village level. In the case of TWLB this takes place through producer organisations in the cashew and coffee chains, at G-Soko through village aggregation centres supporting the grain trade, and at AFEX through rural collection points – with village aggregation centres also introduced in late 2016 – supporting the grain trade. While for TWLB, coffee sales take place through the Moshi Coffee Auction and cashew sales through direct purchases, for the AFEX and G-Soko structures, the mode of sale for smallholders’ produce is understood for the most part to be a form of private placement – on a spot basis, and at AFEX also on a forward basis – negotiated by the respective institutions with buyers, i.e., OTC, rather than through exchange-based market-discovered transactions per se. These models are accordingly at present performing a service closer to a brokerage or agency function than an exchange function. While the linking of smallholders to off-takers is important and can create meaningful benefits for both buyers and sellers, the absence of an exchange matching mechanism to generate trade also means a lack to date of meaningful price discovery and market liquidity at these institutions.

The market access models of ACE, AHXC and EAX have a hybrid focus on smallholders and traders (large and small). In these exchanges, auction mechanisms link suppliers, including smallholders, small traders and large traders, with large buyers including the World Food Programme (WFP) and, in Malawi, the National Food Reserve Agency (NFRA). In Malawi, the forward contract models of ACE and AHXC – there are variations between these models, but in essence they enable buyers to finance, secure supply and lock in prices over a longer time horizon than spot purchases would allow – also facilitate market participation from both smallholders and small traders. In Malawi, smallholders can supply from village-based warehouses, while traders can supply to warehouses in rural trading centres, urban wholesale markets or to the buyer’s depot. In Rwanda, facilities are understood to be mostly located in rural trading centres. These models – using for the most part auction-based rather than bid-offer mechanisms – have created basic forms of price discovery and market liquidity, reinforced in the case of ACE by rural enumerators who poll prices in local markets.

### 73. Demand-side market development programs can facilitate the launch and development of comex and WRS. In Malawi, WFP coordinated a demand-side market development program, using its procurement footprint to link smallholder farmers to buyers using ACE as a trading platform. WFP was the first large buyer using ACE, and played a key role in the initial development of the comex. As ACE's capacity increased, and ACE was able to show successful transaction records, more and more buyers started to use ACE, thereby increasing sustainability. As such, the share of WFP in the volumes purchased through ACE swiftly started decreasing, going from 62% in 2010 and even 99% in 2015 down to 8% in 2015. This suggests that, medium-to-large-scale buyers, such as WFP or national institutional buyers, such as the national reserves can use their purchasing power to promote the development of comex and WRS as part of a demand-side market development program.
74. The ECX model is a traditional bid-offer market, albeit operating almost uniquely worldwide on a spot rather than a derivatives basis, which controls the value chain by mandating trade through the exchange between coffee processors on the one hand and exporters and domestic buyers on the other. In ECX, coffee farmers sell through designated primary marketing centres to licensed buyers. Processors’ product is aggregated into 5MT consignments, transported to the exchanges’ warehouses in wholesale markets, receipted, and prepared into lots for trade into domestic or export markets through – until late 2015 – an open outcry platform, and latterly through an electronic platform. On the one hand, ECX does discover prices for different coffee varieties in Ethiopia. Moreover, it has taken significant steps to set up price tickers across the country to disseminate its prices, including to farmers, as well as through international platforms, such as Reuters. On the other hand, while there was early acclaim of the exchange’s impact particularly on producers based largely on anecdotal evidence, albeit with murmurings of dissent from traders and buyers, more thorough assessment of the limited data that is made available by ECX has been more critical of its ‘limited impact’ on pricing dynamics in the market, and as a consequence a limited impact on its mission to improve the returns to farmers from their coffee production activities (Hernandes et al., 2015).

75. The JSE offers international-standard derivative bid-offer markets creating the most advanced forms of price discovery and market liquidity on the Continent. The JSE has an overwhelming focus on the commercial farming sector, to which it provides access through arguably the most extensive rural delivery network of silos offered by any exchange worldwide at over 250 locations across the country. Commercial producers can store, finance, hedge and sell based on delivery to these silos. Market pricing is structured around a basis point designated as Randfontein (close to Johannesburg), one of the most liquid delivery centres in the country. However, the market effectively discovers prices for delivery at each of the country’s silo through enabling separate auctions among sellers and buyers to take a collection of the commodity being delivered through the exchange at sites they designate.

76. The African comex and WRS experience, as reflected in the eight established institutions, has revealed a level of innovation to meet the specific needs of stakeholders in their respective markets. With the partial exceptions of the JSE and ECX which offer relatively standard bid-offer structures, the comex and WRS models being developed in Africa are not ‘copy and paste’ replications from outside the Continent. Rather, they appear to be ‘indigenous’ African models that have been shaped to address their local contexts and the specific challenges that exist within those contexts.

- The ACE and AHCX models have innovated ‘bid volume only’ auctions and forward contracts to address the demand from specific types of large buyer, and, thus, found a way to unlock the voluntary participation in their markets of commercial agribusiness – in particular, processors – and food security institutions, to buy smallholder-originated produce through market mechanisms under financing provided by commercial banks.

- The TWLB model has responded to the needs of producers for the financing of cash crops under processing and/or awaiting sale, a model which has now attained nearly 10 years’ track record and the sustained participation of some of Tanzania’s leading commercial banks.

- The AFEX and G-Soko models address the need to create sustainable aggregation infrastructures and linkages from smallholders to large buyers, again with the participation in a financing capacity of commercial banks.

- Even the JSE, its core market operations largely modelled on North American approaches, may be considered innovative through the breadth and functionality of its delivery mechanism relative to international norms, and the high proportion of commodity that is hedged and financed by commercial banks.

- For ECX, innovation is reflected firstly in the application of bid-offer markets to support spot transactions, secondly in the way that the value chain has been transformed through mandating trade at various levels through different channels (for producers through primary marketing centres, for processors through the exchange), and thirdly in the deployment of such a large infrastructure backed by relatively complex grading and logistics systems into an infrastructure-deficient, low productivity environment.
Innovation to promote access to input markets has also been noted at two exchanges, AFEX and ACE. AFEX, working in partnership with the UK's Department for International Development (DFID) introduced in 2015 two products to boost fertiliser usage among farmers it is working with: ‘Grain for Fertiliser’ model – the farmer retains output in the warehouse and swaps outputs for inputs at a market-determined rate agreed with the input suppliers; and ‘Loan for Fertiliser’ model – a microfinance institution, LAPO, finances the farmer backed by a guarantor, with AFEX providing data and intermediating repayment (i.e., a tripartite value chain finance model). In the latter case, loans increased from Nigerian Naira (NGN) 38 million in 2015 with 99% repayment rate, to over NGN 350 million in 2016, with over 60% repayment at end of year, two months ahead of schedule. AFEX are engaging with the Central Bank’s Nigeria Incentive-based Risk Sharing for Agriculture Lending (NIRSAL) to reduce interest rates on these loans by introducing NIRSAL credit guarantees and interest drawbacks.

ACE, through its Chithumba Model, is working with farmers’ organisations, buyers and technical agencies to scale an input financing approach in which participating producers repay in-kind loans by auctioning off a designated quantum of outputs in ACE markets. In this structure, ACE and technical partners appraise producer and producer organisation eligibility based on criteria including capacity, governance and track record, and distribute standardised input packages. Technical assistance is provided on good agricultural practices, through champion farmers running demonstration plots and dissemination of extension messages through the ACE market information system. Training is provided on the ACE WRS and comex, with delivery after harvest leading to compulsory sales of the ‘repayment quantity’ and the option to also auction off the surplus. A pilot in 2015-16 involved 1,000 farmers – 60% of them women – leading to a 95% repayment rates. In 2016-17, the model has been extended to over 4,000 farmers and incorporates groundnut, as well as soyabean.

On a more anecdotal level, impacts are also being seen at the micro-level – the level of the individual producer or enterprise. The box overleaf highlights some individual experiences with various comexes.

Two subjects are particularly important for analysis at the micro-level. These appear to be broadly lacking in the comex literature to date:

- How much value is generated on a transactional basis in terms of an entity’s averaged return on participation in a comex and/or WRS; and
- How has – and more broadly, how can – that value be deployed into transformation-inducing productive investments such as those reflected in the vignettes in Box 2 – expansion of land, acquisition of assets, upgrading of supply capacity, etc., and how sustainable are such deployments

Formalising the data capture at the micro-level of the experiences of individual producers or enterprises ensures a more accurate understanding not only of the transformative potential of comex and WRS, but also where interventions can best be directed to promote market access.

Taking a more critical posture, it is also important to reflect not only on those initiatives that have become established, but also, on initiatives that have not or not yet succeeded. Two sets of initiatives, in particular, cause concern: GCX and TMX, on the one hand, as national initiatives, and EAX and Bourse Africa, on the other, as regional initiatives.

For GCX and TMX, the situations are in multiple ways comparable – two institutions, a long time in the making, which have not yet come to market, despite many of the foundations being put in place. While GCX had a ‘launch’ in 2016, it did not, in fact, become operational, owing to what are understood to be behind-the-scenes structural issues around infrastructure and the mandating of trade. TMX, on the other hand, has not yet formally launched and has seen an extended timetable which has included significant delay since the initiative was first announced in 2010.
On the surface, both initiatives should not have taken so much time getting, at least, to an operational launch. While Ghana and Tanzania, in line with many Sub-Saharan African jurisdictions, face challenges with infrastructure, productivity and capacity, each is, arguably, among the best positioned to succeed with a comex. Each jurisdiction has a range of attractive cash and export chains providing potential breadth and critical mass. Many of these value chains have stable industry governance and representative structures, and have secured the participation of leading national and international agribusiness. Commodity financiers, collateral managers and certification agents are present and active across both countries, underpinned by high prevalence of inclusive financial institutions, including in the microfinance and community finance sectors, often backed by strong donor and non-governmental organisation (NGO) activism. Both countries have seen innovative and inclusive ICT-based ventures – in Ghana through initiatives, such as the Esoko market information platform, while Tanzania has enjoyed the fruits of the East African cellphone success story and a flowering of associated mobile money initiatives.

At the institutional level, both GCX and TMX appear to be in a strong position. They have both benefitted for many years from political support at the highest level, and have had strong foundations put in place through development of policy and regulatory frameworks driven by the authoritative leadership of the securities and exchanges regulator in each country reinforced by work performed by experienced international consultants. Both countries have leveraged the experience of exchange operators with prior track record from Ethiopia, and in both countries, institutional frameworks have been developed to bring into the ownership and governance structures respected public and private sector institutions under public-private partnership (PPP). Finally, both countries have prior experiences – successes as well as learning points – in developing WRS, providing stakeholders with significant exposure and capacity-building around structured trade and finance platforms. In this environment, it is concerning that a comex has not yet emerged – in Ghana, over the course of nine years, and in Tanzania over the course of nearly seven years since the process of institutional development first commenced.

Two broad questions emerge from the GCX and TMX experiences: Firstly, whether, if such institutions have not proven capable of being efficiently established in jurisdictional contexts, as supportive as Ghana and Tanzania, there is a realistic chance they can be efficiently established elsewhere on the continent; and secondly, whether there are specific elements of the essentially similar approaches pursued in these two countries – a government-driven process culminating in a PPP for a centralised and effectively monopolistic, but non-mandated commodity spot exchange – that are sub-optimal when compared with other experiences on the continent or elsewhere, such as the private sector-driven models offered by ACE, AHCX, AFEX, G-Soko and the JSE. Given that these institutions have not yet been operationally launched, is it too early to offer conclusive comments at this time on anything other than an apparently unwieldy implementation process?

81. EAX and Bourse Africa are the two institutions that have attempted, but not succeeded in taking a specifically regional approach to comex development. Neither institution could be classified outright as failing for various reasons. However, neither can be said to have succeeded in their core stated mission to offer regional or continental markets for African commodities.

EAX was launched amid a fanfare of acclaim in the presence of regional presidents from across East Africa and with support from a high-profile mix of private sector promoters. Its operating model blended two proven technology systems, respectively, providing comex and WRS functionalities, and a delivery network, backed by an accomplished South African warehouse management solution. Enjoying the privileges of membership in the East African Community, EAX should have been able to facilitate commodity and financial flows across borders, especially for the commodities that are already traded on a regional basis. However, the reality has been that regional trade flows through the platform have been exceptionally small. Moreover, the East African Community (EAC) as well as national governments in the region – in particular Kenya and Tanzania – remain strongly committed to the development and subsequent regional linking of national institutions, including EAX as the ‘Rwandan’ component. Thus, there appears to be an apparent contradiction at the policy-making level between the initial support for a regional solution implied by presidential attendance at the launch, and the subsequent focus in the region on national institution-building.

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36 In the case of ACE, a pilot has also been undertaken to adapt forward contracts to serve the SME rural processor segment.
Bourse Africa presents a contrasting story. The regional component of the Bourse Africa model focused on derivatives through a continental ‘hub’, whereas the spot trading components were focused on addressing national markets through so-called ‘spoke’ exchanges. Relationships were established to enable cross-border derivative trade based on the capabilities of pan-African clearing banks, with apparent support from brokers in various African jurisdictions. A proven technology platform was reinforced with a continental connectivity strategy. Collateral managers were engaged to manage delivery locations for the various contracts. In theory, market participation by stakeholders from across the continent should have been no more challenging from a regulatory perspective than the existing participation by African financial institutions and corporates in American, European and South African derivative markets. A key challenge was to manage deliveries across borders, which – aside from locating delivery facilities in locations which already received high levels of commodity flow – could in large part have been addressed through an established mechanism in the exchanges industry known as ‘exchange of futures for physical’ (EFP). While a launch took place of a ‘hub’ in Mauritius, it did not perform well, nor did it link to ‘spoke’ exchanges or attract much by way of African transactional flows. The apparent reason for this is a lack of follow through by the private sector promoters – at the time, a major international exchanges group – to give the go-ahead for an implementation of the broader pan-African model.

Two broad questions also emerge from these experiences. Firstly, whether a regionally-integrated approach is possible in Africa, given the experiences above – on the one hand, policy-making contradiction, and on the other, a lack of private sector follow through; secondly, what are the ingredients required to break this impasse – the interlinking of prior established national institutions? The establishment of policy frameworks and underlying regulatory models that allow institutions to be regional from inception? And/or other mechanisms for directing transaction flow cross-border? This subject will be addressed further in Section Six below.

Both sets of issues are addressed below in the strategy proposed for the Bank and its partners.

82. Aside from the areas of underperformance noted above, there are several notable gaps in the African comex terrain. There has been an absence of solutions to address certain important value chains identified as priorities in the Bank’s agriculture strategy. Entire sub-sectors have not been addressed including livestock, fish and horticulture, as well as forestry products. Of these, livestock and forestry products have been traded on comex in global experience, and there is no reason why Africa’s comex sector could not create solutions for these sub-sectors. Fish and horticulture are much less prevalent. Fish may, in principle, be easier to address, at least in processed form. Horticultural chains tend to exhibit high product perishability and accordingly are much more challenging to serve, especially in light of the general deficiency of cold chain infrastructure and the prominence of vertically integrated value chains across the sector. The other Bank priority commodity that has not been addressed as yet by African comex is cassava, though undoubtedly the potential is large, likely in semi-processed form such as flour, starch, chips or crisps. Some activity with rice has been seen in Malawi, but this is relatively nascent. However, rice has been historically a challenging commodity to trade through an exchange due to high levels of diversity in quality grade and variety.

83. The two most important gaps are arguably (i) the absence of regionally integrated approaches in the context of national markets that are relatively small in international terms; and (ii) the absence of exchange-traded derivatives – commodity, or for that matter, financial – across the Continent, other than in South Africa. Regional integration has been explored above. Multiple implications arise from the pursuit of national rather than regional approaches to date. The first implication is about the lower scale and higher transaction costs from acting nationally rather than regionally, especially given the economics of a comex as a largely fixed cost business. High transaction costs undermine the business case for a comex to all potential stakeholders. The second implication is about stimulating regional and global market integration – in practical terms, the capacity of producers to sell into a wider market and leverage the consequent scale benefits to improve competitiveness and invest in expansion, the capacity to increase food security through improved distribution of surpluses and deficits, and the capacity of processors to source sufficient raw materials to more efficiently utilise plant and equipment. The third implication is the challenges with sourcing sufficient liquidity – and a sufficiently diverse pool of participants – to create fair, efficient and competitive markets for raw and processed commodity, in particular derivative but also spot.

See UNCTAD (2009b).
G-Soko:

Returns on Participation in the Market: The Kipchamo Poverty Eradication Programme is a community-based organisation (CBO) in Kenya which has participated in the Eastern Africa Grain Council’s structured grain trading system, G-Soko. Comprising 645 female and 170 male members, the CBO were able to store in a certified warehouse, operated by an agribusiness, in a nearby town 48MT in 2013, 75MT in 2014 and 84MT in 2015 taking finance on the inventory, and selling later for prices that were 22, 27 and 20 percent higher than the harvest price in the respective years.

Productive Investments: From the higher sales proceeds arising from the deferring of sales until later in the season, the CBO increased acreage from 35 to 60 acres.

ACE – Producer Story:

Returns on Participation in the Market: The Mwandama Farmers Organisation (MFO) in Southern Malawi was formed in 2005 under the Millennium Village Project. MFO benefitted from a warehouse with 2500MT capacity, which was accredited under the ACE WRS. Over five seasons, MFO sold its grain through ACE, most often under WFP Purchase for Progress (P4P) tenders, and has in total been awarded 11 contracts for a total of 750 MTs of maize, with cumulative value USD 176,000. The years 2009 and 2010 were particularly beneficial. In 2009, the farmers collectively stored 1,500MTs of maize in its warehouse. By waiting eight months into the season, prices had risen 49%, and MFO made a profit of 11 million Malawian Kwacha (MWK). In 2010, the farmers collectively stored 900 MTs of maize. By waiting nine months, prices had risen 51%, and MFO made a profit of MWK 18 million.

Productive Investments: MFO used the sales proceeds towards construction of a small-scale maize mill for MWK 7 million, purchased a 7MT truck for MWK 6.5 million, and opened up a shop. All three investments have been used to serve not only MFO, but also other communities and business-people in the area. These assets have provided revenue streams and cashflow to support the organisation, which, in turn, provides a range of services to farmers and rural households in the community.

ACE – Processor Story:

Returns on Participation in the Market: Nkhotakota Milling Company (NMC) is a SME rural rice processor located in the central region of Malawi. The company processes rice which it markets into domestic retail channels. A major bottleneck for NMC has been working capital. Financing constraints had meant that NMC could only procure small volumes for processing – up to 5MT of paddy rice at any one time. NMC had to process the paddy, sell it into the retail market and receive payment prior to procuring the next tranche. This had resulted in processing peaks and troughs, which in turn impacted NMC’s capacity to supply retailers with a steady volume, rendering it a less competitive supplier compared with larger domestic competitors and Asian imports.

Productive Investments: Using ACE’s forward contract facility, the commodity that is aggregated and awaiting processing can itself be financed, unlocking extra cash earlier in the cycle to expand NMC’s aggregation capacity more than six-fold beyond 30MT. With greater flows, it has been able to secure new contracts, make supply arrangements with large Malawian supermarkets, and, in a very limited sense, substitute for Asian imports.

While such vignettes are anecdotal and should be treated as such, if they can be substantiated through more scientific forms of analysis, micro-level experiences can play an important role in shedding light on some of the levers of agricultural transformation which are affected by the emergence of comex and WRS across Africa.

Two subjects are particularly important for analysis at the micro-level. These appear to be broadly lacking in the comex literature to date:

How much value is generated on a transactional basis in terms of an entity’s averaged return on participation in a comex and/or WRS; and

How has – and more broadly, how can – that value be deployed into transformation-inducing productive investments such as those reflected in the vignettes in Box 2 – expansion of land, acquisition of assets, upgrading of supply capacity, etc., and how sustainable are such deployments

Formalising the data capture at the micro-level of the experiences of individual producers or enterprises ensures a more accurate understanding not only of the transformative potential of comex and WRS, but also where interventions can best be directed to promote market access.
84. The absence of commodity – or for that matter, financial – derivatives, with the exception of South Africa, represents a major gap in Africa’s commodity and capital markets. The implications have been explored extensively in the Study’s Inception Report, Background Report and above. At a high level, this absence is identified to have led to the persistence of a low investment, low return strategy by value chain players in the face of high historic price volatility posing risk they are unable to mitigate. Specifically, it includes a lack of capacity by all players to forward plan so as to lock in sufficient revenue cover for investments whether at farm, community or enterprise level; an inability of commodity financiers – including WR financiers – to manage or hedge their exposures against price and market risk; hurdles for off-takers – be they an agribusiness, a parastatal, or a food reserve agency – to offer sustainable market-based and market-supported forward or minimum prices that better allow producers to invest in inputs or equipment; and the lack of an efficient mechanism to reduce through arbitrage the market pricing anomalies that may exist over time, over space, or across value chain processes.

85. Even at the level of Africa’s existing spot comex, there has been arguably insufficient focus on creating market liquidity and price discovery benchmarks. This is not only due to the absence of derivatives but also in some part, due to a greater prioritisation by some African comex on linking smallholders to markets than on creating market liquidity and price discovery benchmarks around which value chains can organise, even on a spot basis. Both types of activity are important, and criticism is in no way implied of actions taken to address the pressing needs of Africa’s smallholders. Rather, it is important to understand the distinction between these two types of activity, that one does not automatically follow from the other, and understand how both can be pursued in tandem.

Price discovery is a public good – by definition, it is non-excludable – and, therefore, it may be argued that investments into price discovery are among the most inclusive of possible investments. The creation of price discovery mechanisms is a function of high volumes – or liquidity – of buyers and sellers transacting around a common ‘basis’ (i.e., a contract specification which inter alia specifies a standard quantum and quality of commodity and location of delivery). Market liquidity is also a public good, not only because it is a necessary condition for price discovery, but also, in its own right, as a liquid market generates lower transaction costs that also serve to make markets more inclusive. Linking smallholders to markets implies managing fragmented flows from diverse production areas, sometimes in small volumes, and often to different buyers in different locations. In practice, this is what ACE, AHCOX, AFEX and G-Soko have been doing, whether through ‘bid volume only’ auctions, forward contracts, or OTC brokered sales.

To align these factors requires leveraging – or creating – a highly centralised location with high volume of flows around which other locations can then be linked through either fixed or market-determined transportation differentials. This kind of model is an area in which the JSE is a world-leader, not only by establishing a delivery network of over 250 sites, but also, by putting in place a mechanism for market discovery of transportation differentials to more effectively spatially integrate the physical markets.

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*The selection of institutions from which these anecdotes are sourced has been driven by the availability of information. Other institutions may have generated comparable impacts.


*Hernandes et al. (2015), in its analysis of ECX, warns against the danger of reliance on anecdote. Nonetheless, it is also observed that many organisations, active in promoting the comex and WRS sector, are eager to capture personal ‘success stories’. Such stories can be an effective tool for building, among a wider audience, a broader understanding of the impacts – or intended impacts – of relatively sophisticated institutions, such as comex and WRS. Perhaps, the lesson, then, is that trouble should be taken to ensure that where anecdotal evidence is used, it is used to supplement and illustrate rather than to replace more scientific forms of analysis.

*To a certain extent, the NCX, UCX and BM&J exchanges, respectively, in Nigeria, Uganda and Mozambique, and long-standing, but as yet fruitless initiatives in Kenya and Zimbabwe, also fit this mould. However, it is argued that, the terrain and foundations in Ghana and Tanzania are the most conducive, and hence, here used as examples.

*In (65)-(68) above, TMX is considered a pipeline initiative, likely to launch in the next 12 months, while GCX is considered an initiative understood to require significant work and/or structural adaptation before they can become operationally effective. The reason for the differentiation is that, TMX is understood to have aligned to the main structural parameters but, because it has not as yet attempted a launch, it is unknown whether there remain further structural issues that will constrain its operational effectiveness. The country mission report suggests there is a possibility further issues will emerge, in particular, given an apparent lack of private sector buy-in. By contrast, GCX have attempted launch and discovered such issues, which have prompted calls for assistance from government, inter alia, to ‘mobilise’ liquidity through mandating trade.
There are two further implications that can be identified from pursuing smallholder market linkages without also focusing on market liquidity and price discovery. Firstly, there are high risks to smallholders from selling commodity into illiquid markets – commodities could sit unsold in warehouses for long periods, or be sold at a significant discount to prices that may be achievable in other locations. Secondly, it is not clear that facilitation of market linkages alone can support the emergence of a viable business model for an exchange. Thirdly, it is not clear that such an approach can create value for private sector unless:

- it is done on a bilateral OTC basis without some of the ‘process overheads’ typically associated with an exchange – as is being demonstrated by AFEX and G-Soko;
- it is conducted on a forward basis as performed by ACE, AHCX and AFEX, which help increase the security of supply for agribusiness beyond what they can achieve through engaging with prevalent approaches involving small trader procurement and rural collection centres.

86. Further to the preceding comment, it is noted that the commercial potential of the African comex sector remains unclear. The level of commerciality in the sector remains hard to generalise, although it is understood that few institutions have yet reached breakeven. Four metrics pertaining to commerciality may be identified – owners and ownership model, funding model, business model, and historic profitability.

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Note: dark green indicates fully commercial; light green indicates semi-commercial; white indicates non-commercial.

Of the eight established initiatives, only the JSE can be identified as being unambiguously commercial across all four metrics: a private sector profit-maximising ownership model, funding purely from commercial sources, providing a portfolio of purely commercial services, and generating a historic track record of profitability.

AHCX is privately owned by a Malawian company, AHL Group, which in turn, comprises shareholding from both public and private sector. AHCX is understood to be run on a profit-maximising basis with funding purely from commercial sources, providing a portfolio of purely commercial sources. Its profitability position is unknown, but is understood not yet to have achieved breakeven after several years of operations.

AFEX and EAX are both privately owned by Africa Exchange Holdings Ltd., an institution with four owners with mixed commercial and impact objectives, although the overall balance of these objectives with respect to the two exchanges is unclear. Funding for both exchanges has included significant donor contributions. Their services are understood to be offered on a commercial basis, and AFEX – the Nigerian entity – is understood to have achieved profitability from its activities, with the position of EAX unconfirmed, but understood to be not yet at breakeven.

ACE is a hybrid commercial business and developmental trust, which seeks both commercial revenue and developmental impact. Its funding has originated through donor sources, retained profit and commercial bank financing for purposes of WR lending. Its services include commercial components, such as receipting, financing, and trading, and non-commercial components, such as rural price polling, price dissemination and wide-scale training. The profitability position of ACE is unclear, as financial reporting does not, at present, separate out the costs between those that support donor-funded developmental activities and those that support commercial revenue streams.
G-Soko is operated by the EAGC, which is a member-owned NGO that represents the grain sector. G-soko is understood to be a service rather than a separate entity. Having enjoyed sizable donor funding, it is not clear the extent to which G-Soko is being run commercially, nor on the profitability position of EAGC from offering G-Soko.

ECX and TWLB are both state-owned, although the former positions itself as a PPP. Both initiatives have benefitted from significant donor support, and neither are understood to have achieved breakeven despite having relatively lengthy track records by now.

It seems probable that the unclear commerciality in the sector to date is linked to the aforementioned prioritisation for linking smallholders to markets over creating market liquidity and price discovery. By equalising the quest for market liquidity and price discovery as an imperative alongside linking smallholders to markets, it is likely that greater commerciality will emerge in the sector.

87. Also linked to the aforementioned question of commerciality is the nature and limitations of private sector participation in African comex/WRS to date. Firstly, it is important to emphasise that private sector have engaged with and participated in African comex and WRS:

- The JSE is almost exclusively used by the commercial value chain, while commercial financiers and investors are also active.
- More controversially, ECX has benefitted from the mandating of coffee through the exchange, which has brought together processors, domestic buyers and exporters through the platform.
- ACE and AHGX in Malawi have seen private sector participation selling through ‘bid volume only’ auctions, in particular, to the WFP and the NFRA. Importantly, over the last three years, the two exchanges have also unlocked significant private sector participation as buyers under forward contracts. Arguably, these contracts, which constitute hybrid procurement, financing and risk management instruments, provide sufficient value to motivate private sector participation, as compared with the instruments that were previously offered – i.e., purely spot procurement contracts – which had not generated significant participation.
- In the case of AFEX and G-Soko, the purchases by private sector are understood to be based on private placement through bilateral sale on a spot basis, and for AFEX also a forward basis. These bilateral sales are essentially a brokerage function rather than an exchange function that would be performed through the kind of multilateral market mechanisms usually associated with a comex.
- In summary, there is minimal evidence of private sector voluntarily buying on a spot basis through an African comex. Rather, the procurement instruments that seem to have attracted private sector are either forward or derivative instruments (JSE, ACE, AHGX, AFEX) or bilateral OTC deals (G-Soko, AFEX).
- Further to the analysis emerging out of the international assessment, particularly with respect to the experience of Eastern Europe and Central Asia, a review of African experience provides no clear evidence that a standardised spot model can create sufficient value to justify private sector participation.
88. It is also noteworthy that, only in Malawi has there been genuine direct competition among comex, namely, ACE and AHCX. It is likely that the innovation shown by the Malawian exchanges – particularly with the emergence of forward contracts – is no coincidence, but rather, the result of the competitive dynamic stimulating heightened responsiveness by the exchanges to the needs of stakeholders. The development of G-Soko across East Africa may generate similar gains. Already, the platform is emerging as a competitor with EAX in the region and particularly in the latter’s home-base of Rwanda. Potentially, with EAGC expanding southwards into Malawi, G-Soko could also come into competition with ACE and AHCX, not to mention with the government-driven comex initiatives in Kenya and Tanzania. In theory, AFEX competes with the much older NCX in Nigeria, but in practice NCX remains moribund at present time despite long-standing intentions by government about restructuring and revitalisation.

89. The role of donors in promoting African comex and WRS has been extensive. Estimates of the quantum of donor funding for ECX vary, with some suggestions that total funding may even have exceeded nine digits in USD terms. It is clear that almost every aspect of ECX has been donor funded, with contributions from a wide range of bilateral, multilateral and philanthropic organisations. Donors have also provided generous funding for AFEX despite deep-pocketed private sector ownership, with such funding covering core systems, as well as physical infrastructure such as warehouses and trucks. Donors have also funded large-scale systems development for G-Soko in East Africa. ACE in Malawi has enjoyed relationships with multiple donors. Some funding has gone into the ecosystem – for example, capital grants for farmer-owned warehousing has accounted for a significant proportion. However, funding has also been used to support development-focused personnel, including large teams of rural enumerators and trainers. A risk-sharing guarantee from USAID has also stimulated development of WR financing in the country.

In the context of questions about commerciality and competition, as the African comex sector expands, consideration on the appropriate role and focus of donors will become increasingly important. What expenditures should donors be funding – both those of the institution, and those in the enabling ecosystem – only developmental, or also commercial, and can a clean dichotomy be created between them? Are cross-subsidies from one to the other catalytic or counter-productive? What other instruments can be brought to bear by the development community, and on what terms? Importantly, what should be the price – not only in terms of impact, but also in terms of the leeway allowed for commerciality in the business model focus – for donor support? More broadly, is there a danger that the availability of donor funds may make institutions more responsive to donors than to the underlying market they serve? If so, does it undermine business model development in the sector? A carefully calibrated role for donors is reflected in the strategy for the Bank and its partners proposed below.

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*Of the other Bank priority commodities, some or all of maize, wheat and soyabean are traded at the JSE, ACE, AHCX, AFEX and EAX. Sahelian commodities, including sorghum, millet and cowpea, are traded – albeit in small volume – at AFEX. Of the cash and export crops, coffee and cashew are the most prominent commodities served by respectively ECX and the TWLB, with TWLB also doing some volumes of coffee as well. Cocoa and cotton are understood to be hedged and traded on a derivative basis by African value chain players, mainly, the multinationals, through established international benchmark venues, and it is likely – although not known for certain – that similar activity takes place with palm oil, using the Bursa Malaysia benchmark.*
SECTION THREE: LESSONS OF EXPERIENCE, INCLUDING DRIVERS OF SUCCESS AND FAILURE

This section attempts to tie together the key lessons emerging from the diagnostic component of the Report before transitioning to the strategy proposed for the Bank.

90. Much of African experience with comex and WRS appears to have focussed on trying to ‘crack’ the model for unlocking smallholder market linkages. ECX in the spot context have generated significant volumes around a model that may be considered the traditional bid-offer structure. It has, undoubtedly, benefitted from the government mandating trade. Does mandating represent a model that can be taken forward? The Eastern European experience suggests not – there appears to be simply too many pitfalls and dangers. And as earlier argued, it appears only in such a situation that a ‘market access institution’ could conceivably reduce market access for stakeholders through outright value destruction. However, as also stated, this is not to provide a blanket condemnation of those jurisdictions or institutions that have chosen to mandate participation in a comex or WRS. Rather, it is to set the bar high and to emphasise the need for measurement, transparency and ongoing analysis.

Otherwise, the experiences of other established platforms that have developed without the cover of mandating – ACE, AFEX, AHXC, G-Soko and TWLB – appear positive. The volume performance on these platforms appears meaningful, even though in each case performance appears to have addressed only the tip of the proverbial iceberg in terms of total market potential. These platforms serve diverse constituencies, including smallholder farmers, which makes the volume performance all the more impressive. Commercial market buy-in has also been obtained – commercial financiers are financing on the back of WRs issued by most of these institutions, and commercial agribusiness are both buying and selling under defined circumstances. The instruments that are offered are understood to be adapted to their contexts, including original models innovated by these institutions that are not simply replications from other places. Of particular interest, experience – albeit still nascent – is building around two institutions, ACE and AFEX, that are going beyond the traditional output market-focus of comex to also promote development of exchange-facilitated input markets.

91. However, while good progress appears to be being made, many of these platforms are still young. Three tests lie on the road ahead:

- Time is the first important test. Institutions must demonstrate their robustness to handle various stresses arising from cycles and volatilities in the economy, the policy-making environment, the climate, and commodity markets at global and local level.

- A second test is scalability – can infrastructures expand, volumes grow, financial exposures multiply without compromising the performance levels or integrity of these institutions?

- A third test is sustainability – in particular commercial, but also ESG-related. As noted, it is not yet clear that many of these institutions have yet unlocked a mechanism for not just creating but also capturing sufficient value to continue operating without the need for extraneous financial support, be it from promoters or donors.

As such, it would be premature to proclaim any of these models as the African model around which replication efforts must be focussed. Arguably, such a proclamation would, in any case, be unwise – in practice, it could create monoliths without the necessary dynamism or flexibility to respond to the different needs of different stakeholders in different markets, and to changing needs over time.

92. Rather, credible institutions need to be supported appropriately without imposing constraints on their capacity to continue growing, innovating, learning, measuring and improving. This includes, as mentioned, an imperative to analyse impact at a micro-level the amount of value that is being created; and then how that value is deployed into transformation-inducing productive investments (expansion of production, improvement of productivity, moving up the value chain, etc.). The emerging body of evidence may be used to guide the innovation of new solutions that further enhances value creation and unlocks transformative outcomes.
93. More broadly, even if these established institutions withstand the three tests identified above, would the continuation and even scaling of these models be sufficient to stimulate Africa’s agricultural transformation? It is here argued that Africa’s comex still need to move up two more levels.

94. The first extra level is price discovery. The models referenced above may standardise the quality of commodity traded in the market, but they do not standardise the location, the trading unit or the settlement modality to create a credible trading ‘basis’. In other words, they do not create meaningful pricing benchmarks around which the value chain can organise.

Price discovery is a public good – by definition, it is non-excludable – and, therefore, it may be argued that investments into price discovery are among the most inclusive of possible investments. A spot price benchmark is useful – as the basis for negotiating transactions, for example of smallholder producers with traders; and for marking to market exposures, for example, of WR financiers, or of commodity buyers that have pre-financed smallholders. A forward price benchmark is more useful still, providing a sounder basis for investment planning by enabling not only the projection, but also often – through the associated futures instruments – the locking in of a return on investment. In other words, the spot price benchmark creates transactional value, the forward price benchmark stimulates transformative investment.

As has been argued, greater prioritisation appears to have been paid in the African context to linking smallholders to markets than on creating price discovery benchmarks. This may be understandable – the needs of Africa’s smallholder farmers are pressing – but it is not enough.

Rather, it is important to ensure a price discovery and market liquidity imperative supplements the smallholder market linkages imperative that appears to have prevailed to date. This can be done by leveraging – or creating – centralised location(s) with high volume of flows around which other locations can then be linked through either fixed or market-determined transportation differentials.

To do so, deploying incentives may be preferable to mandating participation – carrots rather than sticks. Incentives can transform the value equation to promote higher returns on participation from stakeholders through comex and WRS than through other channels.

However, it is important to be clear on the conditions when such incentives may be justified – after all, comex may not always and everywhere be the optimal channel for trade. Clause (40) above argued that, if analysis can objectively confirm in defined circumstances that comex and WRS create more value for producers than other mechanisms, and/or if they are confirmed to be more broadly catalytic for agricultural transformation, this may justify putting in place incentives to adjust the value equation for agribusiness accordingly towards stimulating greater use of comex and WRS.

95. The second and final extra level to which the African comex space needs to reach is derivative markets. This view is in line with AfDB (2014): “while there is no ready rule on how an exchange should start, there is, however, a rule on how it should end – with futures contracts … If an exchange wishes to start with spot contracts, this should be just a temporary phase in the exchange’s development, and exchange management needs to set out a path towards a more comprehensive product offering.”

Evidence from the Country Reports (see Annexure IX) suggests, in particular, that a forwards offering is attainable in African contexts and adds sufficient value to draw in voluntary private sector participation – thus, introducing forwards may be a positive short-term step that can be encouraged for the EPIs.

There should also be the space created for new initiatives to come into the terrain, bringing in derivatives markets from inception. Again, per AfDB (2014), “As the experiences of many exchanges demonstrate, there is no “sequencing rule” – first spot, then forward, then futures. Decisions on sequencing have to be made pragmatically …”. In other words, while there is no implication that the introduction of futures instruments to existing initiatives has to be immediate if not justified by the market context, at the same time, there is no implication that futures instruments have to be unnecessarily deferred either: bringing in futures may also be a good starting point for some institutions.
96. In the African context, it is here argued a derivatives development strategy cannot succeed unless accompanied by a framework to allow for regional and multi-asset approaches. With a few exceptions – perhaps, only South Africa, Nigeria and Egypt – it is unlikely that national jurisdictions provide sufficient scale to support liquid derivatives markets. Even some regions may struggle. Derivatives market development in both India and China were accompanied by an integration strategy that catapulted comex from both jurisdictions from the sub-national to the national level. Given the relative size of individual African jurisdictions to the much larger continent-sized jurisdictions of China and India, the equivalent strategy for Africa is to catapult derivative comex from national to the continental level – even a regional scope may not be sufficient.

In a similar vein, given that a derivatives exchange is a relatively high fixed cost but versatile infrastructure, it does not make sense to limit that infrastructure to support only one type of commodity or asset. A railway line or an aircraft does not carry only cargo or only passengers, but a combination of the two. A cellphone network does not carry only voice or only data, but a combination of the two. It is no accident that globally, exchanges are known as ‘market infrastructures’. Thus, it follows that a derivatives exchange infrastructure should be deployed as broadly as possible to reduce transaction costs and stimulate liquidity. To facilitate this end, steps should be taken to overcome the existing policy and institutional silos that separate advancement of diverse sectors including agriculture, energy, metals and minerals, and the financial sector.

97. The achievements and gaps in the African experience, amid consideration of the broader international situation, are taken forward to shape the strategy proposed through this Study for the Bank and its partners on how to support the sector going forward.

- To augment the achievements, there is a strategic imperative to deploy sectoral promotion measures – investment, policies and capacitation – to support continuing growth, innovation and nurturing of smallholder market linkages.
- To fill in the gaps, there is also a special additional thrust required to deploy sectoral promotion measures – investment, policies and capacitation – that create price discovery, market liquidity, and the emergence of derivatives and regional approaches to institutional development.

Based on the above argumentation, then, a framework to promote transformative agricultural market access through comex and WRS in Africa can aim towards three goals:

**AMASS Objective One: Support continued sectoral growth and evolution**

Credible EPIs are supported to grow, innovate, learn, measure and improve to unlock for stakeholders increased transactional value and transformative investment;

**AMASS Objective Two: Build price discovery and market liquidity**

A price discovery and market liquidity imperative is put in place to supplement the smallholder market linkages imperative that is understood to have prevailed to date;

**AMASS Objective Three: Create space for viable African derivatives exchanges**

A strategic effort is put in place for developing African derivative markets based on regional and multi-asset market integration.

The strategy, proposed for the Bank and its partners in Part Two of this Study Report, takes these three objectives as its starting point.
The strategy proposed for the Bank and its partners to promote agricultural market access in Africa through comex and WRS – henceforth referred to as the Agricultural Market Access Sub-Strategy (AMASS) – and the sectoral promotion measures undertaken as part of AMASS are premised on four analytical foundations.

Foundation One: Strategic Objectives

The diagnostic component of this Report in Part One culminates in an identification of the three overarching objectives for promotion of agricultural market access in Africa through comex and WRS.

Foundation Two: Ten Guiding Principles

Guiding principles emerge from analysis of sectoral performance in Africa to date against the backdrop of international experience. The purpose of the principles is to guide targeting of sectoral promotion measures (‘AMASS Products’), the structuring of each product, and their packaging into a coherent overall strategy.

Foundation Three: Targeting of Sectoral Promotion Measures (‘AMASS Products’)

In the section below, a structured diagnostic is performed in the African context of the pillars and building blocks from which comex and WRS are built, as the means to identify, package and ‘productise’ measures required to overcome the bottlenecks faced by comex/WRS on the Continent.

Foundation Four: Mapping Bank Instruments

The financial instruments of the Bank are mapped to AMASS Products through new Special Fund financing structures established to channel bank resources and ‘crowd in’ additional financing resources from co-investors into agricultural market access in Africa.

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98. Although limitations on the role of buyer intermediaries has been noted in the cashew chain served by WLB.
99. With the partial exception of TWLB in the cashew chain.
The application of the four foundations results in the two main organising dimensions of AMASS. The first dimension comprises a range of sectoral promotion measures, the AMASS Products, that emerge the structured diagnostic performed below. Each product comprises a coherent package of investment, policy and capacity-building interventions implemented by the Bank and its partners that is tailored to overcome the bottlenecks faced by comex/WRS in Africa.

The second dimension comprises two workstreams, through which these Products are deployed, each Workstream framed to address the strategic imperatives identified above.

- CORE – Comex Reinforcement Programme, comprising eleven AMASS Products with the objectives to support EPIs to grow, innovate, learn, measure and improve to unlock for stakeholders increased transactional value and transformative investment (AMASS Objective One), and to promote creation of price discovery benchmarks and market liquidity (AMASS Objective Two).

- ADDED – Africa Derivatives Development strategy, comprising twelve AMASS Products with the objective to create space for viable African derivatives exchanges based on regional and multi-asset market integration (AMASS Objective Three).

For both workstreams, the approach is based on an incremental, phased country buildout – in the case of CORE, structured around providing support to EPIs at a national or regional level (see Principle Three below), in the case of ADDED structured around creating an initially small but steadily growing integrated African space comprising those RMC and REC jurisdictions willing to participate that have sufficient readiness to support the introduction of derivatives comex.

Implementation is recommended to be coordinated by a cross-sectoral Comex/WRS Information Unit (CIU), as detailed further below.

The proposed implementation modalities are presented in Section Nine.

FOUNDATION ONE: STRATEGIC OBJECTIVES

99. As concluded above, a strategy to promote transformative agricultural market access through comex and WRS in Africa can aim towards three goals:

AMASS Objective One: Support continued sectoral growth and evolution
Credible EPIs are supported to grow, innovate, learn, measure and improve to unlock for stakeholders increased transactional value and transformative investment;

AMASS Objective Two: Build price discovery and market liquidity
A price discovery and market liquidity imperative is put in place to supplement the smallholder market linkages imperative that is understood to have prevailed to date;

AMASS Objective Three: Create space for viable African derivatives exchanges
A strategic effort is put in place for developing African derivative markets, based on regional and multi-asset market integration.

FOUNDATION TWO: TEN GUIDING PRINCIPLES

100. Based on review of international and African experience, the following guiding principles are recommended to underpin AMASS for the Bank and its partners:

Principle One: Achievability
The scope of a pan-African strategy is by its nature ambitious – the Continent is large, diverse and complex. However, all Bank strategies are by definition pan-African in scope, and prior experience with continental frameworks such as CAADP show that positive results can be generated. In order to ensure achievability through AMASS, two sub-principles are emphasised: that all programmatic actions and initiatives provide scope for customisation to specific national and regional contexts; and that each workstream will take an incremental, phased country buildout based on the willingness and readiness of each RMC and REC.
Principle Two: Value-Driven and Evidence-Based

The framework for identifying and prioritising policies, investments and capacity-building measures to promote market access should be driven by considerations of value. For the purposes of AMASS, all stakeholders are considered to be business-oriented decision-makers whose prism of analysis is the return on their investments. In this light, inclusivity measures – such as, smallholder market linkages – just as much as commercial measures should be aimed at increasing returns from market participation for those stakeholders in some way marginalised or excluded from markets.

The advantage of a value-based definition of market access promotion is that, the impacts of measures undertaken to promote market access can be projected and then quantified – on a transactional basis in terms of an entity’s averaged return on participation; and on a transformative basis in terms of the extent to which the added value is deployed into productive investment. Accordingly, measures undertaken under AMASS should formalise data capture at the micro-level relating to the experiences of individual producers or enterprises for purposes of carefully calibrating and enhancing over time, the transformative impact of those measures.

Principle Three: Focussing Support on Credible Anchor Institutions (CAIs)

Not only investments, but also policy and capacity-building measures undertaken under AMASS should be structured around CAIs – comex and WRS institutions or initiatives which meet certain basic conditions such that AMASS support measures are likely to yield value creation and transformation over more than just a short-term time horizon. Key principles to ascertain credibility, as applied pragmatically by appropriate experts to any given institution in line with its operating context, are proposed to include:

- **Track record**: a track record of integrity and improving performance over time; or when still in implementation phase, a credible business plan presented by promoters with demonstrable integrity and capability to operate an exchange, backed by participation commitments from key stakeholders (physical infrastructure operators, brokers, banks, technology vendor(s));

- **Commerciality**: a requirement – whether on a for-profit or non-profit basis – to reach financial breakeven within an appropriate medium-term timeframe after operational launch;

- **Commitment**: a majority of total capital requirement to reach financial break-even is committed by or taken on at risk by promoters;

- **Sustainability**: a clearly-defined approach is articulated towards the promotion of positive ESG outcomes;

- **Autonomy**: ownership and management arrangements that are arms-length from political agencies;

- **Governance**: appropriate and transparent governance arrangements are in place;

- **Responsiveness**: appropriate modalities are in place for ongoing consultation and feedback from stakeholders;

- **Oversight**: regulatory oversight is in place, as appropriate for the context;

- **Transparency**: open publication of core market information and institutional performance data;

- **Monitoring**: an agreement is in place to allow for projection and measurement of impact around all AMASS interventions taken in support of the institution.

Principle Four: Agnosticism between types of structured trade platform

However, no prescription or limitation should be made under AMASS that CAIs need to conform with any formal or traditional definition of WRS and comex beyond a basic minimum: for comex, an institution which facilitates rule-based trade and settlement of commodity inputs or outputs, or instruments linked to them; for WRS, an institution which accredits warehouses with the intent they issue some form of institutionally-recognised WR that may be used for purposes of financing and/or trading through the system. The purpose of this principle is to endorse and encourage the process of innovation by African comex and WRS to develop models best tailored to work in the local context.
**Principle Five: Alignment with Bank Strategy**

Measures undertaken under AMASS should be aligned with Bank strategy at two levels – to support realisation of the enablers in the Bank’s agriculture strategy with particular focus on Bank-identified priority value chains; and more broadly to address the wider Bank ‘High Five’ priorities in which the agricultural imperative, ‘feed Africa’, sits alongside the energy imperative, ‘light up and power Africa’, the resourcing imperative, ‘industrialise Africa’, the regional integration imperative, ‘integrate Africa’ and the inclusivity imperative, ‘improve the quality of life for the people of Africa’.

**Principle Six: Additionality**

Measures undertaken under AMASS should not be merely doing more of the same that other agencies or institutions are already undertaking, but rather to bring in new instruments, tools, products and approaches that complement the existing body of activity.

**Principle Seven: Promoting Price Discovery and Market Liquidity, as well as Smallholder Linkages**

As per analysis under Part One, measures undertaken under AMASS should promote price discovery and market liquidity as a key imperative not only for the commerciality but also the inclusivity of African comex and WRS. Price discovery and market liquidity are public goods – by definition, they are non-excludable – and therefore it may be argued that investments into price discovery and market liquidity are among the most inclusive of possible investments. Moreover, investment into price discovery can yield both transactional value and transformative investment. Thus, price discovery and market liquidity should be seen not merely as an alternative but also a supplement to measures undertaken to promote smallholder linkages.

**Principle Eight: Carrots Rather Than Sticks**

Measures undertaken under AMASS should wherever possible include components that incentivise rather than mandate or otherwise compel market participation. These incentives should be structured around transforming the value equation arising from participation in markets – either by reducing the costs to participate, increasing the returns from participation, or mitigating the risks from participation – so as to contribute towards price discovery, market liquidity and/or smallholder linkage outcomes.

**Principle Nine: A Coherent Philosophy on Deployment of Grant and Concessional Monies**

Approaches should be coordinated with donor and development agencies – including the African Development Fund based on its Debt Sustainability Framework methodology, other grant and concessional funding windows available within the Bank, as well as at partner and third party institutions – to utilise grant and concessional monies for two definitive purposes: firstly, to fund technical assistance activities in the spheres of policies and capacity-building measures; secondly, to transform the value equation to encourage market participation by stakeholders in WRS/comex – with the aim of creating market linkages when targeted towards smallholders and other marginalised or excluded entities, and with the aim of nurturing price discovery and market liquidity when targeted towards entities controlling large volumes of commodity flow or large infrastructures which, if integrated into comex and WRS, could make a significant addition thereto.

**Principle Ten: Competition**

Measures undertaken under AMASS should promote rather than restrict competition in a market between multiple comex and WRS. Competition is an effective mechanism for maintaining pressure on institutions to continue being responsive to the needs of their stakeholders, to raise their performance levels over time, and to innovate new solutions that create value and stimulate transformation. Conversely, deployment of grant and concessional monies to de facto or de jure monopolies is likely to undermine institutional responsiveness, performance and innovation over time and is recommended to be avoided.
Components of Comex and WRS

101. Conceptually, a domestic comex and WRS comprises three pillars, while those that operate across borders include a fourth conceptual ‘regional pillar’. Each pillar comprises building blocks that represent the components the institution needs to arrange in order that it can provide products and services to the market.

The conceptual framework presented above comprises the components that any comex or WRS institution needs to address, irrespective of scope or instrument. The framework is here utilised for purposes of performing a structured diagnostic in the African context as the means to identify, package and ‘productise’ policy, investment and capacity-building measures required to overcome the bottlenecks faced by comex/WRS on the Continent.

Before doing so, a brief explanatory note is provided:

Of the four pillars depicted above, the institutional pillar represents the market access institutions themselves. Measures to support the institutional pillar constitute direct engagement and support for those institutions.

The physical market, financial and regional pillars together comprise the enabling ecosystem. Measures to support these pillars seek to strengthen the conduciveness of the ecosystem to promote market access through comex and WRS. Each building block includes ecosystem elements that – often, but not always – are beyond the direct ownership or control of the comex or WRS. Rather, the comex or WRS sets rules, conditions, or accreditation and compliance criteria to align the conduct and performance of controllers of these elements with the operations and integrity of their markets.

A challenge emerges. Interventions as part of a comex/WRS sector promotion strategy to support the development of ecosystem elements would be similar in nature to existing interventions already being undertaken to develop agricultural value chains without any specific consideration for their impact on comex and WRS.
A question that arises, therefore, is: how can interventions in the enabling ecosystem be differentiated from existing interventions so as to be specifically catalytic for promoting market access through comex and WRS?

- For example, policies, investments and capacity-building measures are already being taken to support development of Africa’s agricultural processing, warehousing and transportation infrastructure. Should such investments merely be continued and increased in order to promote comex and WRS? Or, is there some different way or alternative approach to investing in processing, warehousing and transportation infrastructure that would be specifically catalytic to the promotion of market access through comex and WRS?

- Similarly, there are already at present significant efforts being made to capacitate Africa’s smallholder producers and their representative organisations to perform aggregation, finance and marketing functions. Should such efforts merely be continued and increased in order to promote comex and WRS? Or, is there some different way or alternative approach to capacitating producers and their organisations that would be specifically catalytic to the promotion of market access through comex and WRS?

It is here argued that, differentiation of measures to promote market access through comex/WRS can be achieved with three goals in mind, as per Principle Seven above: the promotion of price discovery, market liquidity, and creating smallholder market linkages.

Consequently, a number of the AMASS Products that emerge to support the enabling ecosystem under the CORE Workstream are carefully targeted towards strategic entities that either control large volumes of commodity flow (irrigation scheme operators, lead firm agribusiness, agro-processing firms, food reserve agencies) or control enabling infrastructure (warehouse and logistics operators) which, if integrated into a comex or WRS, could make a significant addition thereto in terms of market liquidity and thereby create the conditions in which price discovery can best emerge.

These AMASS Products – seven in total (see below) – are known as ‘market-access-oriented’ products, and are framed around value-based incentives. They are designed to transform the level of value realisation through appropriately structured and calibrated incentives in the financing package by which concessionality – i.e., a reduction or ‘softening’ of interest rates, for example by incorporating grant components into the funding mix or by the application of lower risk premiums and financing spreads – is built into the terms of financing in return for beneficiaries’ commitments to use market mechanisms, or to integrate or structure infrastructure around market mechanisms. The specific level of concessionality – i.e., the amount of grant funding or the level of reduction of risk premiums/spreads – should be set according to the level required to transform the value equation so that a beneficiary makes higher positive averaged returns on market participation through a comex or WRS compared with using other channels.

Seven of the twenty AMASS products under the CORE workstream are configured in this way:

- Product (1): Market Access-Oriented Irrigation Scheme Investments
- Product (2): Market Access-Oriented Value Chain Input and Mechanisation Finance Facility
- Product (3): Market Access-Oriented Agribusiness Park and Agro-Processing Investments
- Product (5): Market Access-Oriented Commercial Warehousing Investments
- Product (6): Market Access-Oriented Rural Warehousing and Rural Service Hub Investments
- Product (7): Market Access-Oriented Logistics Efficiency and Enhancement Programme (LEEP)

While these seven products represent tweaking of existing kinds of investment to incentivise market access through comex/WRS, the other thirteen AMASS Products represent largely new interventions targeted at catalytic touchpoints to support the growth and development of the African comex/WRS sector.
PILLAR ONE – PHYSICAL MARKET PILLAR

102. The physical market pillar comprises the activities performed along the agricultural value chain – production, aggregation and value addition – to create raw or processed product that can be graded, weighed, and stored in an accredited warehouse, and against which a WR can be issued. The end result of Pillar One is stored quality-standardised commodity under WR that can be financed through a WRS and traded and/or hedged through a comex under Pillar Three.

103. Building Block A: Aggregation and Value Chain Flows

Description: This building block comprises value chain activities. A comex or WRS must determine which links in the chain to serve – from producer or aggregator to trader, and/or to processor, processor to manufacturer, distributor, wholesaler or end user, etc.

Policies: Relevant policies include sectoral frameworks and regulations that license, enable, oversee, link or capacitate value chain players to perform their activities, and the broader food security, agricultural marketing, rural livelihoods, agricultural research, capital markets and investment frameworks that shape how they operate.

Investments: Relevant investments include capital investments to support value chain players’ activities, such as land, irrigation, farm equipment, processing plant and supporting infrastructure; and working capital to support purchase of inputs, raw materials, hire labour, and cover the costs and overheads associated with operating equipment.

Capacity: Relevant capacity-building measures include efforts to promote and enable each value chain player to perform their economic activity in line with defined best practices, including good agricultural practices as applied to the value chain, and/or to promote productivity and resilience in the chain.

Recommendations for AMASS:

- Product (1): Market Access-Oriented Irrigation Scheme Investments
- Product (2): Market Access-Oriented Value Chain Input and Mechanisation Finance Facility
- Product (3): Market Access-Oriented Agribusiness Park and Agro-Processing Investments

The Bank is optimally positioned to spearhead capital investment into African primary agriculture and agro-industries through the Agriculture and Agro-Industries Department (AHAI) under the framework defined in the Bank’s Agriculture Strategy, working with the Private Sector Development Department (PISD) to facilitate private sector-focused investments, and the Water and Sanitation Department (AHWS) on irrigation. Such investments, when structured appropriately around CAIs, can be leveraged to promote market access.

In all four of the identified AMASS products, funding is targeted towards entities controlling large volumes of commodity flow – irrigation scheme operators, lead firm agribusiness, agro-processing firms, food reserve agencies – which, if integrated into comex and WRS, could make a significant addition thereto in terms of market liquidity and thereby create the conditions in which price discovery can best emerge. In the case of (3) and (4), agribusiness parks and food reserve agency depots could also become comex delivery points, i.e., basis locations around which price discovery benchmarks are structured.

Under each product, capital investment – including through balance sheet, project financing, equity and quasi equity structures – is recommended to be backed by a working capital facility to promote financing of stored commodity under WRS, and a capacity-building facility to promote and enable stakeholders to participate advantageously in comex and WRS. Investments under each product may be targeted towards Bank-identified priority value chains.

The specific premise by which Products (1), (2) and (3) become ‘market access-oriented’ is that concessionality – i.e., a reduction or ‘softening’ of interest rates, for example by incorporating grant components into the funding mix or by the application of lower risk premiums and financing spreads146 – is built into the terms of financing in return for beneficiaries’ commitments to use the market mechanisms offered by a CAI (e.g., a processor to agree to procure through a comex/WRS rather than through traders or rural collection depots). The specific level of concessionality – the amount of grant funding or the level of reduction of risk premiums/spreads – should be set according to the level required to transform the value equation so that a beneficiary makes higher positive averaged returns on market participation through a comex or WRS compared with using other channels.
Underlying this approach is also the thinking that at time of establishment, there are fewer, if any sunk costs already made by beneficiaries into adoption of alternative non-comex/WRS based approaches for procurement, sales, financing or trading. Thus, the marginal costs of using an efficient comex or WRS may at this point in time be significantly lower relative to those of establishing alternative non-market based approaches. Indeed, the premise of this investment is that by integrating the beneficiary with the CAI as the asset is established, they will sink cost into comex/WRS participation so that the possibility of later migration to alternative channels becomes less attractive.

Product (4) – focussed on institutional buyers and humanitarian agencies – is slightly different. Rather, it is based on a broader programme to transform institutional buyers such as food reserve agencies or school feeding programs to act in a way that stimulates comex/WRS development, a pathway already well-trodden for example by the WFP – identified as a catalyst for comex development in jurisdictions such as Malawi, Zambia and Ethiopia. It is recognised that these institutions – particularly national food reserve and marketing agencies – require not only funding to perform their role, but also changes to the policy framework and mandates under which they operate, and capacity-building to utilise effectively comex and WRS mechanisms.

While all four products may be positioned to stimulate flows into both spot and derivative markets, Product (2) in particular is designed to stimulate futures market activity. It promotes hedging by ‘lead firm’ agribusinesses that are conducting contract farming and outgrower arrangements to enable them to sustainably offer equitable forward pricing to producers. The aim is to provide concessional terms for the related value chain finance schemes – to support increased use of inputs and equipment – as well as the lead firm agribusiness’ own working capital needs, but contingent on the agribusiness hedging through a CAI the exposure to price risk arising from offering a forward price. This product may be linked with the African Fertilizer Financing Mechanism (AFFM) which is aimed specifically to promote fertilizer supply and use. Funds proposed to be made available through the AMASS Special Funds (see Section Five) may be blended with AFFM funds to increase the resources that can be brought to bear under this Product.

While Product (3) is focused squarely on the commercial value chain, Products (1), (2) and (4) also include components to promote market linkages for smallholders. Irrigation schemes represent one of few sustainable structures around which the fragmented small-scale production of smallholders can be consolidated into volumes sufficiently large to be meaningful for market liquidity. Lead firm agribusinesses are those that are contracting with and typically financing smallholders’ use of inputs and equipment. Food reserve agencies in Africa typically include a mandate to procure from smallholder farmers and a readiness to offer better terms on such purchases. Accordingly, these products are configured to address the smallholder market linkages imperative as well as the price discovery and market liquidity imperative.

Proposed bank ownership: AHAI, with PISD
Proposed partner roles:
FAO to play an important role developing the framework for market access orientation of food reserve agencies under (4). FAO to lead on capacity-building under (1), AGRA to lead on capacity-building under (3), and both organisations to support (2). UNECA to lead on gender inclusiveness under all products.

Settlement refers to both financial settlements – of monies due to the seller from the buyer, and commodity settlements – of commodities due to the buyer from the seller. The definition incorporates the settlement component, because platforms which only offer trade without settlement are unlikely to create sufficient value to act as CAIs. However, the more sophisticated clearing requirement – including management of collateral to underpin exposures – is not included in the definition, though it is recognised that more mature and evolved institutions will offer this function.
104. Building Block B: Quality Standards

**Description:**
This building block represents the quality benchmarks that comex and WRS put in place to provide specificity to the commodity – raw and/or processed – to be traded or financed. The primary purpose of standards is to ensure that supply conforms with the qualitative product requirements of buyers (primarily, these are product standards, but they may also include fairtrade, organic and traceability requirements) or of jurisdictions (i.e., SPS). However, adoption of such standards by a comex or WRS also enables such trade or finance to take place on a sight unseen basis, and for some – but not all – chains to promote the fungibility of the commodity being stored, traded or financed. Particular quality challenges also arise that severely affect performance, and, consequently, viability of trade and finance under comex and WRS in one or more value chains. A prominent example is aflatoxin contamination. Special initiatives – including investment into testing equipment and capacitation of stakeholders – may be required to address such challenges.

**Policies:**
Relevant policies include development, promotion and harmonisation of standards within country, regionally across borders, or internationally between producer and consumer markets.

**Investments:**
Relevant investments include capital investments into testing, grading and certification equipment and laboratories to be deployed along the value chain, and working capital to cover the costs and overheads of operating the aforementioned.

**Capacity:**
Relevant capacity-building measures include efforts to raise awareness about and enable value chain participants – producers, traders, processors, manufacturers, etc. – to deliver a product that complies with defined standards in order to access finance and/or markets.

**Recommendations for AMASS:**
- **Product (14):** Fund for Taking Equity in New Contract Development (TEND-F)

Activities to support quality standards development, promotion and harmonisation in Africa are already prevalent on the Continent. They already take place under the auspices of national bureaux of standards, RECs, industry associations, technical and research agencies, and through a dedicated African intergovernmental organisation – the African Organisation for Standardisation (ARSO), created by the Organisation of African Unity (predecessor organisation to the African Union) and UNECA in 1977.

As such, it is not recommended for AMASS to duplicate the efforts already being undertaken, or to frame a new strategy for tackling standards issues that may be at odds with existing strategies. Rather efforts to support quality standards development are recommended to be carefully integrated into the AMASS Product (14), the Fund for Taking Equity in New Contract Development (TEND-F) for Bank-identified priority value chains. This product is described in more detail under the ‘WRS/delivery platform’ building block below. Funds obtained under TEND can be used to support quality standards development at a domestic or a regional level. Focus of quality standards development within the broader product development process for contracts traded on a comex or financed under a WRS has the advantage of closely integrating the activity within the broader effort to generate multi-stakeholder buy in and transactional activity around the new standards.
105. Building Block C: Infrastructure

Description:
This building block represents the storage and logistics infrastructure that supports value chain stocks and flows. Storage is particularly important to comex and WRS. For comex, the storage location together with the quality standard are the two most important definitional components of the ‘basis’ against which prices are referenced. For WRS, the condition and location of storage, as well as the credibility of the storage operator, determines whether financiers have the confidence to accept the stored commodity as good collateral to support a loan. For both types of institution, comex and WRS, scientific storage is required to ensure preservation of the commodity throughout their respective transaction cycles. Logistics infrastructure is also required to promote the movement of commodity along the chain, into and out of the designated production, aggregation, storage, processing and consumption locations. Experience suggests that expensive, inefficient or unreliable transportation can represent one of the major barriers to securing a positive return on market participation. Collateral managers have played an important role to date in African value chains – particularly for higher value cash crops – managing stocks and flows of commodity along the value chain, and facilitating the financing of export deals and some of the larger domestic aggregation or inventory finance transactions under tripartite collateral management agreements (CMA) with a financier and an agribusiness. While finance through WRS offers an alternative to finance under CMA, it can potentially provide a new role for collateral managers as operators of public warehousing accredited under WRS.

Policies:
Relevant policies include sectoral frameworks and regulations that license, enable, oversee, or capacitate storage and logistics operators, and the broader food security, agricultural marketing, industrialisation, transportation, trade, regional integration, capital markets and investment frameworks that shape how they operate.

Investments:
Relevant investments include capital investments into different kinds of storage ranging from standard warehousing and covered yards, to more specialist grain silos, silo bags, bunkers, tanks for storage of oils and other liquids, and vaults for storage of precious metals, as well as the accompanying equipment and technologies of each; capital investments into transportation vehicles, hubs, depots and heavy infrastructure (road, rail, port, airport), as well as the accompanying equipment and technologies of each; and working capital to cover the costs and overheads of operating, securing and insuring the aforementioned.

Capacity:
Relevant capacity-building measures include efforts to promote and enable usage of storage by value chain participants inter alia to reduce post-harvest loss, to ease the flow of goods to market over the course of the season, to maintain reserves and inventories, as well as to promote and enable good warehousing practices by warehouse operators; and efforts to promote efficiency, managerial competence and good practices within the logistics sector.

Recommendations for AMASS:

- Product (5): Market Access-Oriented Commercial Warehousing Investments
- Product (6): Market Access-Oriented Rural Warehousing and Rural Service Hub Investments
- Product (7): Market Access-Oriented Logistics Efficiency and Enhancement Programme (LEEP).

The Bank is optimally positioned to spearhead capital investment into African storage and logistics infrastructure through AHAI under frameworks defined in the Bank’s Agriculture Strategy as well as through the Bank’s Transportation and ICT Department (OICT), working with PISD to facilitate private sector-focused investments. Such investments, when structured appropriately around CAIs, can be leveraged to promote market access.

In all three of these products, funding is targeted towards entities controlling infrastructure – warehouse and logistics operators – which, if integrated into or structured around comex and WRS, could make a significant addition thereto in terms of market liquidity and thereby create the conditions in which price discovery can best emerge. In the case of (5), commercial warehousing locations – particularly at wholesale markets or export locations – could also become basis locations around which price discovery benchmarks are structured.
Under each product, capital investment – including through balance sheet, project financing, equity and quasi equity structures – is recommended to be backed by a working capital facility to promote financing of stored commodity under WRs, and a capacity-building facility to promote and enable stakeholders to integrate infrastructure advantageously into comex and WRS frameworks. Investments under each product may be targeted towards Bank-identified priority value chains.

The specific premise by which the products are ‘market access-oriented’ is that concessionality is built into the terms of financing in return for beneficiaries’ commitments to integrate or structure infrastructure around the market mechanisms offered by a CAI. The specific level of concessionality should be set according to the level required to transform the value equation so that a beneficiary makes positive averaged returns by integrating the infrastructure into a comex or WRS.

Product (7) with focus on the logistics sector is more broad-ranging than the others. As well as the investment capital, working capital and capacity-building components, it also includes a component to facilitate emergence of regional cross-border solutions and also ‘freight exchange’-type solutions. A freight exchange can generate a similar set of benefits and provide a similar set of services for the logistics sector – the carriers or sellers of freight, and the buyers or shippers – as a comex does for the value chain participants: transparency, price discovery, utilisation and allocation of capacity, signals to trigger investment, price risk management.

While Product (5) is focussed squarely on the commercial value chain, Products (6) and (7) also include components to promote market linkages for smallholders. Rural warehousing and rural service hubs are necessary rural infrastructures to bridge the last mile, and also to ensure that the value addition realised by smallholders and other rural actors from participation in comex and WRS can be deployed into productive investments such as inputs and equipment. Further, it is recommended to provide for additional concessionality to facilitate logistics investments under Product (7) tailored to promote smallholder market linkages in rural areas. Accordingly, these products are configured to address the smallholder market linkages imperative as well as the price discovery and market liquidity imperative.

Proposed bank ownership: AHAI, with PISD and PICU
Proposed partner roles: ITC to play an important role developing the business models and facilitating SME participation in rural service hubs, logistics business models and sectoral analysis. and freight exchanges. AGRA and FAO to lead on capacity-building under (5) and (6). UNECA to lead on gender inclusiveness under Products (6) and (7).

\*Such reduction in risk premiums or spreads may be acceptable to development finance institutions, based on the developmental profile of certain investments. Alternatively, they may be justified through the AMASS programmatic structure in which EPIs and PAEs need to fulfil certain eligibility and compliance requirements to qualify for these products. This in practice is likely to reduce the risk financing EPIs, PAEs, and their stakeholders.
PILLAR TWO – FINANCIAL PILLAR

106. The financial pillar comprises a functional banking system within which financial institutions can finance the value chain, effect payments to perform financing, settle transactions through a national and/or regional payments system, and intermediate trade between the comex and its community of end users through a community of brokers. The end result of Pillar Two is the availability of the range of financial services required to support WRS financing and comex trade under Pillar Three.

107. Building Block D: Banking System

Description: This building block comprises a network of financial institutions – licensed bank and non-bank financial institutions – whose basic function is to take deposits and make loans, but also provide associated services, including the facilitation of payments, guarantees, investments, trade and markets.

Policies: Relevant policies include banking sector legislation and regulations that license, oversee, develop or capacitate bank and non-bank financial institutions, and the broader financial sector development, financial technologies, financial inclusion, capital markets and investment frameworks that shape how they operate.

Investments: Relevant investments include capital investments to develop bank infrastructure, technologies and capabilities; wholesale funding facilities; and working capital to cover the costs and overheads of operating, securing and insuring the aforementioned.

Capacity: Relevant capacity-building measures include efforts to support development of new relationships, products, services, technologies, distribution arrangements, operations, credit, treasury and risk management processes, and regulation and compliance procedures around WR finance, hedging and other commodity finance and risk management services. On an institutional level, the staff of banks that finance WRs need to be trained to support the mainstreaming of comex/WRS-enabled products and services into the bank’s offering.

Recommendations for AMASS:

- Product (8): Bank Market Enhancement (BME) Programme

The Bank is optimally positioned through the Financial Sector Development Department (PIFD) under the framework defined in the Financial Sector Development Strategy, and working together with AHAI, to spearhead a multi-faceted programme to enable commercial banks to sustainably participate in comex in various capacities: as WR financiers, as settlement agents, as clearing and custodian institutions, as brokers, as investors, as providers of guarantees and other collateral credit enhancement and risk mitigation instruments. While fundamentally a capacity-building measure, participating banks may also be provided with funding lines to support WR financing, margin financing, clearing capital and guarantees, and other comex-directed activities. It would be essential to align BME activities with NIRSAL/replications in countries where they are in place.

Proposed bank ownership: PIFD with AHAI
Proposed partner roles: AGRA and FAO to support with bank rural services strategy around comex, ITC to support bank outreach efforts to SMEs
108. Building Block E: Payment System

**Description:**

The Bank for International Settlements (BIS) defines a payment system as "a set of instruments, banking procedures and, typically, interbank funds transfer systems that ensure the circulation of money" (BIS 2003). A payment system, particularly under Real Time Gross Settlement (RTGS), is crucial to ensure timeliness and finality of payments from buyers to sellers of commodity under comex spot and forward contracts, loan disbursement and repayments under WR financing, and the more complex 'margin' deposits and settlements required to support derivative transactions.

**Policies:**

Relevant policies include payments systems legislation and regulations that license, oversee, develop or capacitate licensed payment systems and payment system participants, including but not necessarily limited to the interbank payments systems.

**Investments:**

Relevant investments include the capital investments to support the development of technologies and capabilities by payment systems operators and participants, and working capital to cover the costs and overheads of operating the aforementioned.

**Capacity:**

Relevant capacity-building measures include efforts to enable payment system participants to understand, implement and comply with evolving legislation and regulation, and to adopt and adapt to evolving technologies and processes.

**Recommendations for AMASS:**

- N/A

Payments system development is addressed by banking regulators and goes beyond the scope of comex and WRS. The licensing as payment systems of comex-affiliated clearing and settlement platforms such as CCPs may be required in some jurisdictions to create the appropriate pre-conditions to protect against risks arising from the default or insolvency of a participant within the system through measures such as finality of settlement and the recognition of netting and offsets with respect to CCP collateralisation and settlement processes. However, this area does not justify a specific intervention and may be incorporated under regulatory support measures detailed below.

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*See above.*
109. Building Block F: Brokerage Network

Description:
Brokers are intermediaries that link end users – i.e., buyers and sellers – into a comex and potentially a WRS. Almost all mature comex are broker-intermediated. Brokers act as the 'distribution network' to market the comex to its end users, facilitate the flow of orders into the market, support commodity and financial flows between the comex and end users, and manage – as well as stand good for – the risks associated with the end users’ participation.

Many brokers are also among the largest traders and dealers in the market. Participants that take speculative positions add liquidity to the market, albeit that such activities must be subject to careful regulatory checks and oversight which are applied based on international standards defined by IOSCO. Such regulation has two functions, to control speculation from becoming excessive thereby detaching it from the supply and demand fundamentals, and to deter, detect and penalise market abuses through illegal and manipulative practices.

Market-making and arbitrage are not speculative activities, but specialist functions performed by market participants that promote appropriate liquidity conditions. Market-making enables buyers and sellers to be confident they can cost-effectively and instantly enter and exit positions, an activity which does not affect market price but simulates the liquidity conditions that facilitate increased market participation. Arbitrage is an activity that supports price discovery by removing pricing anomalies and distortions – over time, between locations, along the value chain – through the simultaneous purchase and sale by the arbitrageur of positions in linked markets. While arbitrageurs also add significant liquidity to the market, their other important role is to prevent speculation taking the market away from the fundamentals.

Policies:
Relevant policies include securities legislation and regulations that license, oversee, develop or capacitate brokers, dealers and end users, and the broader financial sector development, financial technologies, financial inclusion, capital markets and investment frameworks that shape how they operate.

Investments:
Relevant investments include capital investments to develop infrastructure, technologies and capabilities of the different actors; wholesale funding facilities, for brokers which fund their clients market positions or collateral, and/or for market participants needing investment capital to fund their market activities; and working capital to cover the costs and overheads of performing the aforementioned functions.

Capacity:
Relevant capacity-building measures include support for business model transformation to establish the rural brokerage capability, and capacitation for brokers and their clients to develop new trading strategies, relationships, products, services, technologies, distribution arrangements (in particular in rural areas), operations and risk management processes, and regulation and compliance procedures.

Recommendations for AMASS:
- Product (9): Rural Brokerage and Inclusive Connectivity and Technology Incubation Fund (RUBICON-F)
- Product (10): African Market Maker and Arbitrage Fund (AMMA-F)

A rural broker is an entity that specialises in linking rural stakeholders, including potentially smallholder farmers and/or their organisations, to comex and WRS. The Indian comex experience suggests the rural broker is a key mechanism for creating smallholder linkages. The functions provided by the rural broker can go beyond the traditional execution and advisory functions of brokers to include aggregation, post-harvest services, certification, logistics and storage. A range of organisations can perform the rural broker role – traders, agro-dealers, ‘lead farmers’, farmer or community associations, microfinance institutions, and established stockbrokers. In India, in particular, the transformation of rural market traders into brokers is understood to have generated significant inclusivity and liquidity flow from the rural areas. To nurture the emergence of rural brokers, there is a need to provide a combination of seed capital, business model advisory, technologies, and capacity-building measures.

Much of the success from rural brokerage will depend on leveraging inclusive connectivity and technology solutions, including data, satellite, mobile and handheld solutions. Hence, Product (9), the RUBICON Fund, is structured as an incubation fund that has a mandate combining equity and quasi equity investment into rural brokers with equity and quasi equity investment into companies developing inclusive market access connectivity and technology solutions.
As described above, market-making and arbitrage are specialist functions within exchange markets that promote appropriate liquidity conditions to stimulate market participation and appropriate price discovery. Outside of South Africa, performance of market-making and arbitrage does not have high prevalence among African financial institutions and investors, yet there is a need to create these specialist capabilities to provide African comex with a similar array of liquidity enhancement options that are available for comex in other regions. Hence, Product (10) – AMMA-F – is positioned as a fund structure that combines capital investment – debt and equity – to support acquisition of the necessary technologies, wholesale working capital funding mechanisms to promote market participation in market-making and arbitrage capacities, and capacity-building solutions to build the necessary skillsets among the African financial and investment communities.

Proposed bank ownership: PIFD with AHAI
Proposed partner roles: UNECA to lead under (9) on innovation and technology; ITC to lead on (9) with respect to business model advisory; AGRA and FAO to support capacity-building under (9). UNECA to lead on gender inclusiveness under (9).
PILLAR THREE – INSTITUTIONAL PILLAR

110. The institutional pillar comprises those institutions which facilitate the finance and trade of commodities – being the comex and WRS – supported by an appropriate legal-regulatory framework to ensure the rights and obligations of all parties are known and are enforceable, and risks duly managed.

111. Building Block G: Legal-Regulatory Framework

Description:
The legal-regulatory framework within which a comex operates, including the scope and powers of a designated public regulatory authority, is a key institutional building block. Per the global standards for regulation as defined by the International Organisation of Securities Commissions (IOSCO), regulation has three aims: to ensure markets are free, fair and competitive; to protect investors; and to ensure the stability of the broader financial and economic system.

Legal-regulatory frameworks need not necessarily be only external to a comex – an institution’s own rules and bylaws, overseen by the institution in the capacity of a self-regulatory organisation (SRO), can be and have proven to be valuable in standard global practice. Mature regulatory frameworks therefore tend to enshrine a division of labour between an external public regulatory authority and an SRO acting as a ‘frontline regulator’.

Regulations – whether grounded in legislation and/or in the rules and bylaws of the institution, be it public regulatory authority or SRO – ordinarily define, inter alia: the constitution of the regulatory authority; a licensing regime for various types of market actor (i.e., exchange, clearinghouse, depository, broker); compliance requirements; a code for the conduct of business; requirements for specific processes such as listing, trading, clearing, settlement and delivery; and offences, sanctions, arbitration and judicial procedures.

A WRS sometimes although not always also operates under a legal-regulatory framework which would usually include similar provisions as comex regulation with additional components sometimes including definition of rights and obligations of parties to a WR as a document of title, and a regime for the regulatory oversight of warehouses.

Policies:
Relevant policies include securities, capital markets and commodity sectoral legislation and regulations that license, enable, oversee and capacitate market infrastructures and participants, including with reference to international standards including those issued by IOSCO and the BIS; policies to develop, promote and harmonise regulations within country, regionally across borders, and internationally through instruments including the IOSCO Multilateral Memorandum of Understanding; and policies that promote broader commodity sector, financial sector and capital markets development frameworks within which they operate.

Investments:
Relevant investments include capital investments to develop technologies and capabilities; and working capital to cover the costs and overheads of performing regulatory functions.

Capacity:
Relevant capacity-building measures include efforts to enable regulators to develop, implement, and harmonise legislation and regulations within country and cross-borders, and for regulated entities to understand, implement and comply with legislation and regulations.

Recommendations for AMASS:
- Product (11): Regulatory Integration - Pan African Exchange Regulatory Council (PAERC)
- Product (12): Capacity-Building on Adoption of International Best Practices

The first regulatory product proposed under AMASS is promotion of the regulatory development and harmonisation process to support the Africa Derivative Development Workstream (see Product 16 below), creating an initially small but steadily growing integrated African space to support the emergence of Pan African Exchanges (PAES) – derivative exchanges with mandate and license to provide markets, create price discovery and build liquidity on a Continental scale.
The objective is to provide the regulatory underpinnings to support realisation of the vision expressed in the Bank’s Financial Sector Development Strategy 2014-19 for a "regional approach ... which will allow for greater cross-border access to investors and issuers, help broaden the investor base and product range [with] greater liquidity, scale, and capacity [putting] Africa in a position to integrate with the global market." It is recommended for the Bank through the CIU (see below) to act as secretariat for the Pan African Exchange Regulatory Council (PAERC), comprised of securities regulators and central banks from participating jurisdictions.

The second regulatory product proposed under AMASS is an ongoing capacity-building programme to identify, diffuse and capacitate African public regulatory authorities, SROs and central banks on global best practices. Research, white papers and periodic seminars are intended to build on the Bank’s prior efforts, enshrined in the First African Workshop for Regulators of Derivatives and Commodity Exchanges (Gaborone, Botswana, 2012) and the subsequent Guidebook on African Derivative and Commodity Exchanges (2014), to promote understanding and adherence to international standards through adoption of appropriate policies, legislation and institutional mechanisms including interventions such as white papers, regulatory roundtables, international study tours and training programmes. A key sub-component of this activity would be to provide knowledge support for central banks and other regulators in RMCs to play an active role enabling bank participation in Comexes and WRS, including to support and (co-)finance innovations to integrate commodity assets and financial markets and increase market liquidity. A key theme addressed under this product would include regulatory frameworks to support comex-enabled cross-border flows, financial and physical.

Proposed bank ownership: PIFD with PITD
Proposed partner roles: UNECA to lead under (11) on identifying regional integration bottlenecks with respect to on the one hand commodity and on the other hand currency, capital and tax bottlenecks. UNCTAD may also play an important role in delivering this product.

119. Building Block H: WRS / Delivery Platform

Description: A deliberately broad and versatile definition of a WRS / delivery platform is adopted for purposes of AMASS: a platform, working within an institutional framework, which accredits warehouses with the intent they issue some form of institutionally-recognised WR that may be used for purposes of financing and/or trading through the system. The purpose for this broad-ranging definition is to endorse and encourage the process of innovation by African comex and WRS to develop models best tailored to work in the local context.

Policies: Relevant policies include frameworks for development of agro-infrastructure, and infrastructure more broadly, and the policy frameworks for food security, trade, commodity finance, financial inclusion and livelihoods promotion.

Investments: Relevant investments include the capital investments to support the development of technologies and capabilities by WRS operators and participants; and working capital to cover the costs and overheads of operating the platform.

Capacity: Relevant capacity-building measures include efforts to raise awareness, promote and enable stakeholders – in particular, value chain participants, financiers and warehouse operators – to participate in WRS, and to diffuse standards and best practices on, inter alia, warehouse management, collateral registration and perfection, insolvency, default and dispute resolution mechanisms that will facilitate the extension of WR financing.

Recommendations for AMASS:
- Product (13): Commodity Market Infrastructure Investment Fund (MII-F)
- Product (14): Fund for Taking Equity in New Contract Development (TEND-F)
- Product (15): Comex/WRS Information Unit (CIU).

Products (13), (14) and (15) span Building Blocks H (WRS Platform) and I (Trading, Clearing and Settlement Platform).
MII-F is intended to facilitate direct equity, quasi equity and debt investments into the institutions that are operating or intend to operate comex and WRS— including depositories, clearinghouses and market information systems—referred to here by the international standard terminology, a ‘market infrastructure’. Eligibility takes as a foundation the criteria identified to qualify as a CAI, with strengthened requirements for commercial performance, corporate governance, a clear understanding of the value addition from funding by the Bank, prospective exit strategy, and compliance with the Bank’s ‘know your client’ requirements, as well as Bank policies, such as those pertaining to anti-money laundering and financial crime, terrorist financing, sanctions, environment, social and gender issues. Specific parameters relating to maximum equity holding, debt ceilings, and investment structuring would be devised in line with Bank norms, as adapted for the sector. Parameters would also be devised concerning the taking of positions in entities competing in the same jurisdiction(s). In principle, as a development financier with strong internal governance mechanisms, it should be acceptable to take minority positions in competing organisations. This product would synergise with Product (16)—the Africa Derivatives Development Workstream. Consortia seeking to promote a PAE as envisaged under the strategy would qualify for access to the MII funding window, subject to meeting defined eligibility criteria.

As well as creating scope through Product (13) within AMASS for investment at institutional level, scope is also provided through Product (14) for investment into specific value chains served by a comex and WRS, with focus targeted towards Bank-identified priority value chains. The rationale is that the value chains prioritised by the Bank may not in some instances be the most commercially lucrative for which the comex/WRS can develop solutions—for example, due to higher costs (product development, marketing and distribution), higher risks, or less certain revenue potential. Therefore, the availability of external funding from the Bank backed by broader support measures (see below) is intended to transform the value equation to boost the prioritisation by comex and WRS to serve the priority chains.

Funding provided by the Bank under this Product may be deployed to support a range of expenditures usually incurred during the product development and management processes at comex and WRS. These expenditures may include: market/value chain analyses; stakeholder engagement; product marketing; quality standards development at domestic or regional level; infrastructure development; technology development; regulatory structures; market information dissemination; product governance; capacity building; facilitating cross-border structures, processes or arrangements; and fees associated with market-making and other services required to support the contract and its liquidity.

This approach is in line with an established practice in the comex sector for revenue-sharing arrangements. In such arrangements, an exchange collaborates with third parties for development of a new product and/or management of that product once launched. The Bank may consider taking quasi-equity or entering revenue-sharing arrangements in which its upfront investment is compensated through an actual share of revenues from the product (i.e., trading, clearing, receipting, storage, financing and/or data-vending fees), or other metrics as may be agreed.

Broader support measures for TEND Fund investments are recommended. These include working capital provisions for WR finance, margin finance (futures) and technical assistance to raise awareness and build capacity along the value chain and among other market participants and stakeholders.

Product (15)—the establishment of a Comex/WRS Information Unit (CIU) is intended as the overarching coordination unit for implementation of the AMASS Strategy. As well as overseeing implementation of the CORE and ADDED Workstreams, the CIU would also develop the appropriate materials, analysis, case studies, application templates and training resources to support awareness-raising, buy-in and demand for each AMASS Product.

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11 While this product is focused on banks specifically, it is noted that separate products cater to non-bank financial institutions (Product 9) and other financial market participants (Product 10).

12 It is noted that the IFC operates the Global Warehouse Finance Programme (GWFP), a component of which includes capacitation of banks to perform WR-based lending, whether under collateral management arrangement or through WRS. The BME programme proposed here is intended to be more broad-ranging than the GWFP with a focus on supporting diverse forms of participation in comex. Nonetheless, the Bank and its partners may consider the IFC a partner for implementing the BME.

In addition to the coordination function, the CIU is structured to address three challenges:

Firstly, the CIU is positioned to address the lack of centrally compiled, publicly accessible, regularly updated and independently validated market information and institutional performance data on Africa’s comex and WRS institutions – a service required to ensure price discovery represents on the Continent a public good in the most maximal sense possible, to inform stakeholders of trading and financing opportunities in Africa’s comex and WRS institutions, and to confirm the credibility of institutions based on objective and transparent tracking of performance over time. For EPs and PAEs, sharing of data with the CIU would be a condition of eligibility as a CAI to participate within the Bank’s AMASS strategy. To develop the capabilities to perform these roles, the Bank can leverage its current Global Programme for Improving Agricultural Statistics and Rural Development housed in the Statistics Department (ESTA). Data compiled by the CIU may be potentially integrated into the Bank’s African Financial Markets Initiative (AFMI) platform.

Secondly, the CIU fulfils the need identified in this Study to deploy analytical capability to assess the impact of comex and WRS institutions at the micro-level. In so doing, it will address at least two important questions: how much value is generated on a transactional basis in terms of an entity’s averaged return on participation; and how has – and more broadly, how can – that value be deployed into transformation-inducing productive investments: expansion of land, acquisition of assets, upgrading of supply capacity, etc. In this respect, the CIU is a mechanism for formalising the data capture at the micro-level of the experiences of individual producers or enterprises to ensure a more accurate understanding not only of the transformative potential of comex and WRS, but also to identify areas where specific interventions undertaken within the AMASS framework – policy, investment and capacity building measures, as well as donor activity - can best be directed to promote agricultural market access in Africa.

Thirdly, the CIU will provide a donor and technical agency coordination function, including as the coordinating unit between the Bank and its partners (AGRA, FAO, ITC, UNECA). The CIU will support donors and technical agencies in optimally directing guarantees, grant monies and technical assistance through deployment of the AMASS Products. This includes helping calibrate the level of concessionality built into the ‘market access-oriented’ AMASS Products – i.e. those products for which financing is concessional in return for beneficiaries’ commitments to use the market mechanisms offered by a CAI, or to integrate or structure infrastructure around the market mechanisms offered by a CAI. The specific level of concessionality – funded either through application of lower risk premiums and financing spreads, or through blending with donor grant monies – is recommended to be set according to the level required to transform the value equation so that a beneficiary makes higher positive averaged returns on market participation through a comex or WRS than through other channels. The CIU will play a key role in determining the methodologies, gathering data, and working with stakeholders to perform these calculations.

Other measures to support WRS are included under earlier building blocks around investment into infrastructure, promotion of bank participation in comex and WRS, rural brokerage development, and regulatory harmonisation and best practice diffusion.

Proposed bank ownership: PISD with PIFD, AHAI and PITD
Proposed partner roles: FAO to lead support with quality standards and value chain analysis under (14); UNECA and ITC to lead support on addressing cross-border challenges under (14); AGRA and FAO to lead on capacity building around (14).
113. Building Block I: Trading, Clearing and Settlement Platform

Description: A deliberately broad and versatile definition of a comex is adopted for purposes of AMASS: a platform, working within an institutional framework, which facilitates rule-based trade and settlement of commodity inputs or outputs, or instruments linked to them. For more mature platforms, the trading and settlement function is complemented with a clearing function. The purpose for this broad-ranging definition is to endorse and encourage the process of innovation by African comex and WRS to develop models best tailored to work in the local context.

Policies: Relevant policies include legislation and regulations that license, oversee, develop or capacitate licensed trading, clearing and settlement platform operators and participants, and the broader food security, agricultural marketing, rural livelihoods, commodity sector development, regional integration, financial sector development, financial technologies, financial inclusion, capital markets and investment frameworks that shape how they operate.

Investments: Relevant investments include the capital investments to support the development of technologies and capabilities by trading, clearing and settlement platform operators and participants; capital and guarantees to capitalise investment protection, indemnity and settlement guarantee funds; and working capital to cover the costs and overheads of operating the platform.

Capacity: Relevant capacity-building measures include efforts to raise awareness, promote and enable stakeholders – in particular, value chain participants, financiers and investors – to participate in trading, clearing and settlement systems, and to strengthen capabilities of systems operators to develop products, build liquidity, nurture price discovery, disseminate data, strengthen business relationships, capacity-build stakeholders, perform self-regulatory functions, apply internal governance and controls, manage technologies, networks, operations and risk, and capabilities of market participants to understand and use market information, trade, hedge and manage other risks associated with market exposures, perform clearing and settlement functions, and comply with regulatory requirements.

Recommendations for AMASS:

- Product (13): Market Infrastructure Investment Fund (MII-F)
- Product (14): Fund for Taking Equity in New Contract Development (TEND-F)
- Product (15): Comex/WRS Information Unit (CIU)
- Product (16): Africa Derivatives Development Workstream (ADDED)
- Product (17): Product Management ‘Rainmaker’ Network
- Product (18): Africa CCP Capitalisation, Liquidity, Robustness and Transformation Programme (ACCELERATE).

Products (13), (14) and (15) span Building Blocks H (WRS Platform) and I (Trading, Clearing and Settlement Platform), and have been described above.

Product (16) – the Africa Derivatives Development Workstream (ADDED) – is positioned as the flagship regional integration initiative of AMASS in the sphere of comex and WRS. As will be outlined below and further in Section Nine, ADDED is proposed to be not merely a product in its own right but also one of two organising frameworks under AMASS for a suite of products intended to stimulate development of viable derivative-focused Pan African Exchanges (PAEs) on the Continent. While the vision may sound ambitious, it involves little more than applying existing international regulatory, operational and technological approaches that are already commonplace elsewhere in the developing world.

\[^{18}\] By way of simplistic example, if a futures price is trading at a level that an arbitrageur considers too high relative to the market supply and demand fundamentals, particularly close to the expiry of the contract when futures and spot prices should converge, arbitrageurs sell futures and buy spot through a trading strategy known as cash n carry arbitrage. This activity exerts downward pressure on the futures price and upwards pressure on the spot price, bringing the two markets back into line.

\[^{19}\] The impact of technology is far reaching and is not limited to what are traditionally considered 'access' technologies, such as cellphones. Some of the functionalities integrated into modern advanced trading systems, including analytics customised to the needs of the stakeholders, can also play an important role helping market participants overcome some of the knowledge and capacity barriers to market participation.

Agricultural Market Access Sub-Strategy for Africa:
Commodity Exchanges, Warehouse Receipt Systems, and New Standards
ADDED is intended as a methodology for adapting to the African context the successful approaches undertaken by the Governments of China and India to incubate derivative exchanges in their jurisdictions. Derivatives market development in both these jurisdictions were accompanied by an integration strategy that catapulted comex in both jurisdictions from the sub-national to the national level. Given the relative size of individual African jurisdictions to the much larger continent-sized jurisdictions of China and India, the equivalent strategy for Africa is to catapult derivative comex from national to the continental level – even regional scope may not be sufficient. Given the need to utilise continental governance mechanisms, it is envisaged that the Bank partners with the AUC and the NEPAD Agency to realise this strategy, while also working as a first among equals with other prominent pan-African organisations including UNECA, AGRA and the African Securities Exchanges Association.

In a similar vein, given that a derivatives exchange is a relatively high fixed cost but versatile infrastructure, it does not make sense to limit that infrastructure to support only one type of commodity or asset. Thus, it follows that a derivatives exchange ‘market infrastructure’ should be deployed as broadly as possible to reduce transaction costs and stimulate liquidity. To facilitate this end, steps should be taken to overcome the existing policy and institutional silos that separate advancement of diverse sectors including agriculture, energy, metals and minerals, and the financial sector.

While liquidity is vital in the exchanges sector, experience has shown so too is competition. An additional advantage of a continental rather than merely a regional scope for ADD, therefore, is to create the space within which PAEs can compete with each other to earn liquidity rather than merely expect it as a right. Competition breeds stakeholder responsiveness, high performance and innovation. Competition has been integral to the success in India, and to a lesser extent in China. Competition at the global level between the CME and ICE has, likewise, yielded significant gains in global commodity derivative markets.

The parameters of ADDED are set out more extensively in Section Nine.

Product (17) represents a solution to arguably the most pressing capacity-building intervention to support African comex development. The product management function within a comex plays a vital two-fold role – to develop the contract specifications underpinning comex markets that create liquidity and price discovery for a given value chain; and to manage the contract through regular interaction with market participants, regulators and other stakeholders to promote usage, address challenges, and guide improvement in the functioning of the markets over time.

This role is as much an art as a science. Success is not achieved by following a textbook. Rather it is about building a deep understanding of the needs of the market participants and achieving a consensus in the terms of the contract specification that all can accept as the basis for participation – including the longs and the shorts, the commercial and the institutional participants; the hedgers, speculator and arbitrageurs. Those product managers who can get this right are the ‘rainmakers’ for the entire comex and the wider market. Without them, there would not be liquidity or price discovery, irrespective of how many other qualified commercial, operational and technical professionals are in place. Arguably, therefore, of all the positions required to support a functioning comex, the product manager is the most difficult but also the most important to capacitate.

The product managers that manage the world’s benchmark commodity futures contracts, as well as those that manage emerging regional benchmarks in developing countries, have elevated insight into the workings of the value chains they serve domestically and globally. They hold a privileged understanding of the dynamics through which comex products have been made to work or have failed. They are also the best positioned experts concerning how comex products have been used by stakeholders to generate commercial and wider economic and social impact within their contexts.

Product (17) – the ‘Rainmaker’ Network – seeks to give a small group of African comex and WRS product specialists at CAIs and PAEs the opportunity to regularly dialogue with these global ‘rainmakers’. This will be achieved through a calendar of regular workshops and seminars to learn from experience, apply lessons, and identify opportunities for creation of price discovery benchmarks in Africa, and building liquidity around those benchmarks.

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90 Including criteria around fitness and propriety, capital adequacy, corporate governance, and technical/operational whistle-

91 Including the regulator’s powers to seek reports and disclosure of information, to inspect, to penalise, and to share information with other regulators.

92 For example, it is noted that Africa’s most successful WRS, in South Africa, operates under general contract law. South Africa does not have a WR law in place, and the WRS is unregulated. Despite this, or perhaps, because of it, all major South African banks participate in the WRS for major grain commodities, and several USD billions of commodity every year are financed under the WRS.
Product (18) - Africa CCP Capitalisation, Liquidity, Robustness and Transformation Programme (ACCELERATE) – is recommended in recognition that the establishment of world class CCPs is among the highest priorities in the regulatory agenda of the global capital markets. In the wake of the Global Financial Crisis, the world’s international financial community has identified the CCP as a critical market infrastructure which works to increase the resilience of financial markets. The Basel Committee on Banking Supervision, which sets capital standards for banks, has introduced a criterion of ‘Qualifying CCPs’ (QCCPs). Risk weightings and capital set-asides by banks participating in QCCPs are much lower compared with CCPs that have not achieved this status, thus potentially unlocking the participation of the leading financial institutions and institutional investors from African and global markets. At present time, the CCP operated by the JSE – the only operational CCP on the Continent – has attained this status.

With the proposed ADDED (see above) aiming to drive the introduction of derivative exchanges across the Continent, there is a need to pay special attention concerning the introduction of the accompanying CCPs. ACCELERATE is a subsidiary programme of ADDED designed with the principle objective to support those CCPs attain QCCP status. A package of measures is recommended, including equity investments (under the MII-F, see Product (13) ), funding lines, liquidity windows and guarantees to boost the capitalisation and resilience of emerging CCPs, capacity-building of CCP professionals and their regulators at securities commissions and central banks, and policy advice to ministries of finance and central banks on inter alia the currency, tax, accounting and insolvency implications of domestic and cross-border clearing and settlement through CCPs.

Proposed bank ownership: PIFD with PITD
Proposed partner roles: UNECA to lead support on addressing cross-border challenges under (18).
PILLAR FOUR – REGIONAL PILLAR:


Description: J. Cross-Border Legal-Regulatory Framework

The IOSCO MMOU provides the framework for regulation of transactions, organisations and relationships that have a cross-border dimension through information-sharing and collaboration between national and regional regulatory agencies that are MMOU signatories. The MMOU supports huge volumes of cross-border activity in global markets. Regional regulatory cooperation in Africa also takes place through the Africa and Middle East Regional Committee of IOSCO. A comex seeking to perform activities with a cross-border dimension requires regulators willing to apply the provisions of the MMOU in support of those activities.

K. Cross-Border Commodity Regime

Many jurisdictions, rightly or wrongly, impose restrictions on the free flow of commodity across borders. Some restrictions are absolute, such as, import or export bans. Others impede the flow of commodities – such as, through imposition of tariffs and so-called ‘non-tariff barriers’ (including requirements for compliance with standards, such as product quality standards and SPS). For a comex seeking to facilitate trade between jurisdictions, the buyers and sellers need a reasonable level of certainty about the conditions under which they will be able to move the commodity across borders.

L. Cross-Border Currency, Capital and Tax Regime

Transactions through a spot comex settle on the basis of Delivery versus Payment (DVP). Transactions through a derivatives comex clear and settle through a CCP involving a system of dynamic collateralisation that requires deposits of cash and non-cash collateral (“initial margin”) and daily pay-ins and pay-outs of cash (variation margin, final settlements) based on the marking-to-market of open positions. Under both structures, to operate on a regional basis, the movement of currency and capital across borders in a predictable manner is vital to ensure counterparties can meet their obligations and repatriate their gains. Similarly, the way in which taxes are levied – on the sales of commodity, on hedging of price risk, on capital gains – play an important role in making the market accessible or inaccessible, appealing or unattractive, to market participants.

M. Cross-Border Transport and Trade Facilitation

For a comex seeking to facilitate trade between jurisdictions, the buyers and sellers need a reasonable level of certainty about the physical transportation infrastructure and trade facilitation processes for efficiently moving commodity across the border in a manner that is conducive to support cross-border trade.

Policies: Relevant policies include legislation and regulations that license, oversee, develop or constrain cross-border flows, and the broader regional integration, financial sector development, commodity sector development, fiscal, trade, infrastructure, transportation, industrialisation, capital markets and investment frameworks that shape the nature of those flows.

Investments: Relevant investments include capital investments into cross-border trade facilitation infrastructure including border crossings, customs posts, transportation and storage, as well as the accompanying equipment and technologies of each, and working capital to cover the costs and overheads of operating, securing and insuring the aforementioned.

Capacity: Relevant capacity-building measures include efforts to harmonise standards and improve trade facilitation processes between neighbouring markets, build the case for regional integration, identify and raise opportunities for stakeholders to integrate their activities with regional jurisdictions, and to foster appropriate modalities to regulate, control and oversee cross-border flows.

Recommendations for AMASS:

- Product (19): Market Access-Oriented Transfrontier Park Investments
- Product (20): Regional Integration Monitoring Service (RIMS)

Products (11), (12), (14) and (18) already cover significant scope for facilitation of regional integration and cross-border flows associated with comex, including through the ADD.
Product (19) – with a focus on transfrontier parks – is envisaged as a specific subset of agribusiness park investments set out in Product (3). As such, the product involves a similar structure and incentive mechanism. Transfrontier parks could also become basis locations around which price discovery benchmarks are structured. As such, they are singled out as a specific ‘regional integration’ product that may assist EPIs and PAEs to create regional price discovery at border locations which intersect high volumes of trade flow. This is particularly important for African value chains with cross-border flows which may not have existing price benchmarks internationally (such as, cassava, millet and yam), or for which existing benchmarks may not reflect African fundamentals (such as, sorghum, rice, livestock and forestry products).

Product (20) – the establishment of a Regional Integration Monitoring Service (RIMS) is intended to operate on three levels: specifically to the comex and WRS sector, to monitor cross-border trade, finance and investment undertaken by and through EPIs and PAEs, identifying barriers and constraints to such trade (including in line with product development efforts), and developing proactive solutions to address them; more broadly, RIMS is intended to create transparency and promote implementation of regional trade and investment protocols by identifying and surveying areas of non-implementation and non-compliance, and quantifying the associated costs for economies and stakeholders as the basis for continued advocacy for regional integration. RIMS is envisaged to support the annual Africa Regional Integration Index Report produced by the Bank together with the African Union Commission and UNECA.

Proposed bank ownership: PITD, with PISD and AHAI
Proposed partner roles: UNECA and ITC to lead support on addressing cross-border challenges under both Products. AGRA and FAO to lead on capacity-building, under (19).

PUTTING IT ALL TOGETHER

115. The analysis undertaken above recommends a total of twenty discrete products that can be developed by the Bank and its partners within the framework of a sectoral sub-strategy, AMASS, to promote agricultural market access in Africa:

- Product (1): Market Access-Oriented Irrigation Scheme Investments
- Product (2): Market Access-Oriented Value Chain Input and Mechanisation Finance Facility
- Product (3): Market Access-Oriented Agribusiness Park and Agro-Processing Investments
- Product (4): Food Reserve Agency Market Enhancement (FRAME) Programme
- Product (5): Market Access-Oriented Commercial Warehousing Investments
- Product (6): Market Access-Oriented Rural Warehousing and Rural Service Hub Investments
- Product (7): Market Access-Oriented Logistics Efficiency and Enhancement Programme (LEEP)
- Product (8): Bank Market Enhancement (BME) Programme
- Product (9): Rural Brokerage and Inclusive Connectivity and Technology Incubation Fund (RUBICON)
- Product (10): African Market Maker and Arbitrage Fund (AMMA-F)
- Product (11): Regulatory Integration - Pan African Exchange Regulatory Council (PAERC)
- Product (12): Capacity-Building on Adoption of International Best Practices
- Product (13): Market Infrastructure Investment Fund (MII-F)
- Product (14): Fund for Taking Equity in New Contract Development (TEND-F)
- Product (15): Comex/WRS Information Unit (CIU)
- Product (16): Africa Derivatives Development Workstream (ADD)
- Product (17): Product Management ‘Rainmaker’ Network
- Product (18): Africa CCP Capitalisation, Liquidity, Robustness and Transformation Programme (ACCELERATE)
- Product (19): Market Access-Oriented Transfrontier Park Investments
- Product (20): Regional Integration Monitoring Service (RIMS)

Each product represents a blend of policy, investment and capacity-building measures:

<table>
<thead>
<tr>
<th>No.</th>
<th>Product Name</th>
<th>Policies</th>
<th>Investments</th>
<th>Capacity-Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Market Access-Oriented Irrigation Scheme Investments</td>
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<td>2</td>
<td>Market Access-Oriented Value Chain Input and Mechanisation Finance Facility</td>
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<tr>
<td>3</td>
<td>Market Access-Oriented Agribusiness Park and Agro-Processing Investments</td>
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<td>4</td>
<td>Food Reserve Agency Market Enhancement (FRAME) Programme</td>
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<td>5</td>
<td>Market Access-Oriented Commercial Warehousing Investments</td>
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<td>6</td>
<td>Market Access-Oriented Rural Warehousing and Rural Service Hub Investments</td>
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<td>7</td>
<td>Market Access-Oriented Logistics Efficiency and Enhancement Programme (LEEP)</td>
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<td>8</td>
<td>Bank Market Enhancement (BME) Programme</td>
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<td>9</td>
<td>Rural Brokerage and Inclusive Connectivity and Technology Incubation Fund (RUBICON-F)</td>
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<td>10</td>
<td>African Market Maker and Arbitrage Fund (AMMA-F)</td>
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<td>11</td>
<td>Regulatory Integration - Pan African Exchange Regulatory Committee (PAERC)</td>
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<tr>
<td>12</td>
<td>Capacity-Building on Adoption of International Best Practices</td>
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<td>13</td>
<td>Fund for Taking Equity in New Contract Development (TEND-F)</td>
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<td>14</td>
<td>Fund for Taking Equity in New Contract Development (TEND-F)</td>
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<tr>
<td>15</td>
<td>Comex/WRS Information Unit (CIU)</td>
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<td>16</td>
<td>Africa Derivatives Development (ADDED)</td>
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<td>17</td>
<td>Product Management ‘Rainmaker’ Network</td>
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<td>18</td>
<td>Africa CCP Capitalisation Liquidity, Robustness and Transformation Programme (ACCELERATE)</td>
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<td>19</td>
<td>Market Access-Oriented Transfrontier Park Investments</td>
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<tr>
<td>20</td>
<td>Regional Integration Monitoring Service (RIMS)</td>
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<td></td>
<td>Products</td>
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<td>15</td>
<td>19</td>
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</table>

For purposes of implementation, AMASS Products are proposed to be organised into two workstreams:

- **CORE – Comex Reinforcement Programme**, comprising eleven AMASS Products with the objectives to support EPIs to grow, innovate, learn, measure and improve to unlock for stakeholders increased transactional value and transformative investment (AMASS Objective One), and to promote creation of price discovery benchmarks and market liquidity (AMASS Objective Two).
- **ADDED – Africa Derivatives Development Strategy**, comprising twelve AMASS Products with the objective to create space for viable African derivatives exchanges based on regional and multi-asset market integration (AMASS Objective Three).

For both workstreams, the approach is based on an incremental, phased country buildout – in the case of CORE, structured around providing support to EPs at a national or regional level; in the case of ADDED, structured around creating an initially small, but steadily growing integrated African space, comprising those RMC and REC jurisdictions willing to participate that have sufficient readiness to support the introduction of derivatives comex. Implementation is recommended to be coordinated by a cross-sectoral Comex/WRS Information Unit (CIU), as detailed further below.

Under these two organising workstreams, the products can be categorised per the following two-dimensional matrix:

<table>
<thead>
<tr>
<th>№</th>
<th>Product Name</th>
<th>CORE</th>
<th>ADDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Market Access-Oriented Irrigation Scheme Investments</td>
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<tr>
<td>2</td>
<td>Market Access-Oriented Value Chain Input and Mechanisation Finance Facility</td>
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<td>16</td>
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<tr>
<td>17</td>
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<td>Market Access-Oriented Transfrontier Park Investments</td>
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<tr>
<td>20</td>
<td>Regional Integration Monitoring Service (RIMS)</td>
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</tbody>
</table>

| Products | 7 | 15 |

Proposed implementation modalities for this framework is set out in Section Nine.
SECTION FIVE: SPECIFICATION OF FINANCIAL INSTRUMENTS, EXISTING AND NEW

Description of African Development Bank Group instruments

The Group incorporates the African Development Bank ("the Bank") and the African Development Fund (ADF).

116. The Bank leverages its AAA rating to raise capital competitively on international markets and its capacity to offer a diversified portfolio of financial products that address the needs of its Regional Member Countries (RMCs).

Financial products offered by the Bank are set out in the table below:

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sovereign-Guaranteed Loans (SGLs)</td>
<td>SGLs, since March 2016, offered through the Fully Flexible Loan (FFL) product which integrates risk management products into the terms of the loan to increase flexibility for the borrower to tailor loan maturities and to manage currency and interest rate risks over the life of their loan.</td>
</tr>
<tr>
<td>Non-Sovereign-Guaranteed Loans (NSGLs)</td>
<td>NSGLs offered through the Fixed Spread Loan (FSL) including through lines of credit (LOCs), corporate loans, parallel and A/B loan syndications and local currency loans, senior and subordinated debt.</td>
</tr>
<tr>
<td>Lines of credit</td>
<td>Provided to private financial institutions for on-lending at risk, including for trade finance and to SMEs.</td>
</tr>
<tr>
<td>Agency Lines</td>
<td>Provided to intermediaries to draw down on Bank facilities at the Bank’s risk, a product usually again targeted to SMEs.</td>
</tr>
<tr>
<td>Equity</td>
<td>Offered either directly or indirectly, through appropriate funds and other investment vehicles.</td>
</tr>
<tr>
<td>Quasi Equity</td>
<td>Offered through instruments, such as redeemable preference shares, preferred stock, subordinated loans or convertible loans.</td>
</tr>
<tr>
<td>Risk Management Products</td>
<td>Include interest rate and currency swaps, caps, collars, commodity hedges and indexed loans.</td>
</tr>
<tr>
<td>Technical Assistance</td>
<td>The Bank provides technical assistance to its clients through grant funding, including a provision for up to US $1 million for institutional capacity building programmes.</td>
</tr>
</tbody>
</table>

Under its Trade Finance Programme, the Bank offers two additional products:

- (i) Soft Commodity Financing Facility (SCFF): to support the financing of exports of soft commodities across the continent. This support includes the provision of pre-export financing to commodity aggregators for the purchase and export marketing of agricultural commodities; and

- (ii) Risk Participation Agreement (RPA): under the RPA, AfDB shares the credit risk (usually up to 50% of a transaction) on a portfolio of eligible trade transactions originated by local banks and confirmed by partner Confirming Banks. The product is designed to provide partial cover to regional and international commercial banks for assuming the credit risk of local banks who issue documentary letters of credit and similar trade instruments.
117. The ADF is the Bank Group’s concessional financing window that provides low income RMCs with concessional loans and grants, guarantees (PCGs, PRGs), as well as technical assistance for studies and capacity building in support of projects and programs that spur poverty reduction and economic development.

Consideration of debt sustainability shape grant eligibility under the ADF, with low income countries categorised into three bands:

<table>
<thead>
<tr>
<th>Red: High risk of debt distress</th>
<th>Yellow: Moderate risk of debt distress</th>
<th>Green: Low risk of debt distress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burundi</td>
<td>Burkina Faso</td>
<td>Benin</td>
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<tr>
<td>Cameroon</td>
<td>Comoros</td>
<td>Kenya</td>
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<tr>
<td>CAR</td>
<td>Côte d’Ivoire</td>
<td>Rwanda</td>
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<tr>
<td>Chad</td>
<td>DRC</td>
<td>Senegal</td>
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<tr>
<td>Djibouti</td>
<td>Eritrea</td>
<td>Tanzania</td>
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<tr>
<td>Ghana</td>
<td>Gambia</td>
<td>Uganda</td>
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<tr>
<td>Mauritania</td>
<td>Guinea</td>
<td></td>
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<tr>
<td>Sao Tome &amp; Principe</td>
<td>Guinea-Bissau</td>
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<tr>
<td>Somalia</td>
<td>Lesotho</td>
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<tr>
<td>Sudan</td>
<td>Liberia</td>
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<tr>
<td>Zimbabwe</td>
<td>Malawi</td>
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<td>Malawi</td>
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<tr>
<td>Mozambique</td>
<td>Niger</td>
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<tr>
<td>Sierra Leone</td>
<td>South Sudan</td>
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<td>Togo</td>
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<tr>
<td>Zambia</td>
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</tbody>
</table>

Bank Instruments recommended for Deployment under AMASS

118. The instruments recommended to be deployed under AMASS include:

- **SGLs** through the FFL product to include a portion of bilateral lending to eligible parastatals to support investments by the Bank and the ADF.

- **NSGLs** through the FSL product to include the majority of lending to private sector institutions by the Bank and the ADF. Some of this investment may be through bilateral lending direct to large private sector institutions – in particular, for funding transfrontier parks and commercial warehousing. However, it is likely that some of the investment – including working capital components – would be funded through lines of credit to banks in or across target jurisdictions and – if they are to become effective at the Bank – through agency lines to other intermediaries to support smaller-scale lending, in particular to support rural warehousing and service hubs and rural broker development.

- **Equity and Quasi Equity** tranches would be deployed into companies as well as products as described in Section Four above.

- **Guarantees** are likely to be deployed as part of the financing and technical assistance mix, under the donor coordination function played by the CIU.
Grants and technical assistance – sourced from within the Bank and the AFD, as well as from other parties – are expected to be deployed extensively in tandem with lending products in line with Guiding Principle Nine. Grant and concessional monies are envisaged to be utilised in all twenty of the AMASS Products to achieve the following purposes:

- to fund technical assistance activities in the spheres of policies and capacity-building measures;
- to transform the value equation to encourage market participation by stakeholders in comex/WRS – with the aim of creating market linkages when targeted towards smallholders and other marginalised or excluded entities, and with the aim of nurturing price discovery and market liquidity when targeted towards entities controlling large volumes of commodity flow or infrastructure which, if integrated into comex and WRS, could make a significant addition thereto.

**AMASS Structures through which Bank Instruments are recommended to be Deployed**

Three AMASS financing structures are recommended to be established as Special Funds hosted by the Bank in accordance with Article 8 of the Agreement establishing the Bank:

- **Market Access Infrastructure (Debt) Fund (MAI-F)** – with the mandate to invest through debt instruments into agricultural infrastructure under AMASS Products (1), (3), (5), (6), (7), (9), (10), (13), (18) and (19), as specified in the CAIPs developed by EPIs and PAEs, and subject to the Bank’s usual investment appraisal processes;

- **Market Access Working Capital (Debt) Fund (MAW-F)** – with the mandate to invest through debt instruments to provide working capital under AMASS Products (1), (2), (3), (5), (6), (7), (8), (9), (10), (13), (14), (18) and (19), as specified in the CAIPs developed by EPIs and PAEs, and subject to the Bank’s usual investment appraisal processes;

- **Market Access Equity Fund (MAE-F)** – with the mandate to invest through equity and quasi equity instruments into organisations under AMASS Products (1), (3), (5), (6), (7), (9), (10), (13), (14), (18) and (19), as specified in the CAIPs developed by EPIs and PAEs, and subject to the Bank’s usual investment appraisal processes;

Accordingly, these structures are intended not only as the means to deploy Bank resources, but also to ‘crowd in’ additional financing resources from other finance and investment institutions to co-invest with the Bank into agricultural market access in Africa. Co-investors are likely to include other development finance institutions, bilateral and multilateral development agencies, commercial and institutional investors, impact investors and philanthropic organisations.

The table overleaf maps the AMASS Special Funds to the AMASS Products.
Fund Management and Deployment

Under the proposed arrangements, the Bank would take on managerial responsibility for the two AMASS Special Funds for debt financing – MAI-F and MAW-F. For MAE-F, the Bank may alternatively consider appointing appropriately qualified external managers.

However, the finalisation of the term sheet for pricing, scoping and structuring of investment products that draw on the three AMASS Special Funds would be the remit of the responsible sectoral department within the Bank, and the appraisal, approval, disbursement and monitoring processes will be in line with the Bank’s normal procedures.

It is recommended for purposes of facilitating Product (4), the Food Reserve Agency Market Enhancement (FRAME) Programme, that the Bank enter into a fund management agreement with major bilateral donors for earmarking and management of a tranche of Official Development Assistance that would be used to finance through market-enhancing mechanisms a component of African food reserve agencies’ food procurement activities, including food reserve replenishment and associated functions, as well as infrastructure development and maintenance.

<table>
<thead>
<tr>
<th>No</th>
<th>Product Name</th>
<th>MAI-F</th>
<th>MAW-F</th>
<th>MAE-F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Market Access-Oriented Irrigation Scheme Investments</td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>Market Access-Oriented Value Chain Input and Mechanisation Finance Facility</td>
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<tr>
<td>3</td>
<td>Market Access-Oriented Agrobusiness Park and Agro-Processing Investments</td>
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<tr>
<td>4</td>
<td>Food Reserve Agency Market Enhancement (FRAME) Programme</td>
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<td></td>
<td></td>
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<tr>
<td>5</td>
<td>Market Access-Oriented Commercial Warehousing Investments</td>
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<tr>
<td>6</td>
<td>Market Access-Oriented Rural Warehousing and Rural Service Hub Investments</td>
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<tr>
<td>7</td>
<td>Market Access-Oriented Logistics Efficiency and Enhancement Programme (LEEP)</td>
<td></td>
<td></td>
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<tr>
<td>8</td>
<td>Bank Market Enhancement (BME) Programme</td>
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<tr>
<td>9</td>
<td>Rural Brokerage and Inclusive Connectivity and Technology Incubation Fund (RUBICON-F)</td>
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<tr>
<td>10</td>
<td>African Market Maker and Arbitrage Fund (AMMA-F)</td>
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<tr>
<td>11</td>
<td>Regulatory Integration - Pan African Exchange Regulatory Committee (PAERC)</td>
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<tr>
<td>12</td>
<td>Capacity-Building on Adoption of International Best Practices</td>
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<tr>
<td>13</td>
<td>Fund for Taking Equity in New Contract Development (TEND-F)</td>
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<tr>
<td>14</td>
<td>Fund for Taking Equity in New Contract Development (TEND-F)</td>
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<tr>
<td>15</td>
<td>Comex/WRS Information Unit (CIU)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>16</td>
<td>Africa Derivatives Development (ADDED)</td>
<td></td>
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<tr>
<td>17</td>
<td>Product Management ‘Rainmaker’ Network</td>
<td></td>
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<tr>
<td>18</td>
<td>Africa CCP Capitalisation Liquidity, Robustness and Transformation Programme (ACCELERATE)</td>
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<tr>
<td>19</td>
<td>Market Access-Oriented Transfrontier Park Investments</td>
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<tr>
<td>20</td>
<td>Regional Integration Monitoring Service (RIMS)</td>
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</tbody>
</table>

* The Bank Agreement authorizes the Bank, in Article 8, to establish and administer special funds that are consistent with its development mission. Article 8 further authorizes the Bank to receive, hold, use, commit, and otherwise expend resources pertaining to such special funds. Donors or participants in the Fund will include the Bank as well as any of its member states, any country eligible to become a member of the Bank, and any organization or other entity deemed acceptable by the Bank.
• Donor Coordination and Technical Assistance

121. It is recommended that investments deployed through the AMASS Special Funds are coordinated with a donor coordination and technical assistance capability delivered through the Comex/WRS Information Unit (CIU) proposed under Product (15).

The role of the CIU in this respect should be to mobilise, calibrate and coordinate the use of guarantees, grant monies and technical assistance in line with the philosophy espoused under AMASS, and for facilitating the policy and capacity-building components within the deployment of each AMASS Product.
SECTION SIX: ADDRESSING POTENTIAL TO FOSTER REGIONAL INTEGRATION, AND OPTIONS FOR INTERCONNECTING INSTITUTIONS

Addressing Potential to Foster Regional Integration

122. The potential for fostering regional integration in the comex and WRS space is most immediately achievable at the level of commodity derivatives instruments rather than spot instruments. Whereas to perform commodity spot transactions across borders requires extensive alignment of regulatory frameworks, commodity trade frameworks, currency, capital and tax regimes, and transport and trade facilitation infrastructure (i.e. the four building blocks under Pillar Four, described in Section Five above), the performance of commodity derivative transactions cross border requires alignment mainly in the area of regulatory frameworks, much of the foundation for which is already in place under IOSCO protocols, including the MMOU, as well as the currency, capital and tax regimes.

123. This is because the vast majority of derivative flows are financial – and subject to significant netting and offsets – rather than physical. Commodity derivatives instruments rarely settle through physical delivery of the commodity – the typical industry standard is for less than 2% of contracts to result in physical delivery. The delivery channel in derivatives markets is intended as a channel of last resort intended to promote convergence between futures and spot markets as the former reaches expiry. Rather, the purpose of derivative exchanges is to facilitate hedging, while also allowing for speculative and arbitrage participation. This contrasts with 100%, or near-100% physical deliveries through a spot exchange.

124. Even where derivatives deliveries are required across borders, given the relatively low levels of volume that may be involved, an exchange mechanism known as an EFP may be leveraged. In simple terms, an EFP can involve a futures position-holder wishing to make or take delivery against a derivative contract in an overseas market reaching private agreement with a party holding the required stock in that market. Where the futures position-holder is a seller, that party then assumes responsibility to make the delivery on behalf of the futures position-holder. Where the futures position-holder is a buyer, that party then assumes responsibility to take delivery on behalf of the futures position-holder. Many major international exchanges – and in particular, ICE, which manages many of the world’s benchmark commodity futures contracts – specifically make provision for a delivery that is facilitated by EFP.

125. Derivatives comex are also those most in need of accumulating the high levels of liquidity – or volume – that can be brought about by regional integration. In the African context, sufficient liquidity is unlikely to be in place to support viable in many national jurisdictions, perhaps only South Africa, Nigeria and Egypt apart. Even regional markets may hold insufficient liquidity potential. Accordingly, African stakeholders – just as stakeholders in China and India before them – are therefore recommended to pursue derivatives development specifically in the context of regional integration.

126. As such, the ADDED Workstream is positioned as the flagship regional integration initiative of AMASS in the sphere of comex and WRS. ADDED is proposed to be not merely a product in its own right but also one of two organising frameworks under AMASS for a suite of products intended to stimulate development of viable derivative-focused PAEs on the Continent. While the vision may sound ambitious, it involves little more than applying existing international regulatory, operational and technological approaches that are already commonplace elsewhere in the developing world.

127. It is also emphasised that having the price signals in place emerging from derivative markets is likely to provide a signal to stimulate higher volumes of cross-border physical flows, as well as supporting investments into the enabling environment. Such investments not only include public sector investments into the trade facilitation infrastructure, and the heavy infrastructure investments into road, rail, port and aviation assets, but also the commercial private sector investments required to develop cross-border sourcing, distribution and processing networks. A cross-border transaction just as much as a domestic transaction is driven by considerations of return on investment. With pricing opaque in many African commodity markets at present time, a relatively small number of privileged traders with on-the-ground presence in multiple jurisdictions have the necessary information to have confidence in trading across border. Creating more transparent regional pricing benchmarks, and on a forward basis (it takes time to complete a cross-border transaction), therefore can help provide the signals for a broader array of enterprises to undertake cross-border activities.
128. That said, AMASS does specifically address the need to improve regional integration on the physical side. Six products specifically allow for measures that would improve the cross-border flow of the physical, especially for Bank-identified priority value chains with a regional component:

- Product (7): Market Access-Oriented Logistics Efficiency and Enhancement Programme (LEEP)
- Product (11): Regulatory Integration - Pan African Exchange Regulatory Council (PAERC)
- Product (12): Capacity-Building on Adoption of International Best Practices
- Product (14): Fund for Taking Equity in New Contract Development (TEND-F)
- Product (19): Market Access-Oriented Transfrontier Park Investments
- Product (20): Regional Integration Monitoring Service (RIMS)

Taken together these products address the main challenges identified above. Product (7) addresses deficiencies in the transportation infrastructure; product (11) helps to build the regulatory foundations for regional flows; the scope for product (12) includes capacity-building around best practices for comex-supported cross-border flows; product (14) – the TEND Fund, providing for the Bank to take equity in new contract development – is proposed to include within scope capital to support development of cross-border arrangements. Product (19), focusing on Market Access-Oriented Transfrontier Park Investments can provide a mechanism for development and consolidation of cross-border flows which can underpin the creation of meaningful regional price discovery benchmarks traded on African comex; and product (20) is intended to enhance the implementation and oversight of regional trade protocols, including application to cross-border issues with the comex/WRS commodity and financial flows.

Options for Interconnecting Institutions

129. It is important to spell out carefully what could be the institutional implication to achieve regional integration. The language around ‘interconnecting’ institutions can be taken to imply various different permutations as described below.

130. Cross Listing of Contracts: It is a widely prevalent practice today for an exchange in one jurisdiction to license the contract specification that is used by another exchange in a different jurisdiction. Under the terms of the licensing agreement, the licensee exchange would launch trade on that contract denominated in its local currency. This does not achieve interconnection of institutions. While the liquidity pools at each exchange remain separate, a link is created between them. As such, the approach can be an enabler of cross-border flows and can enhance liquidity as it provides opportunities for arbitrageurs to participate across the two linked markets – buying in one and selling in the other, or vice versa – to profit from pricing anomalies between the two markets and keep pricing aligned to the fundamentals.

131. Cross-Border Brokerage Interfaces: A market participant can take brokerage arrangements with multiple exchanges in multiple jurisdictions and use those arrangements to participate simultaneously in multiple institutions. This approach can be achieved through having multiple brokerage accounts with a different broker in each jurisdiction. The barrier to this arrangement is for the broker in one jurisdiction to ensure due risk mitigation against a prospective default by a client in another jurisdiction. Therefore, perhaps a more sustainable arrangement is for a market user to take one brokerage account with a single regional or international broker that is present in multiple jurisdictions and accredited to provide brokerage services to multiple exchanges in those jurisdictions. For example, several pan-African brokers are already established which provide this possibility in the African stock market space.

Brokerage interfaces of this kind do not create interconnection between institutions. While the liquidity pools at each exchange remain separate, a link is created between the liquidity pools of the different exchanges served by the broker. As such, liquidity can be increased at different exchanges under these kinds of arrangement by enabling participation from a broader array of market users from outside an exchange’s home jurisdiction, including cross-border flows, and by providing a better enabling ecosystem to support cross-border arbitrage.
132. Cross-Border Technology interfaces: In parallel with the type of cross-border brokerage interfaces described above, it is also a widely prevalent practice today in the exchanges space for Independent Software Vendors (ISVs) to integrate trading feeds from different exchanges into one trading screen through which a market participant can execute trades and manage portfolios across multiple exchanges, subject to brokerage arrangements being in place to support the requirements of each exchange, and subject also to compliance with the rules, bylaws and regulations of each institution. There are third party ISVs that are not affiliated to any one exchange; there are also scenarios in which the ISV is effectively an exchange, as in the case with exchanges such as Bursa Malaysia and BM&FBovespa (Brazil) making their feeds available through the CME's Globex Platform.

Just as with broker interfaces, in these arrangements, the exchanges are not interconnected per se but rather the ability for a market participant to trade into multiple exchanges through one interface is created. Liquidity pools remain separate but a link is created that can reinforce or be separate from the brokerage interface described above. Liquidity-enhancing strategies, including promoting participation from a broader array of market users, cross-border flows and facilitating arbitrage across markets, are made easier.

133. Replacing Multiple Technologies with a Single Platform to serve Multiple Exchanges: In this arrangement, it would be envisaged that multiple exchanges in different jurisdictions using different technology platforms agree to converge on a single exchange technology platform. This arrangement is as far as is known unprecedented internationally among independent exchange institutions. Where such arrangements have arisen, it has been the result of a takeover of one institution by another. The new owner has then migrated the taken-over exchange to the acquirer's systems. Examples include the pan-European exchange, Euronext, and the transatlantic entity, NASDAQ OMX. In principle, this approach should lead to similar outcomes as the broker and technology linkages already identified above. However, it is in reality much more challenging to achieve due to the obstacles first of overcoming legacy systems and contractual obligations back-ended into legacy rulebooks, processes, and relationships; and second of managing the varying levels of sophistication, technical readiness and financial position at the different exchanges to support harmonisation of their core technology platforms.

134. Setting up a single exchange institution which is regional from inception: This approach can apply to two models.

In the first model, the approach may refer to an exchange that is licensed to serve market users in not one but multiple ‘home’ countries of domicile across an integrated region. This is understood to be the unique experience of the BRVM stock market in West Africa. As far as is known, this model has not had precedent elsewhere to date. In principle, should such an institution succeed in its mission, with underpinning support in the regulatory and – where applicable – the physical infrastructure, it would be capable of creating a common liquidity pool across the participating jurisdictions and seamlessly supporting cross-border flows.

The second approach is for an exchange to be domiciled in one jurisdiction but to create regional or global contracts based on large-scale flows from brokers and market users located in other jurisdictions. This is the standard model for the global ‘benchmark’ comex which as a matter of standard practice source participation and liquidity from around the world. Thus, African agribusines are today participating in the European and American comex which determine reference prices for commodities including cocoa, coffee, cotton and sugar. This approach leverages established regulatory mechanisms, including the IOSCO MMOU.

135. In practice, relying on established regulatory mechanisms is a far simpler way of creating a common liquidity pool across different jurisdictions. Replacing divergent technologies with a single platform or setting up an institution which is regional in its scope of jurisdictional presence from inception – especially outside of West and arguably also Central Africa where the underlying level of integration is much less advanced – is a much lengthier and ‘messier’ process with far higher number of interests, dependencies and interlinkages to manage.

This latter approach, following the established standard international practice to leverage established regulatory mechanisms to support regional or global contracts, is the model envisaged under ADDED to foster the emergence of PAEs – institutions located in one African jurisdiction that create regional or continental contracts based on large scale flows of liquidity from across other African jurisdictions, even without the ‘cover’ of regional commodity and financial market integration.

Supporting EPIs and PAEs with the process for the development of regional or global contracts of this kind is envisaged as the function of two AMASS Products: (14) Fund for Taking Equity in New Contract Development (TEND Fund), and (17) Product Management ‘Rainmakers’ Network.
SECTION SEVEN: APPRAISING HOW TO GENERATE STAKEHOLDER BUY-IN

The report identifies three requirements to generate stakeholder buy-in for market access institutions such as comex and WRS: value, capacity, and enabling environment.

Value

136. The Report has argued extensively that stakeholder buy-in is ultimately a function of value creation – generating a positive average return on the costs of participation in a given market. This principle is applied equally to the smallholder farmer as to the multinational corporation or the sophisticated financial institution. Thus, the ‘bottom line’ for generating stakeholder buy-in is for that stakeholder to realise a higher positive average return on the costs of participation in a comex or WRS than through other channels, and moreover to be aware of that fact.

Accordingly, it is a philosophy underpinning AMASS that comex/WRS participation can be incentivised by transforming the level of value realisation through appropriately structured and calibrated value-based incentives. These incentives can be located in the financing package for new investments, as is the intent with the various AMASS products, and/or they can be integrated into the broader enabling environment – for example through fiscal and other measures put in place by government.

137. For the AMASS products, the specific premise by which these products become ‘market access-oriented’ is that concessionality is built into the terms of financing in return for beneficiaries’ commitments to use the market mechanisms offered by a CAI, or to integrate or structure infrastructure around the market mechanisms offered by a CAI. The specific level of concessionality – funded either through application of lower risk premiums and financing spreads, or through blending with donor grant monies – is recommended to be set according to the level required to transform the value equation so that a beneficiary makes higher positive averaged returns on market participation through a comex or WRS than through other channels.

Underlying this approach is also the thinking that at time of establishment, there are fewer if any sunk costs already made by beneficiaries into adoption of alternative non-comex/WRS based approaches for procurement, sales, financing or trading. Thus, the marginal costs of using an efficient comex or WRS may at this point in time be significantly lower relative to those of establishing alternative non-market based approaches. Indeed, the premise of this investment is that by integrating the beneficiary with the CAI as the asset is established, they will sink cost into comex/WRS participation so that the possibility of later migration to alternative channels becomes less attractive.

138. Under each product, capital investment – including through balance sheet, project financing, equity and quasi equity structures – is recommended to be backed by:

- a working capital facility to promote financing of stored commodity under WRs, and
- a capacity-building facility to promote and enable stakeholders to integrate advantageously into comex and WRS frameworks.

Investments under each product may be targeted towards Bank-identified priority value chains.

139. Consequently, under these kind of AMASS products, funding is carefully targeted towards strategic entities. It may be those controlling large volumes of commodity flow (irrigation scheme operators, lead firm agribusiness, agro-processing firms, food reserve agencies) or controlling infrastructure (warehouse and logistics operators) which, if integrated into comex and WRS, could make a significant addition thereto in terms of market liquidity and thereby create the conditions in which price discovery can best emerge. In the case of agribusiness parks, transfrontier parks and food reserve agency depots, such locations could also become comex delivery points, i.e. basis locations around which price discovery benchmarks are structured.
In the context of AMASS, capacity-building is fully integrated into each AMASS product, rather than being a standalone product or service in its own right. The integration of capacity-building into products reflects the imperative to ensure a results-orientation of these activities, aligned with the specific objective of the product and the overall goals of the sub-strategy. The table below sets out the focus of capacity-building with respect to each product.

<table>
<thead>
<tr>
<th>No</th>
<th>Product Name</th>
<th>MAI-F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Market Access-Oriented Irrigation Scheme Investments</td>
<td>Build Capacity of irrigation scheme participants, operators and aggregators to utilise/link participants to comex/WRS.</td>
</tr>
<tr>
<td>2</td>
<td>Market Access-Oriented Value Chain Input and Mechanisation Finance Facility</td>
<td>Build Capacity of ‘lead firm’ agribusiness contracting with producers to hedge exposures to price risk as the basis for offering forward pricing.</td>
</tr>
<tr>
<td>3</td>
<td>Market Access-Oriented Agribusiness Park and Agro-Processing Investments</td>
<td>Build Capacity of agribusiness park operators, residents and tenants to link their infrastructure to and utilise comex/WRS.</td>
</tr>
<tr>
<td>4</td>
<td>Food Reserve Agency Market Enhancement (FRAME) Programme</td>
<td>Build Capacity of food reserve agencies to utilise comex/WRS for procurement, replenishment, Sales, Storage and pricing.</td>
</tr>
<tr>
<td>5</td>
<td>Market Access-Oriented Commercial Warehousing Investments</td>
<td>Build Capacity of commercial warehouse operators and depositors to link their infrastructure to and utilise comex/WRS.</td>
</tr>
<tr>
<td>6</td>
<td>Market Access-Oriented Rural Warehousing and Rural Service Hub Investments</td>
<td>Build Capacity of rural warehouse operators and depositors to link their infrastructure to and utilise comex/WRS, and to operate rural service hubs.</td>
</tr>
<tr>
<td>7</td>
<td>Market Access-Oriented Logistics Efficiency and Enchancement Programme (LEEP)</td>
<td>Build Capacity of logistics operators to integrate logistics infrastructure with comex, domestic and cross-border, and build awareness around freight exchanges.</td>
</tr>
<tr>
<td>8</td>
<td>Bank Market Enhancement (BME) Programme</td>
<td>Build Capacity of commercial banks to sustainably participate in comex/WRS in a range of capacities.</td>
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<tr>
<td>9</td>
<td>Rural Brokerage and Inclusive Connectivity and Technology Incubation Fund (RUBICON-F)</td>
<td>Build Capacity of institution to act as a rural broker through business model advisory, technology enhancement and training functions.</td>
</tr>
<tr>
<td>11</td>
<td>Regulatory Integration - Pan African Exchange Regulatory Committee (PAERC)</td>
<td>Build Capacity of African regulators to develop and harmonise the capabilities to regulate continental derivative exchanges.</td>
</tr>
<tr>
<td>12</td>
<td>Capacity-Building on Adoption of International Best Practices</td>
<td>Build Capacity of regulators on international practices around policies, legislation and institutional mechanisms through research, dialogue and training.</td>
</tr>
<tr>
<td>13</td>
<td>Fund for Taking Equity in New Contract Development (TEND-F)</td>
<td>N/a</td>
</tr>
<tr>
<td>14</td>
<td>Fund for Taking Equity in New Contract Development (TEND-F)</td>
<td>Build Capacity of value chain players to support utilisation of comex/WRS products to serve Bank-identified priority value chains.</td>
</tr>
<tr>
<td>15</td>
<td>Comex/WRS Information Unit (CIU)</td>
<td>Provide an informational basis to support compilation of market information on African comex/WRS and measurement of value creation.</td>
</tr>
<tr>
<td>16</td>
<td>Africa Derivatives Development (ADDED)</td>
<td>Range of capacity-building measures integrated into AMASS products under ADDS.</td>
</tr>
<tr>
<td>17</td>
<td>Product Management ‘Rainmaker’ Network</td>
<td>Build capacity of African exchange professionals to develop and manage world class exchange products.</td>
</tr>
<tr>
<td>18</td>
<td>Africa CCP Capitalisation Liquidity, Robustness and Transformation Programme (ACCELERATE)</td>
<td>Build capacity of African CCP operators to develop and manage Qualified CCPs.</td>
</tr>
<tr>
<td>19</td>
<td>Market Access-Oriented Transfrontier Park Investments</td>
<td>Build capacity of transfrontier park operators, residents and tenants to link their infrastructure to and utilise comex/WRS.</td>
</tr>
<tr>
<td>20</td>
<td>Regional Integration Monitoring Service (RIMS)</td>
<td>Provide an informational basis to support implementation and oversight of regional trade protocols.</td>
</tr>
</tbody>
</table>
The Background Report identifies areas for which capacity may be built to support performance of specific economic activities in a comex/WRS ecosystem, including product selection, production, storage, marketing and investment.

In summary, the key capacity-building requirements for each of these activities for three key stakeholder types are detailed in the table overleaf:

<table>
<thead>
<tr>
<th>Product Selection</th>
<th>Aggregators/Traders</th>
<th>Processor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Smallholder Producer</strong></td>
<td><strong>Aggregators/Traders</strong></td>
<td><strong>Processor</strong></td>
</tr>
<tr>
<td>• Understand appropriate land use</td>
<td>• Interpret market information – domestic and regional</td>
<td>• Interpret market information – domestic and regional</td>
</tr>
<tr>
<td>• Interpret market information – domestic and regional</td>
<td>• Calculate prospective returns – costs, revenues - from aggregation and arbitrage of different crops in different locations</td>
<td>• Calculate prospective returns – costs, revenues - from processing plant configuration and utilisation</td>
</tr>
<tr>
<td>• Calculate prospective returns – costs, revenues - from different product mix and switching implications</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Production</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Understand input and equipment usage implications</td>
<td>• Understand and conform to quality standards post-harvest</td>
<td>• Management of inbound logistics</td>
</tr>
<tr>
<td>• Accessing inputs and financing for them</td>
<td>• Efficient performance of post-harvest processes</td>
<td>• Comex-based procurement strategies</td>
</tr>
<tr>
<td>• Understand and conform to quality standards during production and post-harvest</td>
<td>• Management of field aggregation processes and logistics</td>
<td>• Comex-based risk management strategies, including to hedge risk from forward contracting</td>
</tr>
<tr>
<td>• Understand and apply good agricultural practices per crop</td>
<td>• Comex-based procurement strategies</td>
<td>• Efficient operation of plant and equipment</td>
</tr>
<tr>
<td>• Management of production risks</td>
<td>• Comex-based farmer input supply strategies</td>
<td>• Comply with product quality and sanitary and phytAHAilary standards</td>
</tr>
<tr>
<td><strong>Storage</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Understand delivery locations of warehouses, and selection of optimal location</td>
<td>• Understand delivery locations of warehouses, and selection of optimal location</td>
<td>• Effective inventory management practices</td>
</tr>
<tr>
<td>• Understand costs and modalities of comex delivery and storage, including logistics</td>
<td>• Understand costs and modalities of comex delivery and storage, including logistics</td>
<td>• Modalities for accessing and managing aggregation and inventory finance through WRS</td>
</tr>
<tr>
<td>• Capacitation to perform comex delivery process and conform to requirements (grading, cleaning, packaging)</td>
<td>• Capacitation to perform comex delivery process and conform to requirements (grading, cleaning, packaging)</td>
<td>• Utilisation of warehouse for third party deposits and as comex delivery location</td>
</tr>
<tr>
<td>• Modalities for accessing and managing finance to defer sales under WRS</td>
<td>• Modalities for accessing and managing aggregation finance and finance to defer sales under WRS</td>
<td></td>
</tr>
<tr>
<td><strong>Marketing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Interpret market information – domestic and regional</td>
<td>• Interpret market information – domestic and regional</td>
<td>• Interpret market information – domestic and regional</td>
</tr>
<tr>
<td>• Capacitation to perform sales process through comex</td>
<td>• Comex-based trading and arbitrage strategies</td>
<td>• Comex-based sales and distribution strategies</td>
</tr>
<tr>
<td><strong>Investment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Calculate prospective returns – costs, revenues - from productive investments</td>
<td>• Calculate prospective returns – costs, revenues - from productive investments</td>
<td>• Calculate prospective returns – costs, revenues - from productive investments</td>
</tr>
</tbody>
</table>
Enabling Environment

Initiatives under AMASS are scoped to address key touchpoints of the enabling environment. These include:

Product (4): Food Reserve Agency Activities
Devising policies and procedures to promote market enhancement through the activities of food reserve agencies in areas including procurement, replenishment, sales, storage, and pricing.

Product (7): The Logistics Sector
Creating the policy foundations for efficient logistics markets, including promotion of the concept of a freight exchange – an equivalent for carriers and shippers in the transportation sector as a commodity exchange is for buyers and sellers of commodity.

Product (11): Cross-Border Regulation
Strengthening policy and regulatory foundations to support cross-border flows and continental African derivative exchanges in line with ADDED.

Product (12): Public Regulatory Authorities
Building improved policy and legislation to adopt international best practices around comex/WRS.

Product (18): CCPs
Create policy, regulatory and institutional foundations to support emergence of African QCCPs.

Product (20): Implementation of Regional Trade Protocols
Develop an information service to monitor implementation of regional trade Protocols to guide advocacy for and strengthening of cross-border flows.
Restructuring the framework somewhat makes clear the conditions required for development of risk management tools, including futures and options, at three levels: the economy within which the tools are being developed, the institution which is developing the tools, and the specific value chains to which the tools are to be applied.

144. At the level of the economy, key conditions include:

- **Regulation:** Regulatory frameworks – usually under a securities or capital markets law – must recognise and provide for the regulation of derivative instruments, and the licensing and oversight of exchanges that trade them. To support the accompanying CCPs that perform the clearing and settlement of exchange-traded derivatives, the legal-regulatory framework should enshrine the principles of finality of settlement, and of netting and offsetting, to enable the CCP to remedy and replace defaults without being obstructed by the freezing or clawback of assets under general insolvency law. Regulators should be capacitated to understand and oversee the derivative markets that are launched in the jurisdiction.

AMASS addresses regulatory capacity and best practice under Products (11) and (12).

- **Liquidity Potential:** the economy must be sufficiently large to generate the level of liquidity that can reduce transaction costs to supportable levels, and generate sufficient non-hedging participation to support the value chain-specific contracts an exchange seeks to launch.

AMASS addresses the liquidity imperative for derivative comex by putting in place ADDED under Product (16) and framing it as a workstream around which twelve AMASS products are organised. Product (10) – the Africa Market-Maker and Arbitrage Fund (AMMA-F) – is a measure designed to promote liquidity-enhancing strategies among African investors.

- **Clearing banks:** the banking sector must have a level of sophistication to support the financial flows and collateralisation required to support the clearing and settlement of derivative contracts, including an RTGS payments system that enables transfers of monies to support the daily mark-to-market or variation margining process; and the capacity to appraise and manage the risk from clearing the positions of brokers and end users on the exchange.

AMASS addresses the need for capacitation and development of the banking sector under Product (8) – the Bank Market Enhancement Programme.

- **Brokers:** derivatives exchanges require brokers to intermediate market participation, linking end users – i.e. buyers and sellers – into the exchange. Brokers play several roles: as the ‘distribution network’ to market the comex to its end users, to facilitate the flow of orders into the market, to support commodity and financial flows between the comex and end users, and to manage – as well as stand good for – the risks associated with the end users’ participation.

AMASS addresses the need for capacitation and development of the brokerage sector under Product (9) – the Rural Broker and Inclusive Connectivity and Technology Incubation Fund (RUBICON-F).
At the level of the comex/WRS institution, key conditions include:

- **Capacity to develop and maintain a contract specification that meets needs of the market participants:**

  This is the exchange’s product development process which sits at the heart of the value that is created for market users. The product managers, it has been argued above, are the ‘rainmakers’ for the exchange and the value chains it serves. The product development function involves developing a contract specification for the trade of a particular commodity – including trading and delivery parameters – and ensuring service providers such as warehouse operators, certification agencies, and market makers are in place to promote the functioning of the contract. Product development also covers the ongoing management of the contract after launch. This includes gradually improving the contract specifications and the service provision over time, including in response to market feedback, and providing product-focused knowledge and capacity-building support for value chain and institutional players seeking to participate in the contract.

  AMASS addresses the need to promote good products and product management practices at CAIs through Products (14) – Fund for Taking Equity in New Contract Development (TEND-F) and (17) – the Product Management ‘Rainmaker’ Network.

- **Capacity to develop and maintain relationships with market participants:**

  This is the exchange’s business development process. A key focus of relationship management is with the broker ‘members’ of the exchange that perform the roles indicated above. This relationship is multi-dimensional. First and foremost, it is transactional with a focus on the bottom line – generating more volumes. However, it is also developmental – the exchange and its brokers visualise their relationship as a partnership grounded in mutual interest, to improve the market through enhanced products, enhanced service, enhanced efficiency, enhanced performance, enhanced user-friendliness and responsiveness to the end users that can better position brokers to distribute the exchange’s product. As such, brokers are often intimately involved in the exchange’s governance structures, and the exchange and its brokers often work together on knowledge and capacity-building initiatives.

  AMASS addresses the need to develop Qualified CCPs as part of the ADDED strategy under Product (18) – the Africa CCP Capitalisation, Liquidity, Robustness and Transformation Programme (ACCELERATE)

- **Capacity to put in place robust clearing and settlement platform:**

  The clearing and settlement platform, for derivatives most commonly the CCP, is the mechanism to ensure that the transactional rights and obligations of market participants are upheld. The CCP, through a process known as novation, becomes the buyer to every seller and the seller to every buyer, such that in the event of the default, it is the CCP itself that is exposed rather than the original counterparty to the defaulter. Putting in place the systems, processes, relationships and skillsets to achieve this function – one that has become subject to increasingly stringent requirement and oversight over time as its importance has increased – is a critical value proposition for any CCP. Accordingly, while a derivatives exchange may develop its own CCP (the predominant North American model), it may also decide – or be compelled under regulation – to allow its product to be cleared by an independent CCP or one affiliated with another institution (the predominant European model). In recent years, the new gold standard for CCPs has been defined by the Basel Committee on Banking Supervision as a Qualified CCP, a status which affords participating banks to consider lower risk weightings and capital set-asides.

  AMASS addresses regulatory capacity and best practice under Products (11) and (12).

- **Capacity to self-regulate the market through oversight of participants and trading activity:**

  The exchange usually acts in the capacity of a self-regulatory organisation (SRO), a frontline regulator to uphold its rules and bylaws during trading, clearing, settlement and delivery processes. The key functions include: membership licensing and compliance, to ensure the fitness and propriety, capital adequacy, and ongoing conformity with brokers and their clients with the rules and bylaws; and market surveillance, to oversee trading and clearing activities to ensure the market remains free, fair, stable and competitive, and attempts to manipulate the market, or the occurrence of other conditions that generate instability, are detected and dealt with using risk mitigation instruments, arbitration and dispute resolution devices, and penal procedures and sanctions.

  AMASS addresses regulatory capacity and best practice under Products (11) and (12).
At the level of the value chain, key conditions include:

- **Price volatility:** The existence of price volatility in the chain generates the imperative for value chain players to manage risk, including through futures and options. Without hedger participation, any contract will fail to be sufficiently linked to the supply and demand fundamentals to provide economic value. Therefore, price volatility is the essential driver for creation of a futures contract.

- **Exposure to volatility:** Not only must there be volatility in the chain, market participants must have an exposure to that volatility which if left unmitigated destroys value for them – for example, it poses a risk of significant loss, requires them to hold high reserves, and forestalls them from offering attractive contract terms to potential counterparties. Two prominent examples in which volatility may not translate into need for a futures instrument include: commodities which are perishable or are otherwise sold almost immediately after purchase so that exposure to volatility is too short to cause meaningful risk of loss; and value chain scenarios in which a stakeholder may simply pass on the price risk to the transactional counterpart.

- **Diversity of participants:** The participants in the value chain should be sufficiently numerous and diverse to support an active market for the commodity derivative, including sufficient numbers of participants on both sides of the market as longs (buyers) and shorts (sellers), acting in different capacities (hedgers, speculators and arbitrageurs). A market structure for the underlying commodity in which there are conditions of monopoly, monopsony, oligopoly or oligopsony may to this end present challenges for creating an active and liquid derivative contract for the value chain.

AMASS products designed to stimulate participation by strategic value chain participants controlling large volume flows or key infrastructure include Products (1), (2), (3), (4), (5), (6), (7) and (19). Product (10) – the Africa Market-Maker and Arbitrage Fund (AMMA-F) – is a measure designed to promote liquidity-enhancing strategies among African investors.

- **Spot market activity:** A functioning spot market is an important foundation for a derivative market. This need not – and in almost all cases worldwide, does not – mean that a liquid spot comex needs to be in place or is somehow a prerequisite for derivatives. Rather, it means some level of consolidation of value chain flows takes place through a particular location or structure at which transactional activity takes place with the prices arising from that activity becoming the spot price ‘basis’ which the futures market references. Specifically, futures prices generated against that basis should converge at time of contract expiry with the spot price. Such basis locations are selected because they are considered to generate the most meaningful spot prices against which the value chain can hedge – in other words, they generate the least level of ‘basis risk’ for a critical mass of value chain players to facilitate their participation as hedgers in the market.

AMASS products designed to create spot market activity at potential basis locations include Products (3), (4), (5), and (19).

- **Quality standardisation:** A basis price references not only a location but also a specific benchmark grade of commodity. This benchmark grade should be widely accepted – whether formally or informally – by the value chain as the basis on which the market trades. As such, some kind of standardisation must not only be possible but also accepted or acceptable to value chain participants.

AMASS addresses the need to inter alia enshrine quality standards into contract specifications through Product (14) – Fund for Taking Equity in New Contract Development (TEND-F)
Delivery infrastructure:

Most commodity derivatives are deliverable. The delivery mechanism usually functions as a channel of last resort with the ‘threat’ of delivery intended to promote convergence between futures and spot markets upon contract expiry. This does not undermine the need for delivery arrangements to be robust and for the exchange to ensure the integrity of the delivery process. Convergence is essential for the derivative to serve its economic purpose as a useful price discovery benchmark and hedging mechanism. Most exchanges offer just one or a few delivery points but some – for example the JSE or the London Metal Exchange – take delivery at a large number of sites. These delivery sites must ensure that deliveries can be handled, graded, preserved and controlled to ensure the buyer’s expectations are met.

AMASS products designed to stimulate participation by strategic value chain participants controlling key delivery infrastructure include Products (3), (4), (5), (6), and (19).
SECTION NINE: IMPLEMENTATION MODALITIES

147. The implementation of AMASS is recommended to be coordinated through a Comex/WRS Information Unit (CIU). The CIU is envisaged as a cross-cutting unit which interfaces with departments and complexes across the Bank as well as with the Bank’s partners, AGRA, FAO, ITC and UNECA.

Structurally, the CIU is envisaged to comprise three functional components:

- Management function: a small team envisaged to comprise eight full-time staff under an AMASS CIU Coordinator to perform executive and implementation roles;

- Advisory function: A technical committee of independent sectoral experts to provide inputs and guidance on technical matters, include CAI eligibility, PAE appraisal, AMASS product deployment and technical troubleshooting;

- Oversight function: A committee of representatives from the Bank and its partners to periodically review performance and shape organisational priorities over time.

The CIU would drive implementation of the two AMASS workstreams, CORE and ADDED, as well as develop the appropriate materials, analysis, case studies, application templates and training resources to support awareness-raising, buy-in and demand for each AMASS Product. Oversight would take place for activities performed during an inception phase and then during the subsequent implementation and product deployment activities at national, regional and continental levels. The CIU will also track and measure the impact of AMASS product deployments, generating knowledge resources to shape the continual enhancement of AMASS products, workstreams and the overall strategy over time.

More broadly, the CIU will provide a donor and technical agency coordination function, including as the coordinating unit between the Bank and its partners (AGRA, FAO, ITC, UNECA). The CIU will support donors and technical agencies in optimally directing guarantees, grant monies and technical assistance through deployment of the AMASS Products. This includes helping calibrate the level of concessionality built into the ‘market access-oriented’ AMASS Products – i.e. those products for which financing is concessional in return for beneficiaries’ commitments to use the market mechanisms offered by a CAI, or to integrate or structure infrastructure around the market mechanisms offered by a CAI. The specific level of concessionality – funded either through application of lower risk premiums and financing spreads, or through blending with donor grant monies – is recommended to be set according to the level required to transform the value equation so that a beneficiary makes higher positive averaged returns on market participation through a comex or WRS than through other channels. The CIU will play a key role in determining the methodologies, gathering data, and working with stakeholders to perform these calculations.

In addition to the implementation and donor coordination functions, the CIU is structured to address twin informational challenges: to centrally compile publicly accessible, regularly updated and independently validated market data and performance information on Africa’s comex and WRS institutions. (This data may be potentially integrated into the Bank’s African Financial Markets Initiative (AFMI) platform); and to assess the impact of comex and WRS institutions at the micro-level through quantifying and analysing transactional value realisation and transformation-inducing productive investments by stakeholders around each CAI.

148. The proceeding sections have proposed a structure for AMASS comprising two workstreams around which the twenty AMASS products will be organised – CORE and ADDED:

- 1. CORE – Comex Reinforcement Programme, with the objectives to support EPIs to grow, innovate, learn, measure and improve to unlock for stakeholders increased transactional value and transformative investment (AMASS Objective One); and to promote creation of price discovery benchmarks and market liquidity (AMASS Objective Two).

- 2. ADDED – Africa Derivatives Development Strategy, with the objective to create space for the emergence of viable African derivatives exchanges based on regional and multi-asset market integration (AMASS Objective Three).

*Provisionally, these roles are proposed as: AMASS Coordinator; CORE Workstream Coordinator; ADDED Workstream Coordinator; Information Officer; Financial Analyst; Capacity-Building Officer; Administrative Officer; Monitoring and Evaluation Officer.*
For both workstreams, the approach is based on an incremental, phased country buildout – in the case of CORE, structured around providing support to CAIs at a national or regional level; in the case of ADDED, structured around creating an initially small but steadily growing integrated African space comprising RMC and REC jurisdictions willing to participate that have sufficient readiness to support the introduction of derivatives comex.

The overall implementation timeline is depicted in the chart overleaf.

149. Workstream Implementation Narrative – CORE

Vision: to further the emergence of the existing and pipeline comex/WRS initiatives at national and regional levels through the deployment of a structured package of policies, investments and capacity-building initiatives based on identification of appropriate frameworks of assessment and delivery, with three objectives – to nurture market liquidity, price discovery and smallholder market linkages.

CORE implementation takes place over three phases:

01. CAI Framework Creation:

The CORE workstream is structured at national or regional level around EPIs. EPIs are invited to apply to become Credible Anchor Institutions (CAIs), around which AMASS Products can be deployed. As such, the starting point is to institutionalise the CAI eligibility criteria identified under Principle Three above and accredit Africa’s current EPIs as CAIs – likely the eight established institutions identified above in this paper. This will involve creating concrete eligibility considerations under each criteria, and CAI Application Documentation for capturing the relevant information.

Application Documentation should be reviewed and – if satisfactory – signed off by the technical committee of independent sectoral experts. The experts will be entitled to request further information to facilitate this process. As other African comex/WRS institutions are launched over time, they can apply to become CAIs based on their submission of CAI Application Documentation and the review and sign-off by the technical committee of independent sectoral experts.

Timeframe: 3 months for established institutions, and ongoing for future CAI applicants.

02. CAIP Formulation:

As the next step, it is recommended that each CAI will be invited to formulate a five-year CAI Investment Plan (CAIP), in coordination with their designated regulatory, central bank and policymaking stakeholders. The CAIP is envisaged to be functionally equivalent in scope, structure and purpose to the CAADP National and Regional Agriculture Investment Programmes (NAIPs, RAIPs). As with the NAIPs and RAIPs, the CAIP may be national or regional in scope in line with the jurisdictional coverage of the CAI.

The CAIP is intended as an instrument for a comex or WRS to comprehensively drive the development of its enabling ecosystem in collaboration with its stakeholders. Each CAIP constitutes a selection from the AMASS Product suite chosen by the CAI in consultation with stakeholders. CAIP formulation would thereby create a comprehensive pipeline of linked investment, policy and capacitation measures designed to achieve institutional development and agricultural transformation. To ensure alignment with Bank strategy, CAIPs are intended to incentivise the focus of comex/WRS activity around the Bank’s priority value chains, ensure the agricultural ‘Feed Africa’ imperative is realised in consonance with the other High Fives, and ensure a gender-inclusive approach to ecosystem development.
Agricultural Market Access Sub-Strategy for Africa: Commodity Exchanges, Warehouse Receipt Systems, and New Standards

1) INCEPTION
   - CIU set-up and resourcing
   - AMASS Finance Structure Resourcing
   - Partner Interface Establishment

2) CORE WORKSTREAM
   - CAI Framework Creation
     - Geophy-CGI Eligibility Criteria for CIUs
     - Create CAI Application Documentation
     - Submission, review and approval - CIU Applications
   - CAI Formulation
     - Create CAI Formulation Guidelines
     - CAI Consultations and Formulation
     - Submission, review and approval of CAIs
   - AMASS Product Deployment
     - Deliver ATDS per CAI
     - Deploy AMASS Products
     - Initiate Monitoring & Evaluation
     - AMASS Reviews

3) ADDITIONAL WORKSTREAM
   - Readiness Assessment and Capacitation
     - Create Regulatory Assessment Template
     - Perform Regulatory Assessment
     - Capabilities Building
   - Regulatory Framework Development / FAERC Meetings
   - PAE License Tendering
     - Finalise tender framework
     - Tender RFP and Shortlisting
     - Tender RFP and PAE License Awards
   - PAE and AMASS Product Deployment (as per CORE)
To formulate the CAIP:

- The CAI will be provided CAIP Formulation Guidelines devised by the CIU in consultation with stakeholders within the Bank and at partner organisations;

- The CAIP formulation process will be structured around segmented stakeholder consultations to elicit stakeholder needs round the twenty AMASS products in the context of the overall development of the CAI, its products, services and markets;

- The CAI will also incorporate its own investment needs under products structured to directly support the comex/WRS institutions;

- At minimum, consultations should incorporate producer organisations, agro-SME organisations, agribusiness and industry bodies, policymakers, regulators, and financial institutions (commercial banks, non-bank financial institutions, institutional investors);

- Provision may be made for two or more CAIs – for example, operating within the same country or across borders in neighbouring countries or regions – to collaborate in CAIP development where interests overlap, but without detriment to the competitive dynamic between them;

- Stakeholders will be given a window to assess and submit their AMASS Product needs to the CAI which will compile the Plan, in coordination with and signed off by their designated regulatory and policymaking stakeholders;

- During the CAIP formulation process, the CAI should ensure alignment and where possible synergy with CAADP NAIP and/or RAIPs;

- CAIPs should include specific components around Bank-identified priority value chains, address all the Bank ‘High Five’ priorities, and embody a gender- and youth-inclusive approach;

- The two ultimate outcomes of the CAIP would be to provide:
  (i) a narrative of the CAI’s projected market development trajectory, its goals and dependencies, including specific statements on steps taken on a value chain basis to nurture market liquidity, price discovery and smallholder market linkages, and also steps taken to promote the gender- and youth-inclusiveness of the envisaged outcomes;
  (ii) a validated pipeline of confirmed interest for AMASS Products comprising policies, investments, and capacity-building measures – required by the CAI, by public sector, by private sector, by civil society – to support the realisation of the market development trajectory.

Timeframe: 12 months for established institutions, and ongoing for future CAI applicants

03. AMASS Product Deployment:

Coordination: The CIU will coordinate engagement by the Bank and its partners with the CAI around AMASS product deployment so as to realise the CAIP market development trajectory and fulfil the CAIP pipelines. A five-year AMASS Product Deployment Schedule (APDS) will be created corresponding to each CAIP which taps into the three AMASS Special Funds (MAI-F, MAW-F and MAE-F, detailed in Section Five), as well as grant, concessional, guarantee and technical assistance resources deployed by the Bank and its partners.

The CIU will play an important role to ensure the APDS of different CAIs are synergised wherever possible. CAIPs and APDS will be reviewed and – if satisfactory – signed off by the technical committee of independent sectoral experts. The experts will be entitled to request further information to facilitate this process.

As an important part of the AMASS Product Deployment process, the CIU will perform two key roles: firstly, providing input into product pricing so as to create incentives for market participation through the required transformation of the value equation to generate higher averaged returns on market participation through comex/WRS than through other channels; and secondly to compile market information and institutional performance data on CAIs over time, while tracking and measuring the impact of AMASS product deployments.
However, the finalisation of the term sheet for pricing, scoping and structuring of investment products will be the remit of the responsible sectoral department within the Bank, and the appraisal, approval, disbursement and monitoring processes will be in line with the Bank’s normal procedures.

Monitoring and Evaluation: The CIU will have responsibility to coordinate with a CAIP pointperson at each CAI, the regulator, the central bank and the policymaking overseer on the implementation, impact tracking and measuring of AMASS Product Deployments under the CORE Workstream. With respect to approvals for disbursements, investment monitoring, and repayments, the CIU will work in alignment with the Bank’s ordinary procedures.

Key Performance Indicators (KPIs): The performance of the CAIs – as well as the PAEs (below) – is proposed to be tracked by the CIU incorporating a range of KPIs, as set out in the table below:

<table>
<thead>
<tr>
<th>Nº</th>
<th>Type</th>
<th>Indicator</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Liquidity</td>
<td>Volume performance</td>
<td>MTs traded, financed and/or delivered per period per commodity</td>
</tr>
<tr>
<td>2</td>
<td>Liquidity</td>
<td>Volume performance</td>
<td>USD value traded, financed and/or delivered per period per commodity</td>
</tr>
<tr>
<td>3</td>
<td>Liquidity</td>
<td>Market participation</td>
<td>Number of discrete end users trading, financing and/or delivering per period per commodity</td>
</tr>
<tr>
<td>4</td>
<td>Liquidity</td>
<td>Open interest (derivatives)</td>
<td>Number of outstanding contracts that have not been settled at a given moment during the lifetime of a given contract</td>
</tr>
<tr>
<td>5</td>
<td>Liquidity</td>
<td>Market depth</td>
<td>Number of open orders awaiting matching at a given moment during the lifetime of a given contract</td>
</tr>
<tr>
<td>6</td>
<td>Inclusivity</td>
<td>Delivery Locations</td>
<td>Number of locations in which delivery infrastructure – warehouses, etc. – is located</td>
</tr>
<tr>
<td>7</td>
<td>Inclusivity</td>
<td>Stakeholder participation</td>
<td>Number of discrete end users per category – including smallholder producers and SMEs – trading, financing and/or delivery per period per commodity</td>
</tr>
<tr>
<td>8</td>
<td>Inclusivity</td>
<td>Transaction costs</td>
<td>Cost of trade, finance or delivery as a proportion of the value of the position</td>
</tr>
<tr>
<td>9</td>
<td>Commerciality</td>
<td>Ownership</td>
<td>Proportion of ownership held by commercial entities</td>
</tr>
<tr>
<td>10</td>
<td>Commerciality</td>
<td>Funding</td>
<td>Proportion of funding sourced through commercial sources</td>
</tr>
<tr>
<td>11</td>
<td>Commerciality</td>
<td>Profitability</td>
<td>Historical Net Profit after Tax (%)</td>
</tr>
<tr>
<td>12</td>
<td>Commerciality</td>
<td>Return on Capital Employed</td>
<td>Net profit divided by the sum of total assets minus current liabilities</td>
</tr>
<tr>
<td>13</td>
<td>Financing</td>
<td>Financing costs</td>
<td>Interest rate relative to national base rate</td>
</tr>
<tr>
<td>14</td>
<td>Financing</td>
<td>Non-Performing Loans</td>
<td>Sum of money financed under WR on which the borrower has not made scheduled payments for 90 days</td>
</tr>
<tr>
<td>15</td>
<td>Financing</td>
<td>Loan to Value (or ‘collateral haircut’)</td>
<td>Proportion of the value of the commodity financed.</td>
</tr>
</tbody>
</table>

AMASS Reviews: In the first year of AMASS, there will be a quarterly review of CORE product deployments by the AMASS Oversight Committee, including investments, donor contribution, policy and capacity-building measures, and monitoring of overall progress in tracking transactional value realisation and transformation-inducing productive investments by stakeholders around each CAI. Over time this will migrate to a half-yearly review.

An annual AMASS Progress Event – a seminar or conference, for example – may also be considered. For purposes of the CORE Workstream, the Progress Event involves stakeholders representing the Bank, its partners, CAIs and designated regulators and policymakers, and other interested parties. The purpose of the Event is firstly to share information, diffuse success stories, and learn lessons and secondly to foster collaborative approaches which harness the synergies of CAIIs and AMASS product deployments within country and across borders.

Timeframe: 9 months for established institutions, and ongoing for future CAI applicants.
Vision: To create an initially small but steadily growing integrated African space within which a new class of PAEs can emerge – continental, commercial, multi-asset commodity and derivative exchanges – that compete to develop the African commodity and financial derivatives sector, creating investment and transactional gateways to the Continent that are competitive with those offered in other global regions. This aligns with the vision expressed in the Financial Sector Development Strategy 2014-19 for a "regional approach ... which will allow for greater cross-border access to investors and issuers, help broaden the investor base and product range [with] greater liquidity, scale, and capacity [putting] Africa in a position to integrate with the global market".

It is envisaged that some EPIs may become PAEs – or participate in consortiums to promote a PAE. It is also envisaged that PAEs will interface with national and regional EPIs to create market access entry points to the PAE at national level, to synergise between contracts launched at national, regional and continental level (for example in different currencies, or to facilitate cross-border flows), to link and create arbitrage opportunities between spot, forward and futures contracts, to create synergies around quality standards, warehousing, clearing and settlement, market information dissemination and to nurture sustainable cross-border physical and financial flows.

PAEs are envisaged to be multi-asset across commodity financial asset classes, leveraging a versatile infrastructure to help realise transformation with respect to all five of the Bank’s ‘High Five’ priority areas.

ADDED implementation takes place over four phases:

01. Readiness Assessment and Capacitation: The ADDED workstream is structured at national or regional level around participating RMC and REC jurisdictions, based on assessments and declarations of readiness, and at continental level around the PAEs.

The starting point is an objective assessment of African jurisdictions’ readiness (“Readiness Assessment”) to support derivative exchanges, overseen by the CIU and performed by appointed regulatory experts. To facilitate this assessment, a regulatory template linked to the IOSCO international standards will be developed by the regulatory experts.

The Readiness Assessment is intended to lead to a categorisation of RMC and REC jurisdictions into four readiness tiers – Tier One (ready), Tier Two (near readiness), Tier Three (medium term readiness), and Tier Four (long term readiness).

All interested jurisdictions are eligible to receive capacity-building with the objective of promoting readiness, irrespective of their starting point.

Timeframe: 6 months for initial Tier One Jurisdictions, and ongoing for Jurisdictions in other tiers.

02. Regulatory Framework Development: Representatives from the designated regulatory, central bank and policymaking stakeholders in each Tier One jurisdiction meet frequently in the context of a PAE Regulatory Council (PAERC). PAERC as a structure is modelled on the Euronext College of Regulators that supervises the pan-European exchange, Euronext, and comprises the financial market regulators of Belgium, France, the Netherlands, Portugal and the United Kingdom.

*In practice, achieving readiness is not likely to be onerous for a jurisdiction – likely requirements are a securities or capital markets law that recognises derivatives; a regulatory agency signed up to the IOSCO MMOU; meeting technical criteria relating to recognition of netting and finality of settlement, and a real time gross settlement payment system.

PAERC creates a framework for licensing and oversight of PAEs to operate across participating Tier One jurisdictions. This involves:

* leveraging the IOSCO MMOU for cross-border information sharing and enforcement relating to securities markets regulation;
* leveraging the established regulatory principle of passporting in which the PAE license is issued by the Tier One regulator of the jurisdiction in which the PAE chooses to be domiciled, but with entitlement for the licensee to participate in all other Tier One jurisdictions;
* interfacing with central banks and ministries of trade concerning cross-border flows;
* determining how many PAE licenses to allocate (it is proposed a minimum of three be considered to promote a sufficiently competitive dynamic).

Using these mechanisms, the principal regulator of each PAE is the regulator in the jurisdiction in which it chooses to domicile. That regulator uses IOSCO MMOU information-sharing and enforcement mechanisms to coordinate with regulators in other jurisdictions into which the PAE has reach – for example, the home jurisdictions of licensed brokers, clearing banks and their clients, and the location in which commodity derivative locations are situated.

All commodity and financial derivatives are eligible to be traded on the PAEs unless specifically ruled out by the PAERC, subject to usual regulatory prerequisites, including the presentation of a credible contract specification with relevant delivery infrastructure in place as required.

Over time, as more jurisdictions obtain Tier One Readiness, buy in to the PAE vision and sign up to PAERC they adopt the same principles, thereby extending the single African space in which all PAEs could participate. PAERC meets for the first two years on a quarterly basis, before extending to half-yearly meetings as the regulatory framework matures in the third year of PAE operations.

Timeframe: 12 months to develop framework, followed by periodic ongoing PAERC meetings.

03. PAE License Tendering: The third phase involves a tendering process for the fixed number of PAE licenses made available by PAERC. Consortia are invited to compete for licenses under the tender. They have the right to domicile in any Tier One jurisdiction, to source end users and brokers and to establish delivery points and clearing bank arrangements across all Tier One jurisdictions.

The tender would be open to private sector-led consortia, with consortia participation open to any public or private sector entity from Africa or beyond, including existing African WRS, comex and stock exchanges.

As a preliminary proposal, bidding consortia would be required to meet the following criteria:

i. Standard Regulatory Requirements (fitness and propriety, capital adequacy, technical and operational wherewithal), and

ii. Consortium Eligibility Requirements (e.g., minimum proportion of African participation, maximum proportion of public sector participation, defined maximum shareholding level per consortium member);

iii. CAI Eligibility Requirements – as defined under Principle Three above.

Submission documentation would include the CAI Application Documentation, plus a detailed business plan and supporting documents, including governance arrangements; rules and bylaws; systems manuals; risk management policy; clearinghouse capital structure; contract specifications; contractual/agreement templates; training and capacity-building manuals; and expressions of interest from stakeholders, including end-users, brokers, clearing banks, technology and other services providers.
Submission documentation is assessed by the CIU technical committee of independent sectoral experts against appraisal criteria including:

(i) Priority alignment: the level of focus and prioritisation on agriculture, Bank-identified priority value chains and other high priority areas for the Bank;

(ii) Business model criteria: appropriateness, scope, sustainability, scalability, robustness, inclusivity and impact;

(iii) Resource deployment: capital, expertise, technical capability, stakeholder buy-in, investment and capacity-building commitment mobilised under the consortium.

A two-stage evaluation process is recommended:

- **Stage One – Shortlisting of Credible Applicants**: this is based on a technical evaluation of an initial Expression of Interest against the Standard Regulatory Requirements and the Consortium Requirements defined above, allowing six weeks for bidders to submit, and two weeks for evaluation;

- **Stage Two – Final Award**: allowing a further five months for shortlisted bidders to develop the submission documentation, with one month for evaluation. This lengthy timeframe is envisaged for two reasons: firstly, to allow for development of detailed business plans, including allowance for performing significant research and consultations; and secondly, to fast-track implementation by performing many of the implementation tasks – product development, business development, technology selection and scoping – as part of the tendering process.

Shortlisted consortia would be invited to formulate as part of their submission documentation a Continental CAIP (C-CAIP), as described above. In so doing, they would be encouraged to collaborate with EPIs and African public and private sector in the Tier One jurisdictions. The C-CAIP, just as the national and regional CAIPs described above, would define a market development trajectory and pipelines for AMASS Products to support PAE implementation and development of the ecosystem elements. The CAIPs would be subject to negotiation with the Bank as a part of the tender process, around which an ARDS would be developed for those consortia which are awarded a license.

**Timeframe: 9 months (with an option to open up additional PAE licenses in the future)**

**04. Deployment of the PAEs and the AMASS Products: AMASS Product Deployment and Monitoring and Evaluation under the ADDED Workstream** would follow a similar implementation framework for the PAEs as for the EPIs, coordinated by the CIU, as described under the CORE Workstream above.

The reviews performed by the AMASS Oversight Committee, described above, will incorporate the review of ADDED product deployment alongside those of the CORE Workstream. ADDED Workstream activities will also feature in the annual AMASS Progress Event alongside those of CORE.

**Timeframe: Ongoing**
The proposed roles for the Bank Departments and Partners are summarised in the tables below.

<table>
<thead>
<tr>
<th>No.</th>
<th>Product Name</th>
<th>AHAI</th>
<th>PISD</th>
<th>PIFD</th>
<th>RDRI</th>
<th>AHWS</th>
<th>PICU</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Market Access-Oriented Irrigation Scheme Investments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>Market Access-Oriented Value Chain Input and Mechanisation Finance Facility</td>
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<tr>
<td>3</td>
<td>Market Access-Oriented Agribusiness Park and Agro-Processing Investments</td>
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<tr>
<td>4</td>
<td>Food Reserve Agency Market Enhancement (FRAME) Programme</td>
<td></td>
<td></td>
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<tr>
<td>5</td>
<td>Market Access-Oriented Commercial Warehousing Investments</td>
<td></td>
<td></td>
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<tr>
<td>6</td>
<td>Market Access-Oriented Rural Warehousing and Rural Service Hub Investments</td>
<td></td>
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<tr>
<td>7</td>
<td>Market Access-Oriented Logistics Efficiency and Enhancement Programme (LEEP)</td>
<td></td>
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<tr>
<td>8</td>
<td>Bank Market Enhancement (BME) Programme</td>
<td></td>
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<tr>
<td>9</td>
<td>Rural Brokerage and Inclusive Connectivity and Technology Incubation Fund (RUBICON-F)</td>
<td></td>
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<tr>
<td>10</td>
<td>African Market Maker and Arbitrage Fund (AMMA-F)</td>
<td></td>
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<tr>
<td>11</td>
<td>Regulatory Integration - Pan African Exchange Regulatory Committee (PAERC)</td>
<td></td>
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<tr>
<td>12</td>
<td>Capacity-Building on Adoption of International Best Practices</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>13</td>
<td>Fund for Taking Equity in New Contract Development (TEND-F)</td>
<td></td>
<td></td>
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<tr>
<td>14</td>
<td>Fund for Taking Equity in New Contract Development (TEND-F)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>15</td>
<td>Comex/WRS Information Unit (CIU)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>16</td>
<td>Africa Derivatives Development (ADDED)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>17</td>
<td>Product Management ‘Rainmaker’ Network</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Africa CCP Capitalisation Liquidity, Robustness and Transformation Programme (ACCELERATE)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Market Access-Oriented Transfrontier Park Investments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Regional Integration Monitoring Service (RIMS)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Products</td>
<td></td>
<td>15</td>
<td>9</td>
<td>10</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

The shortlisting process would serve two purposes: avoiding unqualified consortia from wasting time and resources to developing the level of detailed information required for the final submission; and secondly, to avoid wasting time and resources of stakeholders – regulators, brokers, banks, technology and other service providers, existing Africa WRS and comex – with whom collaboration is necessary for credible bidders to compile the submission documentation.
In summary, the proposed role of the Bank is threefold:

- to act as the anchor financier for the investment components of the AMASS Products, through the three proposed Special Funds (MAI-F, MAW-F, MAE-F), with those structures acting as vehicles not only for the Bank’s funds but also to ‘crowd in’ other institutions interested to co-invest into African agricultural market access;

- to deploy technical expertise in tandem with its partners to deliver – or support delivery – of the policy advisory and capacity-building components of each AMASS Product;

- to host the CIU as the coordinating body for implementing AMASS, to coordinate donor and technical agency activity, to perform monitoring and evaluation, and to compile and disseminate sectoral performance information.

The proposed role of the Bank’s partners is to deploy technical expertise to deliver – or support delivery – of the policy advisory and capacity-building components of each AMASS Product (as proposed in Section Four and the table above); and where applicable to provide selective grant funding in priority areas to realise development impact.

152. Pipeline

Pipeline development has been undertaken at two levels: through identifying concrete investment requirements articulated by stakeholders during the country missions to the RMCs undertaken as a part of this Study; and through also quantifying the likely market potential through examination of the pipeline in the Bank’s Agriculture Strategy as well as the NAIPs created by each jurisdiction within the CAADP framework.
Taken together, these pipelines represent three methods of quantifying the potential investment requirement.

Stakeholder-Articulated Investment Requirements

The country missions revealed pipelines with collective value of USD 1.4 billion comprising investment requirements across the market infrastructure, warehousing, logistics and capacity-building components.

<table>
<thead>
<tr>
<th>No</th>
<th>Country</th>
<th>Investment Basic Description</th>
<th>Metric</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mozambique</td>
<td>Rural Warehouse Investments</td>
<td>Debt / Grant / TA</td>
<td>23.5m</td>
</tr>
<tr>
<td>2</td>
<td>Tanzania</td>
<td>Rural Warehouse Investments</td>
<td>Debt / Grant / TA</td>
<td>28.5m</td>
</tr>
<tr>
<td>3</td>
<td>Tanzania</td>
<td>Quality Standards Development</td>
<td>TA</td>
<td>2.5m</td>
</tr>
<tr>
<td>4</td>
<td>Tanzania</td>
<td>Package Standardisation</td>
<td>TA</td>
<td>1.0m</td>
</tr>
<tr>
<td>5</td>
<td>Tanzania</td>
<td>WRS/Comex Training</td>
<td>TA</td>
<td>5.0m</td>
</tr>
<tr>
<td>6</td>
<td>Nigeria</td>
<td>Market Access Promotion Investment Package</td>
<td>Debt / Grant / TA</td>
<td>0.877m</td>
</tr>
<tr>
<td>7</td>
<td>Tanzania</td>
<td>Market Access Promotion Investment Package</td>
<td>Debt / Grant / TA</td>
<td>58.7m</td>
</tr>
<tr>
<td>8</td>
<td>Cote d'Ivoire</td>
<td>Warehouse Investments</td>
<td>Debt / TA</td>
<td>67.0m</td>
</tr>
<tr>
<td>9</td>
<td>Cote d'Ivoire</td>
<td>WRS Implementation</td>
<td>Debt / TA</td>
<td>4.2m</td>
</tr>
<tr>
<td>10</td>
<td>Cote d'Ivoire</td>
<td>Comex Implementation</td>
<td>Debt / TA</td>
<td>8.4m</td>
</tr>
<tr>
<td>11</td>
<td>Malawi</td>
<td>Rural Warehouse Investments</td>
<td>Debt / Grant / TA</td>
<td>91.0m</td>
</tr>
<tr>
<td>12</td>
<td>Malawi</td>
<td>WRS Institutional Development</td>
<td>Debt / Equity /</td>
<td>9.2m</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Risk-Sharing / TA</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Zambia</td>
<td>Warehouse Investment and FRA Transformation</td>
<td>Debt / TA</td>
<td>122.5m</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>1,439.4m</strong></td>
<td></td>
</tr>
</tbody>
</table>

However, in eight RMCs visited during the country missions (Cameroon, Egypt, Ethiopia, Kenya, Morocco, Rwanda, Senegal, South Africa), stakeholders have not yet undertaken steps to quantify their investment needs or develop bankable projects. Accordingly, the CAIPs are recommended as a key mechanism within the AMASS strategy to support stakeholders to formulate their requirements, in the prism of an overall market development trajectory structured around market access mechanisms such as comex and WRS.

The Wider RMC Investment Potential

This pipeline sits within a broader market opportunity for AMASS Products that may be quantified in excess of USD 19 billion, and potentially as high as USD 62 billion.

The investment potential in each of the RMCs has also been estimated based on assessment of the pipeline in the Bank’s Agriculture Strategy as well as in the NAIPs created by each jurisdiction within the CAADP framework. This assessment shows:

- investments potentially aligned with AMASS Products already in the AHAI pipeline amounting to USD 2.7 billion;
- per high level assessment of the most recent NAIPs issued by the RMCs visited during the Study, an investment requirement in the areas aligned with AMASS Products of USD 19 billion;
- per FAO (2015), the source for the Bank’s Agriculture Strategy, a long-term investment requirement in the areas aligned with AMASS Products of USD 62 billion.

The breakdown of these numbers by the investment area that corresponds to an AMASS Product is shown overleaf.
The core structure for implementation of AMASS is recommended to be the Comex/WRS Information Unit (CIU). The CIU is envisaged as a cross-cutting unit which interfaces with departments and complexes across the Bank as well as with the Bank’s partners, AGRA, FAO, ITC and UNECA.

Structurally, the CIU is envisaged to comprise three functional components:

- Management function: a small team envisaged to comprise eight full-time staff under an AMASS CIU Coordinator to perform executive and implementation roles;
- Advisory function: A technical committee of independent sectoral experts to provide inputs and guidance on technical matters, include CAI eligibility, PAE appraisal, AMASS product deployment and technical troubleshooting;
- Oversight function: A committee of representatives from the Bank and its partners to periodically review performance and shape organisational priorities over time.

Other expenditure items would include supporting travel costs to fund participation by jurisdictional stakeholders in the PAERC, plus supporting an annual AMASS Progress Event.

The budget is projected as follows:

<table>
<thead>
<tr>
<th>Expense Item</th>
<th>Annual Expenditure</th>
<th>3-Yr Expenditure</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIU Management Function</td>
<td>USD 0.65m</td>
<td>USD 1.95m</td>
<td>8 staff with projected annual cost-to-company as per the footnote below, for three years</td>
</tr>
<tr>
<td>CIU Management Function</td>
<td>USD 0.20m</td>
<td>USD 0.60m</td>
<td>8 advisors with projected annual advisory fee of USD 25,000, for three years</td>
</tr>
<tr>
<td>CIU Oversight Function</td>
<td>USD 0.08m</td>
<td>USD 0.94m</td>
<td>Sitting fees of USD 10,000/year for 8 representatives, for three years</td>
</tr>
<tr>
<td>AMASS Progress Event</td>
<td>USD 0.50m</td>
<td>USD 1.50m</td>
<td>Costs of conference centre, catering and travel for select delegates</td>
</tr>
<tr>
<td>Travel</td>
<td>USD 1.09m</td>
<td>USD 3.07m</td>
<td>Estimated 12 trips/year per manager, 4 trips each per advisor and overseer, 4 trips per each of 24 PAERC participants = 956 trips/year, at average cost per trip of USD 4,000</td>
</tr>
<tr>
<td>Overhead</td>
<td>USD 0.16m</td>
<td>USD 0.48m</td>
<td>Assume USD 15,000 annual overhead – IT &amp; communications, furnishing, utilities, stationary, catering, entertainments – per manager, plus USD 2,500 per advisor and overseer</td>
</tr>
<tr>
<td></td>
<td>USD 2.61m</td>
<td>USD 7.84m</td>
<td></td>
</tr>
</tbody>
</table>

153. Budget

Cameroon, Cote d’Ivoire, Ethiopia, Ghana, Kenya, Malawi, Mozambique, Nigeria, Rwanda, Senegal, Tanzania, Zambia. No NAIPs were available for Egypt, Morocco and South Africa. It is noted that some of these NAIPs are historical, i.e., the dates for which they apply have now been completed. Nonetheless, the level of investment envisaged by the country is a useful indication that investment demand exists in the relevant areas.


Provisionally, these roles are proposed as: AMASS Coordinator (Cost to Company USD 150,000/annum); CORE Workstream Coordinator (USD 100,000/annum); ADDED Workstream Coordinator (USD 100,000/annum); Information Officer (USD 60,000/annum); Financial Analyst (USD 60,000/annum); Capacity-Building Officer (USD 60,000/annum); Administrative Officer (USD 60,000/annum); Monitoring and Evaluation Officer (USD 60,000/annum); all numbers subject to confirmation with the Bank in line with human resources and other relevant policies.
The implementation of AMASS is subject to a diverse range of risks. The table below highlights key risks and proposes approaches to mitigate those risks.

<table>
<thead>
<tr>
<th>Risk</th>
<th>Mitigation Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primacy of national over regional or continental approaches</td>
<td>The Bank and its partners to engage other integration champions – e.g. the AU/NEPAD, RECs, regional and continental associations – in the implementation process, and align AMASS closely with existing Bank, AU/NEPAD and REC regional integration strategies. Detailed workshops to representatives of national government to present the strategy and identify synergies between national, regional and continental level components, including in particular fostering close links between regional/continental PAEs and national CAIs.</td>
</tr>
<tr>
<td>Lack of resourcing for the AMASS Products</td>
<td>The Bank and its partners to act as a champion for agricultural market access as a continental investment priority, to mobilise additional funding from commercial, institutional and development finance sources. The CAIPs, inspired by CAADP NAIP/RAIPs, are intended as a means to generate a demand-driven, self-selecting, coherent approach to formulating investment requirements. This should provide significant evidence of concrete investment requirement against which financiers can invest.</td>
</tr>
<tr>
<td>Slow development curve for African Comex/WRS</td>
<td>The seven AMASS ‘market access-oriented products’ are intended to provide value-based incentives for owners of large flows of commodity or large infrastructures to utilise comex/WRS mechanisms so as to expedite comex/WRS development. The ADDED Workstream, and the emergence of continental-level PAEs, is intended to create sufficient critical mass of liquidity to give African exchange a level playing field with international competitors operating out of larger home markets or serving a global value chain.</td>
</tr>
<tr>
<td>Policy interventions inhibit adoption of African Comex/WRS</td>
<td>Leadership by the Bank and influential partner institutions, as well as participation by AU/NEPAD and RECs, to encourage government to respect and upgrade regional integration commitments. Research and analysis performed through policy advisory components to AMASS Products identifies impacts of harmful interventions.</td>
</tr>
<tr>
<td>Coordination challenges across participating institutions</td>
<td>The role of the CIU is intended to ensure high levels of coordination between the Bank and its partners in implementing AMASS.</td>
</tr>
<tr>
<td>Lack of buy-in to commodity derivatives exchange development as a Continental market access priority</td>
<td>This Study makes strong arguments for the elevation of commodity derivative exchange development as a continental priority. The arguments may be less intuitive than arguments for commodity spot exchange development but further reflection should reveal that derivatives do not just complete the ecosystem but also enable it by enabling agribusinesses and financiers to manage some of the key risks from dealing with smallholders – for example, for lead firm agribusinesses that operate contract farming to offer fixed forward price contracts to outgrowers; or for WR financiers to offer higher loan-to-value ratios when financing the WR; or for exporters to manage the currency risks so as to ensure a fair price when purchasing from producers. More concrete identification of the role of derivatives in mitigating transaction risks associated with spot transactions and WR financing.</td>
</tr>
<tr>
<td>AMA/AMIS Product No</td>
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<tr>
<td>AFRI Strategy (source)</td>
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<td>Zambia</td>
<td>16,890.34</td>
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<tr>
<td>Total</td>
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REFERENCES


ANNEXURE I: TERMS OF REFERENCE

Background

1.1. Agriculture accounts for about 15 percent of Africa’s GOP with a wide variation in the share of GOP among countries. The agriculture sector is also the main source of income for about 90 percent of Africa’s rural population, accounts for approximately 20 percent of total export value and provides employment for an estimated 57 percent of the labour force.

1.2. High and sustained agricultural performance is critical for stimulating growth and development, alleviating poverty, and improving food and nutrition security. Yet, agriculture has been under-performing. Agricultural growth has been generally achieved by cultivating more land and mobilizing a larger agricultural labour force, which produces very little improvement in yields, and is also unsustainable. The poor performance of the agricultural sector is attributable to factors including declining investment in the sector, inadequate physical infrastructure, limited access to regional and international markets, high cost and of farm inputs including fertilizers and high quality seeds, limited access to credit, lack of a conducive policy environment including for land, and restrictive barriers to trade.

1.3. On the other hand, Africa’s agriculture sector is rife with opportunities including abundant arable land and vast water resources; an increasingly large gap between regional demand and supply in agricultural products, and between regional supply and global demand, which is conducive to the development of an African agri-food sector; high population growth and rapid urbanization; surge in growth of the middle class, which is good news for demand growth in food systems; and growing agriculture and agribusiness opportunities arising from the combined effects of steady and rapid population growth on food demand, as well as the emergence of a middle class with higher purchasing power.

1.4. African countries have not made significant progress in boosting regional trade. On the basis of recorded trade, during 2007 to 2011, the average share of intra-African exports in total merchandise exports in Africa was 11 percent, compared with 50 percent in developing Asia, 21 percent in Latin America and the Caribbean and 70 percent in Europe. However, the composition of the informal cross border trade is broad. It includes handicrafts, foodstuffs and non-foodstuffs, as well as low quality manufactured and processed goods, contra-bands and counterfeited goods imported from some Asian countries. It should also be noted that a huge volume of informal cross border trade takes place in Africa and capturing it helps to present a more balanced perspective. Unfortunately, the African continent lost its status as a net exporter of agricultural products in the 1980s when prices for raw materials fell and production stagnated. Since then, imports of agricultural products have grown faster than agricultural exports.

1.5. Africa is a net importer of agricultural products, with patterns of agricultural exports largely characterized by a small number of primary commodities and dependency on preferential access to a few markets in developed countries. Only about 20-25 percent of local agricultural production is marketed and intra-African agricultural exports account for only 19 percent of total intra-African exports. Regional agricultural trade also remains largely informal. For example, the value of informal cross-border trade in Southern Africa, 70 percent of which is conducted by women, is estimated to be above US$7 billion. Not surprisingly, at around US$1 billion, the total intra-regional trade in food staples is a tiny fraction of Africa’s US$925 billion annual food import bill. Many African countries have actually undertaken economic and trade policy liberalization. This means that these countries have liberalized tariff regimes, with low tariff bands to encourage cross-border trade. Tariffs liberalization has effectively been the main reason for entering into regional trade agreements such as Free Trade Areas, Customs Union, Common Market, etc. Considerable efforts have been made as well in eliminating non-tariff barriers (NTBs), but unfortunately, these keep on proliferating. Some Regional Economic Communities (RECs) have put in place policies and regulatory mechanisms to eliminate NTBs, but it is a major challenge to remove these.

1.6. Yet trade and markets are critical to Africa in many ways. Achieving food security is virtually impossible without improving the channels through which food is bought and sold—and ensuring that local producers participate in those channels. Hence, building Africa’s national and regional markets will provide the most immediate opportunities to increase trade, engender regional integration, and by so doing, also help to enhance food security.

1.7. Expanding regional trade could also provide an opportunity for African countries to address a major constraint to export competitiveness stemming from the small size of their economies, enabling African enterprises to enhance competitiveness through exploiting economies of scale associated with having a large market.
**Purpose of the Study**

1.8. It is against this back drop that the African Development Bank is recruiting a competent and reputable consulting firm to conduct a study on promoting agricultural market access including through support for agricultural commodity exchanges warehouse receipt systems and new standards. The diagnostic study will respond to the paramount problem of inadequate market access for Africa’s agricultural inputs and outputs.

1.9. The purpose of the economic and sector work is to enhance the analytical contributions of the Bank to RIMCs and Regional Economic Communities (RECs) by generating and disseminating innovative knowledge that guides policies, capacity building and investments in the area of agricultural market access promotion, especially through commodity exchanges and warehouse receipt systems, with particular emphasis on exchanges benefitting the agriculture sector. The study will examine the potential of commodity exchanges and warehouse receipt systems to foster regional market integration through the establishment of (sub) regional systems. Another important aspect of the study will be on how to generate the buy-in and active participation of a broader range of actors, especially financial institutions, investors, and farmers/their organisations, along with traders, in order to enhance the value proposition of commodity exchanges and allow them to develop their full potential. In this regard, the study will emphasize the requisite conditions for developing risk management tools -- futures and options. Furthermore, the study will gauge the underlying causes which make accessing markets more difficult, whether through an exchange or directly, such as NTBs, food standards, financial regulation, logistics, and competition policy, especially in transport and related areas.

1.10. The study will take into account the fact about 80 percent of Africa’s smallholder farmers are women; they are responsible for key components of household production such as weeding, harvesting and processing and produce at least 70 percent of food in Sub-Saharan Africa. Since livestock, fisheries, horticulture and forestry products are marketable commodities, they will also be included in the study. It will generate concrete proposals and a sequenced roadmap on how the Bank, using its current and/or new financial products, as well as its partners, could best approach promotion of agricultural commodity exchanges, warehouse receipt systems and/or other appropriate market development mechanisms, as part of an overall strategy to foster agriculture-driven growth and shared prosperity for all in Africa.

1.11. The study will add value to and build on past studies that examined the causes of failure of Africa’s exchanges by, amongst other things, conducting a more comprehensive and diagnostic review and assessment of the performance of past and existing commodity exchanges in Africa and other parts of the developing world such as Asia and Latin America where such exchanges might have worked. Furthermore, it will identify lessons of experience, causes of failures and success factors, in order to determine whether such exchanges have had a positive impact on farmer marketing channels, as well as propose concrete measures that could be adopted to assist existing agricultural commodity exchanges and the successful establishment and long-term viability of future agricultural commodity exchanges in Africa. In particular, after an analysis of existing financial products of the Bank, the study will propose how the Bank can directly support existing and future commodity exchanges. The consultants will carry out a desk review of the numerous studies undertaken by different African countries to inform policy makers on setting up agricultural commodity exchanges. The study will also explore the option of interconnecting some commodity exchanges in Africa at the regional or continental levels.

**Partnerships in Conducting the Study**

1.12. The Bank will partner with UNECA, AGRA, FAO, and the International Trade Centre (ITC) -- a joint agency of the World Trade Organization and the United Nations in undertaking the study. They will provide technical support by sharing their perspectives with the consultancy team, reviewing and providing comments on the study report and participating in the stakeholder consultation workshop. They will as well provide the consultants with existing and on-going reports related to this study.

1.13. The Bank’s Ten-Year Strategy (2013-2022) has identified economic diversification as a key driver of economic growth and a basis for promoting trade and private sector growth. The Bank’s Conference on Transforming African Agriculture held in Dakar in October 2015 also, amongst other things, agreed to bolster support for agricultural market development through the establishment of warehouse receipt financing and agricultural commodity exchanges.
5.1. Sequencing of Reports

- a) The preparatory phase will entail preparation by the consultants of an approach paper/inception report in Abidjan, outlining the overall objectives and methodology, study framework and process, organisational arrangements and timeframes, and other pertinent details of the study, including the stakeholder consultation workshop [Consultant’s note – by agreement the consultation workshop is replaced with a virtual review].

- b) The interim phase will primarily entail a comprehensive desk review of country, regional and international experience on the benefits and pre-requisites for a successful agricultural commodity exchanges, WRS, etc., with specific attention given to cases from African countries and other developing regions of the world. During this phase the Bank, the consultants will hold discussions with select staff in the concerned complexes of the Bank, especially OSVP (AHAI, AHWS), OIVP (ONEC, PISD, OICT, PIFD, STRG/ORPC, SEOG, ECON (EDRE, EADI), and OPEV.

- c) As a follow up to the desk review/interim phase, the country work will commence and constitute a variety of interviews with concerned entities at the country level. The study will focus on a selection of priority countries based on regions-economic groupings, including South Africa, Zimbabwe, Zambia, Rwanda, Botswana, Kenya, Ethiopia, Nigeria, Ghana, Ivory Coast, Senegal, Cameroon, Morocco, Egypt and Malawi. This list will be validated by the consultants during the desk review.

5.1.1 The consultants will meet and hold extensive discussions with a host of key public, private and civil society stakeholders that are directly and/or indirectly involved in agricultural value chains, including primary producers’ (farmers), farmer organisations, leading agro-processors and other value adding industries, end users of selected commodities, agricultural and non-agricultural commodity exchanges, agricultural warehouse operators, government agencies, including National Investment Authorities, Regional Economic Communities (RECs), development partners active in supporting the agricultural sector, and commercial Banks. Where direct meetings with relevant officials during field visits are not feasible, telephone and email consultations will be carried out. The consultants will also closely consult with the other partners listed above that are collaborating with the Bank in this study.

c) At the conclusion of the country work, the consultants will draft the interim report, which will be processed per the Bank’s policies.

5.1.2 Virtual Review of the Draft Study Report - The Bank will consult a host of pertinent regional and international stakeholders to review and comment on the draft report through virtual means. The consultants will finalise the report based on comments received and submit the revised version to the Bank.

5.1.3 Study Outputs -- the study outputs, each to be approved by the Bank, will comprise the following reports: i) an approach paper/inception report; ii) an interim report (Promoting Agricultural Market Access for Africa’s Prosperity - Commodity Exchanges Warehouse Receipt Systems and New Standards); iii) all background/working papers used to inform the main report; iv) aide memoires for each study country summarizing the main findings, conclusions and recommended actions; v) detailed and summary power point presentations of the methodology, key findings, conclusions and recommendations of the study with a sequenced road map; vi) mission back-to-office reports; and vii) a final report (Promoting Agricultural Market Access for Africa’s Prosperity -- Commodity Exchanges Warehouse Receipt Systems and New Standards) with the following annexes:

- a) A detailed/costed pipeline of bankable and top priority investment projects for implementation at the national and/or regional levels on African agricultural commodity exchanges, warehouse receipt systems, etc., for countries with the highest immediate and future potentials. For each project identified, the pipeline will include a detailed role for the Bank (technical assistance, direct financing, equity, policy support etc.) and a list of potential co-financiers; and

- b) A detailed 3-year work plan and budget for African agricultural commodity exchange/warehouse receipt systems/new standards related training and capacity building.

5.1.4 The consultants will prepare all reports and tables in English using the Bank’s standard software (Microsoft Office). The length of the main study report, excluding annexes, should not be more than one hundred (100) pages. A total of three hundred (300) hard copies of the English version of the final report will be submitted to the Bank by the consultants. The Bank will assist in the design of the cover page of the final report.
ANNEXURE II: INCEPTION REPORT

1. Introduction

This inception report is the first deliverable due under the Study commissioned by the African Development Bank (“the Bank”) in collaboration with its partners including UNECA, AGRA, FAO and the ITC, “Agricultural Market Access Promotion for Africa’s Prosperity - Commodity Exchanges (“Comex”), Warehouse Receipt Systems (WRS) and New Standards” (“the Study”).

This inception report has two overarching objectives:
- Providing an outline of the Study overall objectives and methodology, study framework and process, organisational arrangements and timeframes, as indicated by the Terms of Reference (TOR) – see Sections 2-6 below;
- Providing early views, based on the consulting team’s prior experience in the African Comex and WRS sector, as a means to invite collaboration from the Bank in all aspects of the development of the thinking in this work – see Sections 7-9 below.

2. Study objectives

Per the TOR disseminated by the Bank, the Study must address the following list of requirements (with our emphasis in bold):

Overall Objectives
- “to enhance the analytical contributions of the African Development Bank to Regional Member Countries (RMCs) and Regional Economic Communities (RECs) by generating and disseminating innovative knowledge that guides policies, capacity building and investments in the area of agricultural market access promotion, especially through Comex and WRS, with particular emphasis on exchanges benefitting the agricultural sector”;
- “to respond to the paramount problem of inadequate market access for Africa’s agricultural inputs and outputs”;
- to effectively identify and propose strategies and partnerships for developing the ecosystem components within which effective Comex and WRS can be developed;
- “to take into account the fact about 80 percent of Africa’s smallholder farmers are women; they are responsible for key components of household production such as weeding, harvesting and processing and produce at least 70 percent of food in Sub-Saharan Africa”;

Specific Deliverables
- “to gauge the underlying causes which make accessing markets more difficult, whether through an exchange or directly, such as NTBs (SPS measures and technical barriers to trade), misalignment of standards on foodstuffs resulting in NTBs, financial regulation, logistics, and competition policy, especially in transport and related areas”;
- “to add value to and build on past studies that examined the causes of failure of Africa’s Comexes by, amongst other things, conducting a more comprehensive and diagnostic review and assessment of the performance of past and existing Comexes in Africa and other parts of the developing world such as Asia and Latin America where such Comexes might have worked”;
- “to identify lessons of experience, causes of failures and success factors, in order to determine whether … exchanges and WRS have had a positive impact on farmer marketing channels, as well as propose concrete measures that could be adopted to assist existing agricultural Comexes and the successful establishment and long-term viability of future agricultural Comexes in Africa”;
- “to examine the potential of Comexes and WRS to foster regional market integration through the establishment of (sub) regional systems… [and] to explore the option of interconnecting some Comexes in Africa at the regional or continental levels”;
- “to emphasize the requisite conditions for developing risk management tools – futures and options”;

104 It is also noted with concern that many African producers are children, given prevalence of child labour.
- “how to generate the buy-in and active participation of a broader range of actors, especially financial institutions, investors, and farmers/their organizations, along with traders, in order to enhance the value proposition of Comexes and help them to develop their full potential”;
- “to propose, after an analysis of existing financial products of the Bank, how the Bank can directly support existing and future Comexes and WRS”;
- “to generate concrete proposals including policy options and a sequenced roadmap on how the Bank, considering the High Five priorities and implementation strategies, using its current and/or new financial products, as well as its partners, could best approach promotion of agricultural Comexes, WRS and/or other appropriate market development mechanisms, such as proposing additional products through collaborating with actors like the African Regional Power Pools, as part of an overall strategy to foster agriculture-driven growth and shared prosperity for all in Africa”.

3. Study framework -- contextualising the consultants’ approach

The consultants’ understanding of the Study objectives is that the Bank seeks from the Study not just another analytical assessment of the factors why Comex and WRS development in Africa has not been more successful to date. Rather, the Bank seeks a strategic agenda for Comex/WRS development on the Continent around which the activities of the Bank and its partners can be structured.

Clearly, this agenda must be grounded in an understanding of what has gone before. Importantly, though, it must also include concrete, progressive, forward-looking and action-oriented outcomes that address constraints, mobilise stakeholder buy-in, and identify specific opportunities that synergise with the Bank’s own suite of products, services and capabilities, and align with its Ten Year Strategy (2013-22) including its ‘High Five’ priorities to advance Africa’s transformative agenda over the next 10 years, as well as sectoral sub-strategies including those pertaining to Agriculture (2016-25), Regional Integration (2014-93), Gender (2014-18), Financial Sector Development (2014-19), and Private Sector Development (2013-17).

In other words, the Bank is seeking a strategic agenda that it can take in hand for purposes of assuming a leadership role, along with its partners including UNECA, AGRA, FAO and the ITC, in shaping the emergence of a successful generation of African Comexes and WRS: to benefit agricultural value chains; to support rural livelihoods; to drive private sector and financial sector development; to foster gender equity; to promote regional integration; and more broadly to underpin Africa’s continued growth and development.

Concrete outcomes that the Bank seeks to take forward from the Study are understood to be:
- Strategic agenda and implementation roadmap for African Comex and WRS development;
- Policy recommendations for the Bank and its partners in guiding RMCs and RECs;
- Investment pipelines that can drive Bank transactional activity in coming years; and
- Capacity building approach to support stakeholder buy-in and active participation.

4. Methodology

As part of the consultants’ technical approach, investigations will be conducted at two levels:

At the continental and sub-regional levels, to uncover and shape a general set of best practice recommendations and a strategic agenda for successful development in Africa of Comex, WRS and new standards;

Implication for country missions undertaken as part of the Study: to identify best practices and lessons emerging across African jurisdictions and calibrate in light of global experience through examination of the literature and tapping into the global expertise of the consulting team.

At the country level, to identify success drivers and constraints that can shape a structured approach to policy framework development, stakeholder buy-in, capacity-building, and investment pipeline development.

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*It is noted that other risk management instruments, such as forwards may also be considered.

*Light up and power Africa; feed Africa; integrate Africa; industrialise Africa; and improve the quality of life for the people of Africa.
Agricultural Market Access Sub-Strategy for Africa: Commodity Exchanges, Warehouse Receipt Systems, and New Standards

Implication for country missions undertaken as part of the Study: to explore opportunities and constraints within the context of the country and the broader sub-region on a policy, institutional, value chain, infrastructural and stakeholder basis (see Section 6 below), identifying appropriate frameworks of assessment and delivery around which a structured approach can be taken.

5. Organisation and workplan

The consulting team for the Study is broad-based, capturing a sizable portion of the total technical expertise available for African Comex and WRS development, having been responsible for the preparation, implementation and management of Comexes and WRS in inter alia Botswana, Cameroon, Cote d’Ivoire, Egypt, Ethiopia, Ghana, Malawi, Mauritius, Morocco, Nigeria, Rwanda, South Africa, Uganda, Zambia and Zimbabwe.

The team is structured to harness the experience of experts at pan-African and regional levels, supported by the administrative capability of the Ghana Grains Council.

At Pan-African level, the Project Leader (Francis Osei) provides an interface and coordination with the Bank on a day-to-day basis, while the Study Architect (Adam Gross) designs, coordinates implementation, and co-drafts outputs for the Study.

The role of the regional experts is twofold: on the one hand to conduct country missions and develop the regional outputs; and on the other to act collectively as a ‘council of experts’ to guide, validate and stand behind the resultant continental strategies, workplans, pipelines and frameworks generated during the project.

The collective weight of these experts standing behind the publication can create a benchmark document that can be positioned as the authoritative framework for Africa’s Comex and WRS development, to support the Bank take up a leadership role, along with its partners, in shaping the emergence of a successful new generation of African Comex and WRS.

The project is to be undertaken through a five-phase workplan, with deliverables profiled in Annexure 1:

<table>
<thead>
<tr>
<th>Phase</th>
<th>Key Activities</th>
<th>Timeline</th>
<th>Deliverables</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Preparatory Phase</td>
<td>- Devise project parameters (objectives, methodology, framework, organisation, timeframe)</td>
<td>2 weeks</td>
<td>Approach Paper / Inception Report</td>
</tr>
<tr>
<td>2. Interim Phase</td>
<td>- Conduct desk review of African and international experience</td>
<td>4 weeks</td>
<td>i) Background Report</td>
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<td></td>
<td>- Consult with Bank staff and partners</td>
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<td>ii) Mapping of Bank instruments to WRS and Comex sectoral need</td>
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<td></td>
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<td>iii) Listing of country stakeholder contacts</td>
</tr>
<tr>
<td>3. Country Work</td>
<td>- Engage with public, private and civil society stakeholders in selected countries, as well as RECs, to complete the five assessments detailed above, based on a templated approach to data-gathering</td>
<td>8 weeks</td>
<td>i) Country Aide Memoires</td>
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<td></td>
<td>ii) Mission back-to-office reports</td>
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<td></td>
<td></td>
<td></td>
<td>iii) Provisional investment pipelines</td>
</tr>
</tbody>
</table>
4. Interim Report
- Draft interim report based on country missions
4 weeks
i) Interim report
ii) Draft detailed 3-year workplan and budget
iii) Draft capacity-building plan
iv) Policy options for stakeholders
v) Bank Comex/WRS Strategy integrated with Ten Year Strategy, and portfolio of Bank products

5. Stakeholder validation workshop on exchange development as a Continental market access priority
- Review interim report and findings
4 weeks
i) Workshop Report
ii) Finalised Project Report

6. Country work
The Bank in its terms of reference has provided an indicative list of countries to which missions will be undertaken within the context of the Study.

In light of the twofold remit for the country missions specified in (4) above – to identify best practices and lessons, and to explore opportunities and constraints – the consultants propose to undertake missions to those countries in which institutions or initiatives are understood to be in place and have entailed concrete on-the-ground activity, while also ensuring appropriate representation from the different African sub-regions and language groups.

On this basis, the fifteen proposed countries around which to focus the Study are set out below – with justification in Annexure 2 – on a region-by-region basis as allocated to regional experts with considerable prior on-the-ground experience.

<table>
<thead>
<tr>
<th>Region</th>
<th>East Africa Activities</th>
<th>Southern Africa Activities</th>
<th>Central Africa</th>
<th>Anglophone West Africa</th>
<th>North &amp; Francophone Africa</th>
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<tr>
<td></td>
<td>Ian Goggin</td>
<td>Rod Gravelet-Blondin</td>
<td>Pierre Etoa Abena</td>
<td>Alexis Aning</td>
<td>Bruno Bianchini</td>
</tr>
<tr>
<td>Prior WRS/Exchange Experience of the Regional Expert</td>
<td>Ethiopia, Kenya, Malawi, Tanzania, Uganda, Zambia, Zimbabwe</td>
<td>Nigeria, Rwanda, South Africa</td>
<td>Cameroon</td>
<td>Ghana, Nigeria</td>
<td>Cote d’Ivoire, Egypt, Mauritius, Morocco, Rwanda</td>
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<td>Country Mission 1</td>
<td>Ethiopia</td>
<td>Malawi</td>
<td>Cameroon</td>
<td>Ghana</td>
<td>Cote d’Ivoire</td>
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<td>Country Mission 2</td>
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<td>Zambia</td>
<td>Nigeria</td>
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<td>Country Mission 3</td>
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<td>South Africa</td>
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<td>Morocco</td>
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<td>Country Mission 4</td>
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<td>Country Mission 5</td>
<td>Mozambique</td>
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</table>

118 Value chain focus to be specified in consultation with the WRS and/or comex(es) in country, to reflect prioritisation of commodities at local, regional and continental level.
The process for evaluating country opportunities will incorporate five assessments, based on a templated approach for in-country data gathering, to be completed by the regional experts in collaboration with identified local partners in each jurisdiction including inter alia the local Comexes and WRS:

Value chain assessment, leading to opportunity quantification:
- What are the key value chains per jurisdiction in terms of social and economic contribution?
- Who are the key stakeholders along the chain, as well as representative bodies, financiers and service providers?
- What are the key flows of the commodity within the country from production areas to aggregation, processing, wholesale, retail and border/port exit/entry points?
- What is the prevailing pricing behaviour, quality standards, non-tariff barriers and government intervention regimes for the chain that may influence the structure of Comex and WRS services to the value chain?
- What are the relevant cross-border regional dimensions to value chains – production, trading, processing, consumption – and opportunities for serving value chains through regional approaches?
- What role could Comex and WRS play to support development of priority African value chains?

Policy and Regulatory assessment, leading to gap analysis and roadmaps:
- What is the status of Comex- and WRS-appropriate regulations, and regulatory authorities, in the jurisdiction?
- What is the legal standing of the Warehouse Receipt (WR) as a document of title?
- How does banking supervision in the jurisdiction affect bank participation in Comexes?
- What mechanisms exist to provide for arbitration, supervision and enforceability?
- What are the policy drivers and bottlenecks to regional integration?
- What policies does government have in place to support: value chain governance and development; rural ICT and infrastructure investment; rural livelihoods promotion; quality standards development; competition policy; regional integration and removal of tariff and non-tariff barriers to trade?

Institutional assessment, leading to market assessment, gap analysis and investment pipeline development:
- Identify the status of Comex and WRS institutions in the country including regulatory status, instruments, performance data, value chains, systems, user base (brokers, banks, end users, warehouses) and any cross-border regional dimensions to their activities;
- Perform a SWOT analysis on the performance of these institutions to date in terms of: volumes of finance and/or trade; commercial sustainability; diversity of value chains; diversity of stakeholder participation; stakeholder capacity-building; innovation; regional scope;
- Identify new initiatives in the pipeline from public and private sector, and their strategic intentions – functions; instruments; value chains; systems;
- Assess investment needs to support existing and new initiatives, and gather business plan, financial projections and other relevant materials.

Infrastructure assessment, leading to gap analysis and investment pipeline development:
- What is the state of storage, logistics and transportation infrastructure, and market information systems, in the jurisdiction to serve Comexes and WRS;
- Identify major gaps and constraints in need of further investment;
- Quantify these investments into bankable pipelines.
Stakeholder needs assessment, leading to capacity building framework:

- Understand on a segmented stakeholder-by-stakeholder basis the capacity needs to participate on Comex and WRS, and the main gaps to date;

- Map a country capacity-building approach across stakeholders, and identify appropriate delivery models and channels.

7. An early view based on the consulting team’s prior experience

The case for developing Comex and WRS in Africa has by now been well articulated and will be further explored in the Study. However, in brief, the promised benefits include meaningful access for value chain players – including small-scale and marginalised actors, and in particular Africa’s high proportion of women producers – to information, storage, finance and markets. The promised impacts are enhancements to the transparency, efficiency, stability, productivity, inclusivity and capacity of the underlying value chains.

In 2005, African Ministers of Trade through the African Union Arusha Declaration and Plan of Action on African Commodities called for development of Comexes across the Continent (see Annexure 3).

However, just over a decade since Arusha, few can claim that the African Comex/WRS story has made meaningful strides towards delivering its promise. While undoubtedly there are some successes (see Annexure 4 – to be identified and highlighted in the Study, along with an international comparison – even a cursory look at Asia or Latin America shows the Continent’s potential remains largely untapped in this space). Aside from the JSE in South Africa, with nearly 500m derivatives contracts traded in 2015 representing 63% year-on-year growth, positioning it as the 14th largest exchange group worldwide, no African Comex offers markets for commodity derivatives to provide price discovery or hedging venues for the commodities the Continent produces.

- Aside from Ethiopia – a model whose replicability across other African jurisdictions may be questioned – and to a certain extent, Malawi and Nigeria, no Comex offers meaningful access to spot markets for farmers or other value chain participants.

- Meanwhile few WRS on the Continent, again South Africa and to a certain extent Tanzania and Malawi apart, have succeeded to create buy in from the banking community for financing commodity in the warehouse, and in particular for financing the relatively small consignments of a farmer, a farmer association or an SME.

Taking stock on the progress of African Comex/WRS to date, one or both of two positions can be taken:

- More Time and Resources Required to Establish Building Blocks and Last Mile Linkages:
  
  African Comexes and WRS are – in whole or in part – on the right track; the existing approaches are – in whole or in part – appropriate and the missing ingredients are time and resources: time and resources for building the ecosystem; time and resources for implementation; time and resources to build stakeholder organisation, acceptance and capacity; time and resources in particular to build the so-called ‘last mile’ linkages with Africa’s dispersed and fragmented rural areas. In this view, current initiatives should persevere and other jurisdictions should largely follow the existing approaches in order for the promised benefits and impacts from Comex/WRS development to be realised. In this context, the strategic role of the Bank can be to support the existing and pipeline initiatives through appropriately targeted resources, instruments and knowledge products.

- Structural Limitations to Effective Business Model Development Must be Removed:
  
  The existing approaches to Comex/WRS development in Africa impose structural limitations that impede the emergence of effective business models. In this view, the approaches must be adapted to overcome these structural limitations, and only then will the promised benefits and impacts from Comex/WRS be realised. In this context, the strategic role of the Bank can be to catalyse that adaptation process through convening stakeholders, stimulating new thinking, and driving consensus where it is required while promoting implementation through appropriately targeted resources, instruments and knowledge products.

In fact, the prior experience of the experts from the consulting team performing this Study suggests that there are elements of truth within both these positions.
7.1. More Time and Resources to Establish Building Blocks and Last Mile Linkages

On the one hand, even if there is a well-organized group of promoters behind a Comex/WRS project and they have a sound business plan, time is undoubtedly a factor and more resources are undoubtedly required to create seven key elements of the supporting ecosystem that provide the building blocks for Comex/WRS development, as well as the critical last mile linkages to create inclusivity for Africa’s smallholder producers and rural value chain players, including women:

- **Regulatory frameworks** that promote effective licensing and ongoing compliance of Comex and WRS, and uphold the general goals of regulation – market integrity, systemic stability, and protection of market participants from abuses – as defined in the international standards. Ultimately, the role of regulation is to provide the trust and confidence for market participants to engage;

- **Quality standards** that are backed by efficient, cost-effective and scalable quality certification modalities. To be sustainable, these should be genuinely market-driven according to the requirements of the various players within the value chain. They should be effectively productised through contract specifications to enable Comex trading and modalities for WR financing that facilitates market access for smallholders while providing an incentive through pricing premiums and discounts for the improvement of quality performance along the chain;

- **Storage infrastructure** that addresses the current capacity, location and capability gaps across many African jurisdictions – including in rural areas – taking cognisance of the needs of the value chain for professionalism, commerciality, affordability, capacity to handle small-scale consignments, and always a meaningful guarantee by the warehouse operator of the quality and quantity underpinning the warehouse receipts (WR) that they issue;

- **Transportation and logistics infrastructure** that link Comex/WRS-accredited storage facilities in the urban centres, rural areas and export gateways to enable improved domestic spatial integration, to underpin the commodity flows that can drive meaningful regional integration, and to facilitate improved distribution of surpluses and deficits for purposes of both food security and rural livelihood promotion – again taking cognisance of the needs of the value chain for professionalism, commerciality, affordability, reliability and capacity to handle small-scale consignments;

- **ICTs to support rural financial service provision** that facilitate innovative forms of branchless banking and mobile money to overcome constraints in financial access and cash management, while enabling the typically small-scale transactions of rural participants on Comex and WRS;

- **A rural brokerage function** that links smallholder producers and other rural value chain participants to Comexes and WRS, and may be driven by various qualified parties such as farmers organisations, agribusiness, and rural financial institutions;

- **Stakeholder capacity-building methodologies** that build confidence, acceptance and capability to advantageously make use of Comex/WRS across different stakeholder categories including producers, SMEs, agribusiness, financial institutions, regulators and policymakers, including through the creation of organisational modalities for small-scale players to participate through meaningful aggregation mechanisms for purpose of inclusiveness, efficiency and cost-effectiveness, and also through engaging with central banks, other regulators and financial institutions to facilitate financing of the commodity under WR.

7.2. Overcoming Structural Limitations

However, a deeper reflection on African and global experience shows that further time and resources to create the building blocks and last mile linkages may be necessary but not sufficient conditions to drive successful emergence of the African Comex and WRS sector.

Even a huge injection of resources to support each of the seven areas identified above may not be enough to overcome structural limitations that are hindering the emergence of effective business models on the Continent.
Take, for example, jurisdictions, such as Nigeria, Ghana, Kenya, Tanzania, Morocco and Zambia. These jurisdictions are among the best positioned in Africa to succeed with Comex/WRS. Each is among Africa’s largest and more dynamic economies. Each has sizable commodity resources and in most cases, relatively sophisticated financial sectors. In many places, government has invested significantly to develop the agricultural sector. Each has established for some time Comex and WRS development as a policy priority. Initiatives in each of these countries have been long in the making and in some cases – Nigeria and Ghana for Comex; those plus Kenya, Tanzania and Zambia for WRS – they have launched already. Yet traction remains limited.

What are the limitations? Why do they persist? And how can they be addressed?

The next section explores four structural limitations prevalent in African Comex/WRS development to date that have inhibited the emergence of effective business models:

- Limitation 1 – Limitations on the emergence of Regional Approaches
- Limitation 2 – Limitations on the emergence of Approaches centred around Commodity Derivatives and Central Counterparty Clearing
- Limitation 3 – Limitations on the emergence of Cross-Cutting Approaches
- Limitation 4 – Limitations on the emergence of Commercial and Competitive Approaches.

It is argued not only that these limitations hinder the emergence of effective business models. They also reduce the contribution of the Comex and WRS sector to achieving the Bank’s ‘High Five’ priorities:

- Limitation 1 – limitations on the emergence of regional approaches – reduces the contribution that Comex and WRS can make to ‘integrate Africa’;
- Limitation 2 – limitations on the emergence of derivatives and clearing – reduces the contribution that Comex and WRS can make towards ‘improving the quality of life for the people of Africa’ by reducing the scope for agribusiness and financiers to manage the risks associated with smaller-scale and marginalised players;
- Limitation 3 – limitations on the emergence of cross-cutting approaches – reduces the contribution that Comex and WRS can make towards ‘lighting up and powering Africa’ and ‘industrialising Africa’ alongside ‘feeding Africa’ by forcing a multi-commodity infrastructure to address only one commodity sub-sector;
- Limitation 4 – limitations on the emergence of commercial and competitive approaches – reduces the contribution that Comex and WRS can make to all five of the High Fives, given the implicit lack of sustainability and price-competitiveness when bureaucratic and monopolistic approaches are taken.

In examining each of the limitations, some of the false dichotomies that drive their persistence are identified. Challenges and opportunities are identified in addressing each limitation, and some areas for exploration in the country missions are set out.

Limitation 1 – Limitations on the emergence of Regional Approaches

‘Integrate Africa’ is one of the Bank’s ‘high five’ priorities to advance Africa’s transformative agenda over the next 10 years. The Bank’s Regional Economic Integration Strategy 2014-23 states that “regional economic integration aims to create larger, more attractive markets, link landlocked countries to international markets and support intra-African trade.”

Scale – in exchange parlance, ‘liquidity’ – is even more important for exchange markets than it is with bilateral trade. In the exchanges sector, an important network effect drives success. In marketing terms, the larger the volumes, the more attractive the market. In commercial terms, an exchange generates a return on investment by achieving high volume throughput using a cost base that is largely fixed.

The Bank’s Financial Sector Development Strategy 2014-19 recognises this: “RMGs will be encouraged to adopt a regional approach to ease access to the regional capital markets, which will allow for greater cross-border access to investors and issuers, and help broaden the investor base and product range. Greater liquidity, scale, and capacity will put Africa in a position to integrate with global market.”

118 See UNCTAD 2009.
119 It is emphasised that models vary for physically deliverable commodity derivatives. Some exchanges have several delivery points for the same contract. The JSE’s grains contracts, and the ICE US sugar contracts, are deliverable at a much wider array of locations.
Yet despite overwhelming logic to the contrary, Africa’s Comex/WRS sector has almost always taken a national rather than a regional development trajectory. Those few initiatives to date that have positioned themselves regionally have generally faced barriers that have forced them in practice to act nationally\textsuperscript{113}.

The Bank is committed to regional integration and deploys instruments that can support regional approaches. The Bank, acting together with its partners, can be catalytic in incentivising regional approaches through appropriate engagement with stakeholders, and deployment of appropriate instruments and knowledge products to support the policy and the business communities.

Avoiding false dichotomies:

Regional initiatives are able to address national opportunities – specifically, exchange markets, instruments and solutions are able to be customised within regional approaches to meet specifically national needs;

Mature exchange technology permits regulators to control access to different contract traded on an exchange – an exchange can thus trade, in parallel, contracts that regulators wish to remain national, and regional/global contracts;

Regional approaches are able to be integrated into existing national policy and regulatory frameworks;

The success of regional approaches does not necessarily depend on the prior maturation of initiatives in place at the national level;

In fact, regionalisation does not require cross-border integration of different commodity exchanges at all – in global practice, stock, derivative and commodity exchanges achieve regional or global coverage simply by leveraging regulatory pillars established as part of global best practice that enable them to use brokers, attract end users, and put in place depository and delivery arrangements in multiple jurisdictions around the world.

Challenges:

Some African governments deploy policies and make ad hoc interventions that restrict commodity and financial flows across borders, can foster an explicit or implicit ‘home bias’ that prioritises development of national over regional institutions, and may lack the political will and/or trust to implement regional integration protocols;

Many African regulators appear reluctant to trust the internationally-established mechanism to facilitate cross-border regulation through the International Organisation of Securities Commission’s (IOSCO\textsuperscript{115}) Multilateral Memorandum of Understanding (MMOU\textsuperscript{116}) – including the nine national regulators and two regional regulators that are signatories to it (with another four in progress) – as well as through mechanisms such as passporting and remote membership that are used to stimulate cross-border participation in other global regions;

Some African businesses view exposure to other jurisdictions as too risky to contemplate due to legal complexities, a perceived ‘home bias’, and a lack of competitive pressure to expand;

Cross-border transportation and logistics infrastructure, and trade facilitation processes, remain under-developed;

International experience suggests that integrating established standalone national institutions – rules, processes, technologies, standards – is exceptionally complex to achieve in practice except in the context where a merger has taken place\textsuperscript{117}.

Opportunities:

- The regulatory tools exist to manage cross-border risk, in particular through the IOSCO MMOU;
- Cross-border commodity clusters offer the potential to scale to critical mass to support exchange-trading and make Africa’s weight count in global markets;

\textsuperscript{113}For traders, so-called ‘cash and carry arbitrage’ – simultaneously buying in the physical and selling in the future market (or vice versa) – a strategy which is prominent in other jurisdictions to capitalise on and correct temporal distortions in the forward price curve for a given commodity tends to offer a major source of liquidity that could benefit a Spot Comex only if it is working alongside a Derivatives Comex.
- Multinational companies and financial institutions are already managing African cross-border transactions and risk in order to achieve the scale required to compete in globalising markets, a foundation for Comex and WRS seeking to pursue a similar strategy;

- RECS, with the support of regional and continental development finance institutions (DFIs), in particular the Bank, have in place the mandate, protocols and capacity to support the regional integration process;

- Many regions do not have deeply entrenched Comex/WRS institutions so there is not as high a barrier to surmount to overcome legacy systems.

**Areas for exploration in country missions:**

- Policies in place to support or to constrain regional integration;

- Regulatory mechanisms provided for by national regulatory authorities and laws to support cross-border activity;

- Relevant cross-border regional dimensions to value chains – production, trading, processing, consumption – and opportunities for serving value chains through regional approaches;

- The institutional capabilities and bottlenecks for existing comex/WRS to act across borders;

- The interests of key stakeholders to participate across borders at present, and the extent they are doing so already;

- The investments requirements to support increased cross-border linkages.

**Limitation 2: Limitations on the emergence of Approaches centred around Commodity Derivatives and Central Counterparty Clearing**

The preferred approach in Africa to date has seen prioritisation first on the creation of a WRS and secondly a Spot Comex. Derivatives tend to be seen as too sophisticated to merit initial focus. Underpinning this approach, there are several assumptions that may be called into question:

- Derivatives are relevant for the African smallholder farmer: as smallholder farmers are not likely to have the capability to directly participate in derivative markets, there has been a tendency in the policy discourse to dismiss derivatives exchanges as not being relevant for Africa's smallholder prevalent context. In fact, to make markets work better for smallholders, agribusiness and financial institutions need derivatives instruments to effectively manage their agricultural exposure and risks. Moreover, global experience in smallholder-prevalent countries such as India and China suggests that the future prices generated by derivatives markets are important signals to help farmers make more efficient planting, marketing and investment decisions. In other words, while smallholders may not directly use derivative markets, they can be in fact major beneficiaries of them.

- There is sufficient sophistication in parts of Africa’s banking and agribusiness sectors: While a capacity-building challenge no doubt exists to support broad-based participation, there is a range of banks, non-bank financial institutions and agribusiness with pan-African presence that are already participating in derivatives exchanges in South Africa and in other global regions which can transfer the necessary skills into African markets. Even for those African banks which do not participate in derivative exchanges today, many are already using over-the-counter (OTC) derivative instruments such as forwards, swaps and exotic options which are more sophisticated than exchange-traded instruments such as futures and options;

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- It is questionable that WRS and Spot Comex are easier to establish than Derivatives Comex: In fact, derivatives markets can be structured around a credible secure single delivery point which consolidates flows of buyers and sellers to create a price discovery benchmark. This can be in practice easier to establish than a spot exchange that requires the establishment of multiple secure delivery points across a wider geographical terrain.

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118 It is also important to note that qualifying CCPs have been granted a special status under the Basel Accords which permit banks to set aside significantly lower levels of capital for exposures covered by CCPs.

119 At present, some farmers in Africa do their best to overcome barriers to price discovery through tuning in to international radio stations to follow global commodity prices.
- It has not been global precedent, nor is the causal logic necessarily correct that institutional development follows a linear process first from WRS then to Spot Comex before later introducing a Derivative Comex. Practical experience suggests a derivatives exchange has often come first. In terms of causality, it may be only after the price discovery benchmark, a liquid secondary market and a central counterparty guarantee (see below) are in place that banks may have sufficient confidence to finance in significant quantities through a WRS (they can better value collateral over the transaction cycle; they can better hedge price risk; they can more effectively offload collateral without engaging in physical trade) and the agribusiness sector may have more confidence to engage directly with farmers through a spot market rather than through established forms of trader-intermediated procurement (they can form a more accurate view of likely future conditions that they can then lock in through hedging or taking forward commitments; they can offload excessive exposures well ahead of time). In other words, the derivatives market can act as an 'island of excellence' – a credible price discovery source, hedging venue, counterparty risk mitigation mechanism, and delivery channel of last resort – which then creates the appropriate conditions in which WRS and spot comex stand the best chance of working, not the other way round;

- The importance of the clearing mechanism is often under-appreciated to secure the market, and as a means to facilitate the participation of both small-scale players and financial institutions: the clearing and settlement mechanism affiliated with a derivatives exchange, known as a central counterparty clearinghouse (CCP), is a means for dynamic collateralisation of exposures in a market to reduce counterparty risk virtually to zero. This can be an important enabler for tolerance by the larger participants in a market to finance and trade with smaller-scale and less-capitalised entities – in other words, an important enabler of market access. It also explains the greater appeal for participation in a derivatives exchange compared with a spot exchange in which a CCP does not tend to be prevalent.

As such, the current limitations in scope for Africa’s Comexes/WRS to develop derivatives markets and CCPs may be undermining the emergence of effective business models in three important ways:

firstly, as explored above, derivatives markets can be enablers of WRS and spot markets – WRS and spot markets are more likely to work well and establish stakeholder buy-in if derivatives markets are already in place;

secondly, without CCPs in place, small-scale and less-capitalised entities – including farmers and SMEs – may struggle to get market access, and banks and other large participants may be reluctant to participate in the market;

thirdly, this limitation restricts the commercial potential of the Comex/WRS institution which is deprived of an important potential revenue stream.

As such, to establish more effective Comex/WRS business models going forward, there may be a need to focus at least equal attention on development of commodity derivatives platforms backed by CCPs.

It is important to emphasise again, this recommendation is not driven by a desire to prioritise the interests of the commercial players over the smallholders. Rather, the intent is to benefit smallholders by establishing an environment in which the commercial players are more willing to engage with them.

The Bank and its partners can be catalytic in striving to build consensus for focus on commodity derivative markets and CCPs, especially as these are even more dependent on scale (liquidity) than spot markets and thus tend toward regional rather than national approaches.

Avoiding false dichotomies:

- Promoting commodity derivative markets does not mean overlooking the interests of the smallholder farmer – in fact, a commodity derivative exchange creates significant benefit for smallholders which starts with price discovery;
- Promoting commodity derivative markets does not mean overlooking WRS and Spot Comexes – in fact, a commodity derivatives market appears to boost the likelihood of success for a WRS/Spot Comex by better providing confidence for banks to finance smallholders and agribusiness to buy from them;

- The success of commodity derivatives markets does not necessarily depend on the prior maturation of WRS and Spot Comexes – in fact, the reverse causality may be true, that the success of WRS and commodity spot markets may be boosted by the prior maturation of commodity derivatives markets;

- Derivative market regulatory mechanisms can be developed which deter manipulation and excessive speculation, but rather control and regulate it even more effectively than already exists in the physical markets.

#### Challenges:

- Legal and policy environments are in need of review as they may contain provisions that constrain the development of commodity derivative markets;\(^{\text{123}}\);

- Liquidity potential to support a derivatives market is likely to be insufficient in many African national markets and thus regional approaches may need to be encouraged;

- Capacity-building is required:
  - to help smallholder farmers capitalise on the future price discovery created by a derivatives exchange;
  - to assist agribusinesses utilise derivatives markets to manage some of the risks associated with procuring from smallholders through Spot Comex;\(^{\text{124}}\);
  - to assist banks as well as non-bank financial institutions utilise derivative markets to manage some of the risks associated with financing smallholders through WRS;
  - to build policy-makers and regulators’ understanding and capacity to regulate derivative markets across the Continent.

#### Opportunities:

- The need to migrate trade onto derivative exchanges, supported by CCPs, is a global policy imperative adopted by the Group of 20 (G20) nations, which in turn has been accepted by ministries of finance and central banks across Africa;

- CCPs can facilitate market access to smaller-scale and less-capitalised players, while providing greater security and stability to the exposures generated in the markets;

- Considerable expertise and best practice already exist within relevant international organisations to support African regulatory authorities in regulating commodity derivative markets;\(^{\text{125}}\);

- Major Pan-African banks already participate in exchange-traded derivative markets in South Africa and elsewhere with skills that can be transferred to their sister-companies across the Continent;

- Major Pan-African agribusiness already participate in exchange-traded derivative markets in South Africa and elsewhere with skills that can be transferred to their operations across the Continent;

- Banks in many African jurisdictions are already using OTC derivatives such as forwards, swaps and exotic options which are more sophisticated than the futures and options that would be traded on commodity derivative exchanges.
Areas for exploration in country missions:

- The main gaps in regulation to support derivatives markets;
- Identification of value chains that face the greatest price risks and represent the best opportunities for developing derivatives markets;
- Institutional capabilities and bottlenecks for existing Comex/WRS to support derivatives trade;
- The interests of key stakeholders to participate in derivatives markets, and to what extent they are doing so already;
- The investments requirements to support derivative markets.

Limitation 3 – Limitations on the emergence of Cross-Cutting Approaches

Exchanges and depositories are known worldwide as ‘market infrastructures’. The Bank recognises this and refers in its Private Sector Development Strategy 2013-17 to the imperative for providing access to ‘soft’ infrastructure [such as] payments clearance and settlement systems, financial intermediaries and capital markets.”

An infrastructure is an enabler – a high fixed cost investment that can unlock significant flows at low marginal cost.

- Railway lines can carry different types of cargo as well as passengers – would anyone think of building one and then limiting it to carry only one form of cargo?
- Cellphone networks can support usage by people and companies and offer services that cover voice and data – would anyone think of building one and then limiting it to only one of these categories?

Comex/WRS are infrastructures. The same largely fixed cost systems and institutional frameworks of a Comex/WRS that serves agriculture can at the same time serve other commodities and even financial products. Not only this – given that agriculture is generally considered to be among the higher cost and higher risk sectors to serve, there is an important effect in which the returns generated from serving lower cost and lower risk sectors can be used to cross-subsidise the costs of serving agriculture.

There is also the question of missed synergies. The Bank has adopted five priorities to address Africa’s transformation over the next 10 years, the ‘High Fives’ in which the agricultural imperative, ‘feed Africa’, sits alongside the energy imperative, ‘light up and power Africa’, and the resourcing imperative, ‘industrialise Africa’. A Comex/WRS can be a cross-cutting platform that can simultaneously provide solutions to address the energy and resourcing imperatives alongside the agricultural imperative.

Yet Comex/WRS are not commonly thought of in Africa as infrastructures. The current focus of many Comex/WRS on agriculture alone – often as established by public sector specification – deprives them not only of the ability to contribute towards many of the challenges facing Africa today, but also of a key commercial foundation for success: high volume throughput.

The major exception on the Continent, the JSE, is the single African Comex that is an unmitigated success story in global terms – its agricultural markets sit alongside markets for energy, metal and financial instruments and have been growing rapidly despite a challenging macro-environment.

In the regulatory frameworks as well there have often been attempts to handle regulation of Comex and WRS separately from regulation of other kinds of depository and exchange. Yet, the vast majority of regulatory work is similar across sectors, many of the regulated entities are the same across sectors, and the costs and complexity that would be generated by having to manage two or more sets of laws, rules, regulations, reporting lines and enforcement powers if different regulatory frameworks are established would act as a deterrent towards market participation.

While promotion of commercialism is here advocated, it is important to emphasise that only competitive commercial approaches are supported. There are implicit dangers of commercialism without competition in the exchanges sector. A private sector monopoly is likely to be less effective and pose greater risk than a public sector monopoly. An example of this is the tendency particularly in some public sector-driven models for direct ownership by the Comex/WRS of the warehousing infrastructure. In some cases, this may be called for as a short term measure in the event of infrastructure scarcity. However, the impact of this approach may be considered to certain extents negative for purposes of crowding out private sector activity and investment in storage. Private sector investment is a requirement in most jurisdictions given not only public sector budget constraints but also the challenges inherent in building private sector confidence in the enforceability of guarantees on warehouse receipt quantity and quality against public sector institutions – a bottleneck that could be in part addressed through secondary guarantees issued by a credible DFI such as the Bank.
The Bank and its partners can be catalytic in striving to overcome the entrenched silos and facilitate cross-cutting approaches that can enable Comex/WRS infrastructures tap into all available sources of liquidity and revenue streams.

Avoiding false dichotomies:
- Seeking to promote agricultural market access need not be undertaken only through interventions that focus solely on agriculture – there is a ready acceptance, for example, that banks which finance agriculture are multi-sectoral (i.e. they also finance the industrial and services sectors), and so similarly exchanges that serve agriculture can also act across multiple sectors;
- Creating multi-commodity or multi-asset exchanges does not mean diluting the focus on agriculture – on the contrary:
  - It is common practice within multi-commodity or multi-asset exchanges such as the JSE in South Africa for departments to be created with a specific focus to develop solutions for agriculture, including for small-scale and rural value chain players;
  - more efficient use of fixed cost infrastructure can free up resources to dedicate to market development and capacity-building in agriculture;
  - value chains face currency and interest rate risk together with commodity price and production risk, which can be more efficiently mitigated in tandem.
- Similarly, creating multi-commodity or multi-asset regulators does not mean diluting the focus on appropriate regulation for agriculture.

Challenges:
- Sectoral silos – i.e., agriculture, energy, industry, and financial services – are deeply entrenched within government, and also exist within regional and international institutions which motivate towards sector-specific rather than cross-cutting approaches;
- The concept and economics of an exchange as an infrastructure does not tend to be well understood or accepted in many places;
- Prevailing models of Africa Comex/WRS development which call for direct ownership of capital-intensive warehousing tend towards a sectoral focus on agriculture to the exclusion of other sectors – the interests of the ‘market infrastructure’ tend in these cases to be subordinated to the interests of the ‘physical agricultural infrastructure’.

Opportunities:
- Multi-sectoral approaches with the capacity to create enhanced returns on investment offer a stronger basis for private sector participation, commercialism, competition, regionalisation and investment;
- The low costs and risks of serving other sectors can be used to cross-subsidise the relatively higher costs and risks of serving agriculture;
- In looking at derivatives in particular, agricultural risks – commodity price and production risk – tend to go hand-in-hand with financial risks, such as foreign exchange risk and interest rate risk: the same exchange institution addressing all of these offers a more efficient solution to stakeholders, including ultimately the smallholder farmer.

Areas for exploration in country missions:
- Relevance opportunities to address non-agricultural value chains and synergies between agricultural and non-agricultural chains (e.g., agricultural production to serve the needs of mining companies needing to provide food and income for its workers and their families);
- Institutional capabilities and bottlenecks for existing Comex/WRS to serve non-agricultural chains;
- The interests of key stakeholders to participate in non-agricultural chains, and the extent they are doing so already;
- The investments requirements to support cross-cutting approaches.
Limitation 4 – Limitations on the emergence of Commercial and Competitive Approaches

The Bank’s Agricultural Transformation Strategy 2016-25 states that “successful transformations are business-led … Strong political should not be equated with strong government intervention. When and where the most effective course of action, as expressed by small and large private sector actors, is for the government to reduce its involvement and allow a system to thrive and balance itself, leaders must be equally willing to do so.” As the Strategy also makes clear, the public sector has a critical role creating an enabling environment, but this is also undertaken with the ultimate goal to “… [let] business flourish”.

This aligns with the division of labour and synergy between public and private sector set out in the Arusha Declaration and Plan of Action on African Commodities which “calls upon the African business sector to develop and support commodity exchange initiatives”, and for African government to “identify and remove barriers to commodity exchange establishment and operations”.

The Bank’s Financial Sector Development Strategy 2014-19 indicates “Competition is critical to achieving the financial innovation that Africa requires to deepen and broaden its financial systems”.

In other parts of the world it is accepted in the exchanges sector, just as in many other sectors, that commercialism and competition breeds dynamism, investment and innovation. In many places, brokers are mandated under law to achieve ‘best execution’ for their clients – in simple terms, to route orders to the most competitive exchange platform at the time an order is placed. More broadly, competition generates incentives for high performance, incentives for rapid implementation and scalability, incentives for genuine responsiveness to customer need, incentives for innovating new solutions that create value and – in many cases – inclusivity.

However, the dominant policy discourses in many - although certainly not all – African jurisdictions casts the Comex/WRS as a national utility. A monopoly is created. Government takes on strategic leadership (and in some cases ownership). Private sector participation is controlled. The current approaches, therefore, have tended to be bureaucratic and monopolistic rather than commercial and competitive.

The Bank is committed to competitive, private sector-led and market-driven approaches, including public-private partnerships (PPPs). The Bank, acting together with its partners, can be catalytic in incentivising commercial and competitive approaches through appropriate engagement, and deployment of appropriate instruments to support the policy and business communities.

Avoiding false dichotomies:

- Commercial competition is able to drive additional investment to develop relevant infrastructure and capacity – such investments are needed to establish competitive advantage and may be best directed within a competitive commercial rather than bureaucratic framework;

- Commercial competition is able to provide a more effective and sustainable basis for promoting inclusivity towards Africa’s smallholders, marginalised communities and strategic commodity chains – in the African Comex/WRS sector, just as in the cellphone sector, there is a huge prize to be won ‘at the bottom of the pyramid’;

- Commercial competition is able to multiply rather than divide the liquidity potential – liquidity creation can be positive sum not zero sum where exchanges are responsive to the market need.

Challenges:

- An entrenched mindset among policymakers that Comexes/WRS are strategic utilities, and that it is in the national interest for government to retain control;

- A tendency for ‘push strategies’ behind the introduction of Comexes and WRS, in which non-commercial players – public sector, donors – drive implementation before concrete value propositions are honed towards key stakeholders and before they are ready;

- A general perceived reluctance among African policymakers to trust private sector leadership;
- A general perceived reluctance among African private sector to stake a strong leadership position for fear of being subject to policy or legal intervention;
- Uncertainty on the position in law of foreign entities to participate in ownership of Comexes and WRS;
- Donors do not always take account commercial considerations in their interventions and can distort the focus, objectives, commerciality and level playing field around initiatives they support.

Opportunities:

- The success story of the African cellphone industry – an industry in which Africa is genuinely viewed as a world leader – is a relevant comparator and makes a strong case for the merits of commercialism and competition in the exchanges sector not only to scale growth but also to stimulate the innovations that can drive inclusivity;
- The Continent is home to strong financial institutions, technology services providers, stock exchanges and institutional investors – all of which can play important roles as private sector leaders;
- Foreign exchanges, financiers, service providers and investors are looking for opportunities and can be willing to perform a value-adding role in support of African initiatives;
- Regional rather than national approaches provide a firmer basis for creating more competition between Comex/WRS institutions;
- A commercial framework allows for more careful positioning of the traditional donor arsenal – grants, concessional loans, technical assistance.

Areas for exploration in country missions:

- Identify areas to support increased levels of competition, including through additional commercial entrants.

In summary, then, it can be argued that a successful strategy for Comex/WRS development in Africa needs to allow for two over-arching factors:

03. Putting the building blocks and last mile linkages in place;
04. Removing the structural limitations to effective business model development.

Both are required as strategic pillars for the development of the sector.

On the one hand, it is not enough to have the building blocks and last mile linkages in place. Dynamic commercial business models also have to emerge. At present, three structural limitations restrict the commercial potential of Africa’s Comex/WRS – limitations on the emergence of regional approaches, derivative and CCP approaches, and cross-cutting approaches – while a fourth, limitations on the emergence of commercial and competitive approaches, restricts dynamism, innovation and responsiveness to stakeholder need.

On the other hand, providing for dynamic commercial business models is not enough without also ensuring that the enabling building blocks are in place and the last mile linkages are established to create the necessary inclusivity in the context of agricultural markets in which important categories of participant – small-scale actors, women, and geographically remote communities – remain marginalised.

It is the consulting team’s view that the Bank’s strategic agenda for African Comex/WRS development needs to address both these factors.

8. Putting it together – shaping a strategic agenda

A strategic agenda defines paradigms, creates frameworks, and aligns role players to act in a coherent, coordinated, and outcome-oriented manner.

The approach taken here seeks to define a vision, objectives and work plan by which the Bank can take a leadership role together with its partners in coordinating the actions of stakeholders across the Continent in

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11Global experience suggests commodity exchanges have driven some of the world’s most enduring commodity quality standards.
Comex and WRS development.

The alternative methodology would be to address jurisdictions, institutions, value chains and stakeholders in isolation, without consideration of commonalities, inter-dependencies, synergies and feedback effects.

These commonalities may include:

- looking at value chain approaches rather than focus on certain links of the chain;
- looking across sectors and industries rather than on agriculture alone;
- looking at integrated financial systems approaches rather than specific transaction types or instruments in isolation;
- looking towards regional rather than purely national approaches.

Key components of the strategic agenda will include:

- Articulated understanding of Comex and WRS benefits, success factors and constraints, based on African and international experience;
- Mission, vision and objectives for the Bank and its partners;
- Definition of the Bank’s value propositions towards Comex and WRS;
- Specification of the Bank’s specific capabilities – products, services, supporting elements – that comprise its portfolio to support the sector;
- Mapping of Comex and WRS mobilisation requirements – policies, institutions, investments, capacity-building – at both national and regional levels;
- Dynamic opportunity identification and quantification methodology at both national and regional levels;
- Sequenced roadmap, backed by deliverables and targets.
- Bankable pipeline development and investment structuring, based on clearly communicated criteria and appraisal processes;
- Comprehensive capacity-building programme defined on a stakeholder-by-stakeholder basis.

9. Strategic agenda – an initial view

The Consultants believe the Bank’s strategic agenda should include short-to-medium term and medium-to-long term components that can be pursued in parallel. Both of these address the strategic pillars identified in Section 7 above:

1. Putting the building blocks and last mile linkages in place;
2. Removing the structural limitations to effective business model development.

9.1. Short-to-Medium Term Strategy

The objective of the Bank in the short-to-medium term would be to further the emergence of the existing and pipeline Comex/WRS initiatives at national and sub-regional levels through the deployment of a structured package of policies, investments and capacity-building initiatives based on identification of appropriate frameworks of assessment and delivery.

In so doing, it can act in two ways: firstly, through a cohesive set of interventions and instruments to address the seven building blocks and last mile linkages; and secondly a package of measures to overcome the four structural limitations to the emergence of effective business models, as identified in Section 7 above.
Interventions and Instruments Addressing the Seven Building Blocks and Last Mile Linkages

<table>
<thead>
<tr>
<th>Building Block / Last Mile Linkage</th>
<th>Role for the Bank and its Partners</th>
</tr>
</thead>
</table>
| **Regulation**                    | - To build on the Bank’s prior efforts, enshrined in the First African Workshop for Regulators of Derivatives and Commodity Exchanges (Gaborone, Botswana 2012) and the subsequent Guidebook on African Derivative and Commodity Exchanges (2013), to promote understanding and adherence to international standards through adoption of appropriate policies, legislation and institutional mechanisms including interventions such as white papers, regulatory roundtables, international study tours and training programmes;  
  - To provide knowledge support for central banks and other regulators in RMCs to play an active role enabling bank participation in Comexes and WRS, including to support and co-finance innovations to integrate commodity assets and financial markets and increase their liquidity. |
| **Quality Standards**             | - To mobilise existing standards bodies at continental and regional levels, including the African Organisation for Standardisation (ARSO), RECs and sectoral industry associations such as the Eastern Africa Grain Council (EAGC) and West African Grain Network (WAGN) to work on standards promotion for priority value chains,  
  - To promote recognition of and engagement with Comexes and WRS as standards development bodies in their own right;  
  - To take equity positions in efforts to create price discovery benchmarks on African Comexes against the emerging standards. |
| **Storage Infrastructure**        | - To finance development of storage infrastructure through affordable long term funding lines that also includes appropriate incentives and/or concessionality to stimulate investment interest in higher-risk rural warehousing which tends to have a longer commercial payback.  
  - To consider bundling capital investment with working capital facilities that can finance commodity aggregation when secured against WRS – this can help generate a return on investment for the financed storage, and stimulate development of Comex and WRS.  
  - To support PPP approaches for the financing and development of storage traditionally operated by public sector agencies;  
  - To consider providing specialised guarantees and/or first loss mechanisms for qualifying WR issuers to boost the confidence of banks in financing the WR. |
| **Transportation and Logistics Infrastructure** | - To finance development of transportation and logistics infrastructure through affordable long term funding lines that also includes appropriate incentives and/or concessionality to stimulate investment interest in rural linkages;  
  - To promote innovative solutions that can boost overall sectoral efficiency such as freight exchanges (which have an obvious synergy with Comexes, including operating through the same platforms). |
| **ICTs to Support Rural Financial Services Provision** | - To provide incentives and resourcing for innovation, piloting and scaling new ICTs through appropriate grant and venture capital finance. |
| **Rural Brokerage Function**      | - To develop best practice guidelines, business support services and a dedicated finance window to enable organisations to develop rural brokerage capabilities. |
| **Stakeholder Capacity-Building Methodologies** | - To provide effectively targeted technical assistance modalities in support of credible Comex/WRS activities, based on a detailed stakeholder needs analysis as will be conducted in the Study across multiple stakeholder categories including producers, SMEs, agribusiness, financial institutions, regulators and policymakers.  
  - To create organisational modalities for small-scale players to participate through meaningful aggregation mechanisms for purpose of inclusiveness, efficiency and cost-effectiveness. |
### Measures to Overcome Structural Limitations to the Emergence of Effective Business Models

<table>
<thead>
<tr>
<th>Structural Limitation</th>
<th>Role for the Bank and its Partners</th>
</tr>
</thead>
</table>
| **Limitations to the Emergence of Regional Approaches** | • Policy leadership around best practice for promoting and realising regional approaches to Comex and WRS development in Africa (see Section 9.2 below for a medium-to-long term vision of how this could work);  
• Stakeholder mobilisation, policy advice and capacity-building support to address policy and regulatory bottlenecks – including development of streamlined modalities through mechanisms, such as passporting, remote membership and the IOSCO MMOU;  
• Hybrid financing instruments with a customised mix of private equity, debt and concessional finance to support credible regional initiatives;  
• Prioritising investment in cross-border transportation and logistics infrastructure to facilitate the key commodity flows to be supported through Comex and WRS mechanisms;  
• Secondary guarantees to support the acceptance of WR quantity and quality guarantees, and Comex counterparty guarantees, from one jurisdiction into another;  
• Political risk insurance to address residual cross-border risk. |
| **Limitations to the Emergence of Approaches centred around Derivatives and Central Counterparty Clearing** | • Policy leadership around best practice for promoting and realising commodity derivatives development in Africa (see Section 9.2 below for a medium-to-long term vision of how this could work);  
• Hybrid financing instruments with a customised mix of private equity, debt and concessional finance to support credible derivatives initiatives;  
• To provide financing and guarantee instruments for settlement guarantee funds (SGF) that support the clearing and settlement function of CCPs affiliated with commodity derivative platforms across the Continent;  
• To provide a liquidity facility that supports the emergence of commodity derivative markets for priority African value chains, and thereby supports creation of price discovery and productisation around new standards. |
| **Limitations to the Emergence of Cross-Cutting Approaches** | • Policy leadership in identifying linkages and synergies in the field of Comex/WRS for the achievement of the Bank’s high five priority areas for Africa’s transformation over the next 10 years, particularly between ‘feed Africa’, ‘light up and power Africa’ and ‘industrialise Africa’;  
• Policy leadership in supporting adoption of cross-cutting approaches by RMCs, RECs and international institutions (see Section 9.2 below for a medium-to-long term vision of how this could work);  
• Taking equity in the agricultural activities of multi-commodity or multi-asset exchanges to ensure promotion of agricultural development outcomes;  
• Providing capacity-building in support of agricultural activities of multi-commodity or multi-asset exchanges to ensure promotion of agricultural development outcomes. |
| **Limitations to the Emergence of Commercial and Competitive Approaches** | • Policy leadership around best practice in role division between public and private sector leadership in development of African Comex and WRS;  
• Policy leadership around best practice in application of competition policy to the Comex/WRS sector, focusing on establishing the frameworks and also the risk mitigation mechanisms to avoid abuses that can arise on the one hand from positions of monopoly and on the other from unchecked commercialism (see Section 9.2 below for a medium-to-long term vision of how this could work);  
• Policy leadership around best practice for the role and modalities of the donor community in supporting development in the Comex/WRS sector;  
• Private equity and debt funding windows for credible private sector promoters of Comex and WRS with strong business plans that demonstrate additionality to the landscape. |
9.2 Medium-to-Long Term Strategy

The aim of the Bank in the medium-to-long term would be to realise in the Comex/WRS space the vision expressed in the Draft Financial Sector Development Strategy 2014-19 for a “regional approach ... which will allow for greater cross-border access to investors and issuers, help broaden the investor base and product range [with] greater liquidity, scale, and capacity [putting] Africa in a position to integrate with the global market”.

This medium-to-long term strategy would have two overarching objectives:

- More holistically and systematically remove the structural limitations to effective business model emergence by creating an initially small but steadily growing single continental space within which a new class of Pan African Exchanges (PAE) – continental, commercial, multi-asset commodity and derivative exchanges – can compete to develop agricultural and other markets within Africa, create investment gateways to the Continent that are competitive with those offered in other global regions, and interface and synergise with national and sub-regional Comex/WRS to promote market access for Africa’s prosperity;

- Super-charge the efforts to support the continued emergence of national and sub-regional Comex/WRS initiatives through creating synergy at the continental, sub-regional and national levels in areas including contract interfaces, quality standards, warehousing, transportation, market information dissemination, clearing and settlement, last mile linkages and capacity-building, with support from the Bank and its partners to cement those synergies and create an inclusive market development trajectory for agriculture.

The components presented in the table below represent an initial ‘strawman’ view of how such a strategy could be implemented, which would need to be further refined and developed in more detail as part of the consultations and country work undertaken with this Study.

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12Africa’s situation is unique – a fragmented continent of 54 national jurisdictions – so there can be no exact precedent for this. However, this vision is inspired by the steps taken by the governments of China and India to overcome barriers at sub-national level to facilitate the emergence of pan-national commodity and derivative exchanges, as will be explored further in the Study. In the case of India, agriculture is a state-level subject and thus splits India’s production into 35 state-level jurisdictions. Multiple state-level commodity exchanges had struggled for over a decade generating low levels of liquidity before the Government of India in the early 2000s set the vision for pan-Indian multi-commodity exchanges, modern by design (electronic only and demutualised from inception), which were awarded through a competitive tender that led to the award of three licenses to competing commercial rivals. China’s commodity exchanges first emerged under the control of municipalities across the country following liberalisation in the early 1990s. With local scope and the absence of a credible regulator, the sector degenerated into chaos. The national government stepped in to impose regulation and control on the sector, with many exchanges discontinued and the three most credible granted a national platform.

13In practice, achieving readiness is not likely to be onerous for a jurisdiction – likely requirements are a securities or capital markets law that recognises derivatives; a regulatory agency signed up to the IOSCO MMOU; meeting technical criteria relating to recognition of netting and finality of settlement, and a real time gross settlement payment system.

14For example, regulatory passporting is positioned as a central pillar of the West Africa Capital Market Integration (WACMI) framework.

15An alternative, more complex approach would see the licensee requiring multiple national licenses from each Tier One regulator.

16Most likely, the only instruments that would not be freely launchable by the PAEs would be derivatives on single stocks or equity indices whose pricing is the property of the stock exchanges which trade the underlying stocks or indices.

17The shortlisting process would serve two purposes: avoiding unqualified consortia from wasting time and resources to developing the level of detailed information required for the final submission; and secondly to avoid wasting time and resources of stakeholders – regulators, brokers, banks, technology and other service providers, existing Africa WRS and comex – with whom collaboration is necessary for credible bidders to compile the submission documentation.
### Components of the Medium-to-Long Term Strategy for PAEs – A Strawman

<table>
<thead>
<tr>
<th>Strategic Component</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Vision</strong></td>
<td>Facilitate the establishment of a new class of PAEs – continental, commercial, multi-asset commodity and derivative exchanges – that compete to develop the African commodity and derivatives sector, create investment gateways to the Continent that are competitive with those offered in other global regions, while interfacing and synergising with national and sub-regional Comex/WRS to promote market access for Africa’s prosperity, in line with the Bank’s Ten Year Strategy (2013-22), including its ‘High Five’ priority areas to advance Africa’s transformative agenda over the next 10 years, as well as sectoral sub-strategies.</td>
</tr>
<tr>
<td><strong>Role for the Bank and Partners</strong> Strategic:</td>
<td>Provide policy leadership, investment and capacity-building support to ensure the PAEs contribute to the ‘High Fives’: ‘feed Africa’ through serving agriculture; ‘light up and power Africa’ through serving energy markets; ‘industrialise Africa’ through serving resource and industrial sectors; ‘integrate Africa’ through mobilising RMCs and RECs to engage in a continental strategy; and ‘improve the quality of life for the people of Africa’ by ensuring last mile linkages are in place to create inclusivity for marginalised stakeholders;</td>
</tr>
<tr>
<td>Coordination:</td>
<td>Coordinate with RMCs and RECs to establish an implementation framework including upgrade of regulatory frameworks, adoption of international regulatory best practices, alignment of policies, and putting in place a process for awarding a defined number of PAE licenses through a competitive tender process;</td>
</tr>
<tr>
<td>Implementation:</td>
<td>Provide policy leadership, investment and capacity-building support under two pillars of support targeted towards agricultural development:</td>
</tr>
<tr>
<td>(i) <strong>Realising synergies</strong> between the PAEs and national and sub-regional Comex/WRS, including through: aligning and interfacing spot and derivatives markets across the two types of platform; quality standards, modalities for dissemination of market information; investment to develop storage and transportation infrastructure for deliveries; support for acceptance of WRs and capital efficiencies within clearing and settlement mechanisms; last mile linkages such as rural brokers and ICTs; and joint capacity-building programmes.</td>
<td></td>
</tr>
<tr>
<td>(ii) <strong>Building last mile interfaces</strong> for rural communities into the PAEs in synergy with national and sub-regional Comex/WRS, including through investment to develop storage, transportation and logistics infrastructure, the emergence of ICTs and rural brokers to support market access, and capacity-building programmes to promote market awareness and beneficial engagement.</td>
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</tr>
</tbody>
</table>
Regulatory Approach

Based on objective assessment, African jurisdictions are categorised into four readiness tiers—Tier One (ready), Tier Two (near readiness), Tier Three (medium term readiness), and Tier Four (long term readiness), with those jurisdictions that express the desire to attain Tier One status receiving capacity-building towards expediting readiness, with an aim of ensuring that a sufficient critical mass of jurisdictions have attained Tier One status over a defined timeframe through focus on upgrading policies, laws, and institutions, and provision of capacity-building prior to the start of the tender process.

Representatives from the designated regulator and the policy overseer of each Tier One jurisdiction would meet frequently in the context of a PAE Regulatory Committee (PAERC).

Those consortia competing for licenses under the tender would have the right to choose from any Tier One jurisdiction in which to be domiciled, and from all Tier One jurisdictions to source end users and brokers, and to establish delivery points and clearing bank arrangements therein.

The PAE license would be based on the established regulatory principle of passporting, in which the PAE license would be issued by the Tier One regulator of the jurisdiction in which the PAE chooses to be domiciled, but with entitlement for the licensee to participate in all other Tier One jurisdictions.

The principal regulator of each PAE would be the regulator in the jurisdiction in which it chooses to domicile, which would use IOSCO MMOU information-sharing and enforcement mechanisms to coordinate with regulators in other jurisdictions in which the PAE's activities take place.

All commodity and financial derivatives would be eligible to be traded on the PAEs unless specifically ruled out by the PAERC, subject to usual regulatory prerequisites, including the presentation of a credible contract specification with relevant delivery infrastructure in place as required.

Tender Eligibility

The tender would be open to private sector-led consortia, with consortia participation open to any public or private sector entity from Africa or beyond, including existing African WRS, Comex and stock exchanges.

Bidding consortia would need to meet

(iv) **Standard Regulatory Requirements** (fitness and propriety, capital adequacy, technical and operational wherewithal), and

(v) **Consortium Requirements** (minimum proportion of African participation, maximum proportion of public sector participation, defined maximum shareholding level per consortium member);

Submission documentation would include a detailed business plan and supporting documents, including governance arrangements, rules and bylaws, systems manuals, risk management policy, clearinghouse capital structure, contract specifications, contractual agreements, training and capacity-building manuals, and expressions of interest from stakeholders including end users, brokers, clearing banks, technology and other services providers.

Submission documentation would be assessed against specific appraisal criteria including:

(iv) **focus and prioritisation on agriculture and other high priority areas for the Bank**; and

(v) **business model criteria**: appropriateness, scope, sustainability, scalability, robustness, inclusivity and impact;

(vi) **resource deployment**: capital, expertise, technical capability, stakeholder buy-in, investment and capacity-building commitment mobilised under the consortium.
Agricultural Market Access Sub-Strategy for Africa: Commodity Exchanges, Warehouse Receipt Systems, and New Standards

137 Africa’s situation is unique – a fragmented continent of 54 national jurisdictions – so there can be no exact precedent for this. However, this vision is inspired by the steps taken by the governments of China and India to overcome barriers at sub-national level to facilitate the emergence of pan-national commodity and derivative exchanges, as will be explored further in the Study. In the case of India, agriculture is a state-level subject and thus splits India’s production into 35 state-level jurisdictions. Multiple state-level commodity exchanges had struggled for over a decade generating low levels of liquidity before the Government of India in the early 2000s set the vision for pan-Indian multi-commodity exchanges, modern by design (electronic only and demutualised from inception), which were awarded through a competitive tender that led to the award of three licenses to competing commercial rivals. China’s commodity exchanges first emerged under the control of municipalities across the country following liberalisation in the early 1990s. With local scope and the absence of a credible regulator, the sector degenerated into chaos. The national government stepped in to impose regulation and control on the sector, with many exchanges discontinued and the three most credible granted a national platform.

133 In practice, achieving readiness is not likely to be onerous for a jurisdiction – likely requirements are a securities or capital markets law that recognises derivatives; a regulatory agency signed up to the IOSCO MMOU; meeting technical criteria relating to recognition of netting and finality of settlement, and a real time gross settlement payment system.

134 For example, regulatory passporting is positioned as a central pillar of the West Africa Capital Market Integration (WACMI) framework.

135 An alternative, more complex approach would see the licensee requiring multiple national licenses from each Tier One regulator.

136 Most likely, the only instruments that would not be freely launchable by the PAEs would be derivatives on single stocks or equity indices whose pricing is the property of the stock exchanges which trade the underlying stocks or indices.

137 The shortlisting process would serve two purposes: avoiding unqualified consortia from wasting time and resources to develop the level of detailed information required for the final submission; and secondly to avoid wasting time and resources of stakeholders – regulators, brokers, banks, technology and other service providers, existing Africa WRS and comx – with whom collaboration is necessary for credible bidders to compile the submission documentation.

Tender Process

An expert panel comprising representatives from the Bank and its partners together with independent specialists would evaluate and select the winners from the tender process based on a two-stage process:

**Stage One – Shortlisting of Credible Applicants:** this would be based on a technical evaluation of an initial submission against the Standard Regulatory Requirements and the Consortium Requirements defined above, allowing two months for bidders to form consortia;

**Stage Two – Final Award:** allowing a further six months for shortlisted bidders to develop the submission documentation which would accomplish two objectives: firstly, to provide tangible evidence of the best qualified consortia; and secondly, to fast-track implementation by performing many implementation tasks as part of the tendering process.

Bank Instruments

Shortlisted consortia would be invited to identify requirements for Bank financing and risk management instruments – to support PAE implementation and to support development of the required ecosystem elements – and which would be subject to negotiation with the Bank as part of the tender process.

Interface with Existing Comex and WRS

PAEs would be encouraged to interface with national and sub-regional Comex/WRS as the basis inter alia for establishing a synergised approach to:

**Alignment and Interface of Spot and Derivatives contracts:**

**Quality standards,** including premiums and discounts for a range of quality specifications;

**Investment into warehousing,** with accepted transportation differentials for delivery to secondary locations;

**Investment into transportation and logistics**

**Modalities for dissemination of market information**

**Clearing and settlement interfaces** to support acceptance of WRs and create capital efficiencies for participation across national, sub-regional and continental platforms;

**Creation of last mile linkages,** including through common approaches to spurring the emergence of a rural brokerage sector and facilitative ICTs;

**Capacity-building of stakeholders,** including rural value chain participants.

The Bank and its partners would engage with the PAEs and national/sub-regional Comex/WRS to support development of these elements.
ANNEXURE III: BACKGROUND REPORT

Executive summary

This Background Report is the second deliverable under the Study commissioned by the African Development Bank (‘the Bank’) and its partners on Agricultural Market Access Promotion for Africa’s Prosperity – Commodity Exchanges, Warehouse Receipt Systems, and New Standards.

The Study Terms of Reference seeks from this Report a "comprehensive desk review of country, regional, and international experience on the benefits and prerequisites for successful agricultural commodity exchanges, with specific attention given to cases from African countries and other developing regions of the world".

Market access represents a major priority for African agricultural development under the NEPAD Comprehensive Africa Agriculture Development Programme (CAADP) through Pillar 2, the ‘Framework for Improvement of Rural Infrastructure and Trade-Related Capabilities for Market Access’ (FIMA). Market access also features prominently in the Feed Africa component of the Bank’s ‘High Fives’ strategic focus areas. The High Level Conference on Feeding Africa: An Action Plan for African Agricultural Transformation concept note lists among the four major challenges to agricultural transformation in Africa “weak access to markets”.

In the African context of promoting agricultural market access, commodity exchanges (‘Comex’), warehouse receipt systems (WRS) and quality standards have been identified as having an important contribution to make. The Arusha Declaration and Plan of Action for African Commodities, issued by the Ministers of Trade of the Member States of the African Union, recognises Comex and commodity financing structures including WRS as important components to address market access constraints.

This Report commences by setting out an institutional typology, definitions and exposition. It then moves to explore the case for developing Comex, WRS, MIS and new standards in Africa. According to proponents of the approach prominent in Africa, a market access narrative is envisaged for the farmer whose idealised version would comprise the following components:

1. Farmer chooses optimal crop(s) to plant guided by market information from the MIS;
2. Farmer produces and harvests the crop(s) guided by prevailing quality standards and good agricultural practices;
3. Farmer deposits their crop(s) into a warehouse against which a warehouse receipt is issued under the framework of the WRS;
4. Farmer decides – guided by market information from the MIS – whether to:
   a. sell immediately through the Comex for a market-determined price; or
   b. store and wait for better prices in the future while taking finance against the commodity in storage through the WRS.
5. Farmer receives cash in hand which provides resources to fund costs of production for next season’s crop(s) – including critically the means to invest in upgrades to productivity, expansion of area and improvements to quality of production – as well as to fund non-farm/off-farm activities and cover household expenditures.

In this ‘utopian’ scenario, a range of market access-related gains would accrue multiplicatively to the farmer. At first glance, this picture looks straightforward. It provides a blueprint that looks intuitive, realistic and achievable, one around which stakeholders should reasonably be able to align and implement in partnership through a relatively simple set of actions:

1. introduce a Spot Comex, WRS and MIS;
2. put in place quality standards;
3. put in place warehouses;
4. provide finance to producers from the warehouses;
5. capacitate stakeholders according to their roles.
A gap analysis deconstructs and interrogates this narrative according to its component parts, resulting in four concrete outputs: (i) a more nuanced view of the roles that can be played by Comex and WRS – including the importance of a derivatives Comex as an important prerequisite and accompaniment for effective spot trade through both Comex and bilateral channels; (ii) an identification of the important challenges for Comex to realising market-access related gains; (iii) a set of Comex/WRS-driven actions recommended to address the challenges and realise the gains; and (iv) recognising that Comex and WRS are not panaceas, a range of broader agricultural interventions required to synergise with Comex/WRS in order to improve the realisation and sustainability of the market access gains, including in areas, such as research, technologies, land tenure, extension services, input supply and distribution, production risk management, climate change adaptation, gender and youth.

In light of the gap analysis, the Report examines African and international experience with Comex and WRS to identify how market access challenges have been addressed in practice, looking at both spot-driven and derivatives-driven approaches.

Spot-driven approaches have been prominent in Africa as well as in Eastern Europe and Central Asia. In these experiences, the scope of activity typically undertaken by the Comex has extended beyond the traditional core Comex functions of trading, clearing, settlement and delivery to include direct facilitation – and in many cases, ownership and operation – of sizable aggregation, transportation and warehousing infrastructures. While the literature on Eastern Europe and Central Asia appears pessimistic on the performance of spot Comex to date, the literature on African experiences does not yet provide categorical views on the extent to which the various African spot Comex models can be scalable, commercially feasible, and cause either the crowding in or the crowding out of activity ordinarily performed by private sector agribusiness.

Elsewhere, derivatives-driven approaches have been prominent. While derivatives instruments are more sophisticated than their spot equivalents, derivatives Comex can be in practice easier to establish than spot Comex. They can be structured around a credible secure single delivery point which consolidates flows of buyers and sellers to create a price discovery benchmark. The consequent derivatives market pricing, hedging and delivery mechanisms can then be used by offtakers and financiers to manage the risk from buying and financing small-scale producers, and passing on the benefit to them, for example through fixed forward price contracts that remove price and market risk and in so doing promote investment in productivity, quality and area under production. This compares with the more challenging requirement for a spot Comex to establish multiple secure delivery points across a wider geographical terrain, and develop both infrastructure and capacity to link large numbers of farmers from many different locations into the market.

There are concrete examples of derivatives-driven market access models in developing countries such as Brazil, China, India, Malaysia and South Africa. These approaches can create market access by building capacity for farmers – or more likely, their associations – to directly participate in the market. However, they need not do so. The alternative offtaker hedging modality – in which an offtaker hedges and passes on the resulting price certainty to the farmer – can build on established value chain relationships through models such as contract farming and outgrower schemes.

As such, the derivatives-driven approach can help integrate two market access narratives that in the context of African agriculture appear to have been largely separate to date: namely, the market access narrative around Comex and WRS, and the market access narrative around structured value chain approaches such as contract farming, outgrower schemes and value chain finance. Whereas the market access narrative around Comex and WRS tends to focus on unlocking post-harvest inventory financing as the basis for unlocking investment, the narrative on structured value chains and value chain finance tends to emphasise unlocking pre-harvest input financing. By integrating them into a single narrative both the pre- and post-harvest financing components can be brought together. This appears to be best demonstrated in the experience of Brazil in which the pre-harvest crop receipt to facilitate input financing sits alongside the post-harvest WR to facilitate inventory financing.
While the policy implication for direct hedging is to build the capacity of farmer associations to participate in the market, the policy implication of the offtaker hedging approach is to expand the presence of structured value chains such as contract farming. Within this context, offtakers can be encouraged to adopt market-based pricing and hedging through mechanisms such as industry codes of conduct and the incorporation of market-based pricing and hedging into qualification criteria for fair trade labelling. To enable this to happen, capacity-building may be required for offtakers to assist them develop the capabilities to hedge and to factor such hedging into fair pricing terms offered to farmers, incorporating appropriate pricing formulas on a value chain by value chain basis.

What then is the role for the spot Comex in light of a derivatives-driven market access narrative? It is here argued that a spot Comex can play an important role as a complement to a derivatives Comex in particular for value chains that struggle naturally to structure under contract farming modalities, in particular for grains and other food staples. Spot Comex may also play an important role addressing geographic fragmentation and excluded and marginalised producers such as women and youth.

Finally, when further considering derivatives-driven approaches, it is important to look at the experiences of the World Bank’s International Task Force on Commodity Risk Management in the early/mid 2000s. The Task Force was set up with the “primary concept to ‘bridge the gap’ between developing country clients and commodity hedging tools in developed countries” (World Bank 2008). This took place through encouraging African entities to hedge on derivatives Comex in Europe and the United States for commodities such as cocoa, coffee, cotton and sugar. This approach is recognised to have faced significant limitations, and it is important that lessons are drawn when looking again at derivatives-driven approaches.

Experience suggests a range of disadvantages arise from encouraging African entities to use offshore derivative exchanges. Conversely, the creation of African onshore derivatives Comex can be advantageous for five reasons – they can provide: (i) price discovery that better reflects African supply and demand; (ii) price references that are more relevant for African processors and exporters, and better enable the price paid by offtakers to the farmer to be back-calculated from the market price; (iii) hedging instruments with lower levels of basis risk; (iv) delivery arrangements that allow for delivery channels of last resort accessible to the African value chain player; (v) the possibility to set up spot Comex and WRS working in tandem as a complement with the derivatives Comex.

In particular, lessons may be learnt from the successful onshore derivatives Comex developed by Brazil, China, India, Malaysia and South Africa to support both domestic and export chains. In the African context, this translates into derivatives market for three types of value chain:

- global cash commodities such as cocoa, coffee, cotton, palm oil and sugar for which a global reference market already exists, but an onshore African benchmark does not, following the example of Brazil to support exports of coffee, sugar and soya bean; and following the example of China to support imports and domestic processing of commodities including sugar, cotton, maize and wheat;
- global cash commodities such as cashew, sesame and some horticulture products for which a global reference market does not already exist, and thus Africa would create a first of its kind, following the example of Malaysia with palm oil;
- commodities which are predominantly domestic, with localised rather than global pricing, and in which there is a need to structure markets and facilitate the development of onshore processing industries, such as cassava, rice, sorghum, millet and cow pea, following the example of India with pulses and spices.

It is also observed that in India and China, derivatives-driven approaches have also helped to facilitate market integration of fragmented sub-national markets. Derivatives-driven approaches with the focus on managing risk in practice can help overcome barriers to the physical trade which inhibit the development of spot trade through the Comex just as much as through bilateral channels.

Finally, the Report looks at prerequisites for successful agricultural commodity exchanges. The challenge with this is that a Comex is a dynamic and catalytic entity which can give structure to its ecosystem through its core processes such as inter alia developing rules and bylaws, defining contract specifications, defining applicable quality standards, putting in place a physical infrastructure foundation, performing business development, creating a brokerage network, setting up a technology infrastructure, devising a settlement system, putting in place a WRS, and capacitating stakeholders. Thus, by pursuing the activities that are in any case a part of its ordinary set-up process, the Comex can create those ‘prerequisites’ based on which it can be successful.
The important questions arising from this perspective are: (i) whether the ecosystem is capable at all to support the development of these elements; (ii) whether a Comex can pursue these activities with sufficient skill to provide a sound basis for its core processes – trading, clearing, settlement and delivery; and (iii) what are the indicators to suggest a Comex has done enough in its set-up phase to suggest it is ready for launch.

The appropriate approach for assessing these questions is to evaluate a business plan from an investor’s perspective (and in particular, a development-oriented investor’s perspective), rather than ticking off a checklist of prerequisites from an academic perspective. A framework is presented in the Report for assessing a Comex or WRS business plan in terms of its readiness for launch, based on a specified range of questions and indicators.

While this framework sets out the ‘internal factors’ relating to whether the Comex or WRS has a sound business plan, there are also external factors that have hitherto negatively affected the development of African Comex and WRS. In particular, experience suggests that the policy environment is a critical factor – whether government has accepted market-based pricing mechanisms, whether government policy and interventions in areas such as food security, trade and industrialisation policy provide incentives, barriers or distortions to Comex/WRS development, and whether different branches of government are aligned in their understanding and support for Comex and WRS development. These challenges are exacerbated in the context of regional Comex strategies in which the governments of different jurisdictions would be required to align around certain basic policy principles to facilitate cross-border flows through the Comex.
INTRODUCTION - AGRICULTURAL MARKET ACCESS IN AFRICA

1. This Background Report is the second deliverable under the Study commissioned by the African Development Bank ("the Bank") and its partners on Agricultural Market Access Promotion for Africa's Prosperity – Commodity Exchanges, Warehouse Receipt Systems and New Standards.

2. The Study Terms of Reference seeks from this Report a "comprehensive desk review of country, regional, and international experience on the benefits and prerequisites for successful agricultural commodity exchanges, with specific attention given to cases from African countries and other developing regions of the world”.

3. Market access represents a major priority for African agricultural development. The NEPAD Comprehensive Africa Agriculture Development Programme (CAADP) aims towards a growth-oriented agricultural development agenda in which interventions are focused around four pillars, one of which – Pillar 2 – is the ‘Framework for Improvement of Rural Infrastructure and Trade-Related Capabilities for Market Access’ (FIMA).

4. FIMA incorporates four strategic areas:
   - Raising competitiveness and seizing opportunities in domestic, regional, and international markets;
   - Investing in commercial and trade infrastructure to lower the cost of supplying national, regional, and international markets;
   - Developing Value-Chains and Financial Services;
   - Strengthening the Commercial and Technical Capacities of Farmers’ Organisations and Trade Associations.

5. Market access features prominently in the Feed Africa component of the Bank’s ‘High Fives’ strategic focus areas. The High Level Conference on Feeding Africa: An Action Plan for African Agricultural Transformation concept note lists among the four major challenges to agricultural transformation in Africa “weak access to markets”, referencing the absence or weakness on the Continent of market structures including both hard (aggregation, storage and processing facilities) and soft components (quality standards, information services, logistics for distribution of agricultural products). The Bank’s Feed Africa: Strategy for Agricultural Transformation in Africa 2016-2025 observes that “Access to markets by African farmers, especially women farmers, remains limited at the local, national, regional, and international levels”.

6. In the African context of promoting agricultural market access, commodity exchanges ("Comex"), warehouse receipt systems (WRS) and quality standards have been identified as having an important contribution to make. The Arusha Declaration and Plan of Action for African Commodities, issued by the Ministers of Trade of the Member States of the African Union, recognises Comex and commodity financing structures including WRS as important components to address market access constraints.

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138 CAADP Pillar 2 Framework for Improvement of Rural Infrastructure and Trade-Related Capabilities for Market Access, April 2009.
7. The fundamental role of a Comex is to bring together buyer and seller. The associated mechanisms that a Comex provides to support delivery, clearing and settlement – as elaborated in Section One below – are in place to manage the risks associated with facilitating the resultant trade. Recognising the Comex as a catalytic mechanism, African Development Bank (2013) positions its role more broadly as ‘completing the market’, in essence filling in gaps in infrastructure, institutions and information that otherwise generate market inefficiency, opaqueness and exclusion.

8. A WRS is a mechanism to facilitate deliveries on a Comex and to finance the value chain through providing the funding that market participants require to produce, aggregate, process and trade the commodity. For smallholder producers in particular, the commodity they produce is often the only form of collateral that can be leveraged in a broader context of financial exclusion. Financing that commodity through a WRS therefore has the potential to open up new possibilities for the producer to take an active role investing to improve their livelihood, representing a transformation from subsistence or passive modes of production to a more proactive business-like approach.

9. In both Comex and WRS, the adoption of quality standards as the basis for finance and trade is an important means for levelling the playing field between the large and smaller players. Comex offer trade and WRS offer finance on a ‘sight unseen’ basis – neither the buyer under a Comex nor the financier under a WRS inspect the commodity nor appraise the seller/beneficiary before entering into the transaction. As such, it is not decisive whether the seller is a large commercial entity or a smallholder with less than a hectare of land, the product can be traded and financed on equal terms as long as defined standards are met.

10. This Background Report is structured into four sections. In Section One, the Report defines and explains core concepts, looking at the diversity of institutional mechanisms and instruments that can be supported by Comex and WRS. Section Two explores the benefits of Comex and WRS. A narrative is presented of the mechanics by which Comex and WRS are understood to promote agricultural market access in the African context. Taking the farmer’s perspective, this narrative is then deconstructed into its component parts, each part critically examined to identify a range of practical challenges that can arise when seeking to realise this narrative on the Continent. Section Three examines pertinent African and international experience to examine how those challenges have been addressed in practice, and the lessons that emerge therefrom. Finally, in light of these experiences, Section Four provides a view on prerequisites for successful Comex from the perspective of a development-oriented investor.
SECTION ONE: INSTITUTIONAL DEFINITIONS AND TYPOLOGY

11. **Definition of Comex**: UNCTAD 2005 defines a Comex as "a market in which multiple buyers and sellers trade commodity-linked contracts on the basis of rules and procedures laid down by the exchange".

12. **Types of Comex**: There are three types of institution in Africa commonly referred to as a Comex: commodity services platforms, commodity spot exchanges ("Spot Comex") and commodity futures and options exchanges ("Derivatives Comex"). This paper will focus only on the latter two, on the basis that the essential service of a Comex per the UNCTAD definition is considered to be trade – the rule-based exchange of commodity-linked contracts between seller and buyer.

13. **Definition of Spot Comex**: A Spot Comex is an organised market which leads to an immediate or near-immediate transaction in which the physical commodity of the seller is exchanged for a defined quantum of payment from the buyer.

14. **Definition of a Derivatives Comex**: A Derivatives Comex is an organised market which offers trades in commodity-linked derivatives instruments. A derivative is defined as "a financial instrument, traded on or off an exchange, the price of which is directly dependent upon the value of one or more underlying ... instruments, or any agreed upon pricing index or arrangement". Common types of exchange-traded commodity derivatives instrument include:

14.1. **Forwards** are a non-standardised contract between a seller and a buyer to deliver a specified unit of a specified type of commodity at a specified time in the future with the price agreed today. Forwards are most commonly similar to spot contracts but with a delivery in the future. These kinds of forward are not considered to be derivatives as they directly address the trade of the physical commodity. However, a forward may take on derivative-type qualities if the contract is tradable – its value would then depend on the value of the underlying commodity relative to the market. Forwards are most commonly entered into bilaterally – or over the counter (OTC) – between two counterparties in the value chain with an intent for the physical commodity to be delivered. (This stands in contrast to futures which are mostly not delivered, see below), but they are included here as an exchange-traded derivative as some African and international exchanges provide for trade in forwards (described under Section Three).

14.2. **Futures** are standardised contracts between a seller and a buyer to deliver a specified unit of a specified type of commodity at a specified time in the future with the price agreed today.

14.2.1. In practice, less than 2% of futures contracts tend to result in delivery of a physical commodity. Rather, commodity futures function primarily as an instrument for value chain participants to ‘hedge’ price risk (i.e. to manage their exposure to price volatility), while also allowing investors to speculate on price movements and traders to arbitrage price discrepancies between related markets. However, the possibility for delivery is important to ensure firstly that convergence takes place between spot and futures markets which is an important requirement to facilitate hedging, and secondly that the futures market represents a delivery channel of last resort – whether through exchange-accredited warehouses, or through a process known as Exchange of Futures for Physicals (EFP).

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141 Some platforms in Africa which are called ‘CEs’ do not act as a forum for matching buyers and sellers but rather provide services to value chains. Most common are price dissemination platforms such as the Kenya Agricultural Commodity Exchange and the Malawi Agricultural Commodity Exchange. Other examples of this phenomenon include Uganda Commodity Exchange (UCE) which operates a B2S but does not facilitate trade, and the Zambian Agricultural Commodities Exchange (ZAMACE) – currently dormant, pending regulatory bottlenecks and new funding – which was used mainly as a platform for the registration rather than the matching of trades.
142 In India, the defined threshold that separates spot from forwards markets is 11-days.
143 Commodity Futures Trading Commission, see: www.cftc.gov/ConsumerProtection/EducationCenter/CFTCGlossary/index
144 Other kinds of derivative have been typically traded bilaterally among counterparties, known as over the counter (OTC), including OTC forwards, swaps and OTC options. However, with the changing global regulatory climate since the Global Financial Crisis of 2007/8, there has been a concerted international effort to migrate OTC instruments onto derivatives exchanges backed by the central counterparty clearing (CCP) mechanism that supports derivatives clearing and settlement.
14.2.2. Hedging through futures works by enabling the market participant to take a position in the futures market opposite to their position in the spot market. Therefore, unfavourable price movements in the spot market become offset by favourable movements in the futures market, and vice versa.

14.2.3. As contracts are standardised and subject to netting, a futures position can be closed by being squared off prior to delivery by taking an equal and opposite position (in contrast to forwards positions which can only be settled through delivery or by mutual agreement with the counterparty). However, a commodity futures market also typically functions as a delivery channel of last resort in which a position can be held open into the delivery period and taken through to final settlement in which the physical commodity is bought or sold.

14.2.4. The cost of hedging is the fees – usually a fraction of the value of the position – due to brokers and due to the exchange from the positions taken in the market. (Fees may arise for the matching, clearing, settlement and/or delivery of these positions). However, in practice two factors typically impose additional cost: ‘basis’ risk – locational or other reasons that inhibit the futures market from perfectly offsetting the spot market, meaning that the hedger may in practice lose or gain on the hedge according to the size of the basis risk; and the cash management implications of the dynamic collateralisation process associated with futures – known as margins (described below) – under the central counterparty clearing (CCP) methodology.

14.3. Options are contracts giving the holder the right but not the obligation to buy or sell a specified quantity of an instrument – in the context of a commodity derivatives exchange, this is a commodity futures contract – at a specified price during a defined time period, regardless of market price.

14.3.1. Hedging through options works similarly to an insurance policy. In return for paying an upfront premium, the market participant can set a price floor (for the seller) or a price ceiling (for the buyer) for the transaction they wish to perform. However, in the event that the price remains above the floor (for the seller) or below the ceiling (for the buyer) the option expires unclaimed, and – just as with an insurance policy on which one does not claim – the premium is not refunded.

14.3.2. The costs of the option are the cost of the premium plus the costs due to brokers and the exchange. The advantage of hedging via options over futures is that the upfront cost is fixed, and there are no further cashflow requirements for the holder of an option. The disadvantage, however, is that the cost of options premiums vary with time and with volatility, thus, making the premium more expensive on the occasions when they are most needed.

15. The essential service of a Comex is trading, which is provided for by a mechanism for matching sellers and buyers. The matching mechanism used by a Comex can vary:

15.1. Bulletin boards or email circulars may represent the simplest matching arrangements that a Spot Comex can offer (i.e., the exchange posts or circulates commodities for sale and receives responses by telephone or email which it then passes on to the seller). However, this kind of matching mechanism is unlikely to create useful forms of price discovery.

15.2. Auction (or reverse auction) is an alternative, more sophisticated matching mechanism:

15.2.1. In an auction, buyers make competing bids for the consignment offered by the seller with the consignment going in whole or in part to the buyer or buyers offering the highest price. (In reverse auctions, the sellers make competing offers to fulfill the requirements of the buyer with the award going in whole or in part to the seller or sellers offering the lowest price);

15.2.2. Auctions can create a basic but potentially meaningful form of price discovery if successive auctions reference a common measurement unit, quality grade and delivery location. Each auction thereby discovers a market price at which the commodity is sold, that price being periodically updated each time a new auction takes place, with the price referencing the same unit, type and location of commodity.

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147 Arbitrage is an exceptionally important function. While detailed description and analysis is beyond the scope of this background paper, it is worthwhile to note two salient facts about arbitrage. Firstly, much of the activity which passes for speculation in futures markets is actually arbitrage. An arbitrage is a spread trade, based on simultaneously buying and selling in two related markets. Secondly, arbitrage is beneficial for three reasons – (i) because it brings into line the spatial, temporal and value chain-related aspects of the commodity market where discrepancies and distortions may otherwise exist, the effect of which is to provide more accurate information to value chain participants; (ii) because it is a major source of liquidity; and (iii) because it is a key mechanism by which liquid futures markets can help inject liquidity into spot markets via so-called cash carry arbitrage, a form of temporal arbitrage between spot and futures market. A spot Comex alone cannot create the conditions for this kind of arbitrage but when a spot Comex is launched with a futures exchange already in place, significant additional volumes are likely to flow into the spot Comex, as a result of this strategy.

148 Under an ERP, an entity, such as a trader, takes delivery in an alternative location where the exchange may not have a warehouse in return for taking on the futures position.
15.2.3. However, to generate meaningful prices, auctions require the participation of at least several competing buyers (or for reverse auctions, sellers), and thus – in contrast to the bulletin board approach – imposes a minimum liquidity requirement in order to be effective.

15.3. ‘Bid-offer markets’ arguably, represent the most sophisticated matching mechanism used by a Spot Comex, and in practice the only kind of matching mechanism that is feasible for a Derivatives Comex.

15.3.1. A bid-offer market is a live two-way competitive auction around a standardised contract specification148 in which sellers post their offers (i.e., the price at which they are prepared to sell a given unit of standardised commodity at a given location at a given time) and buyers post their bids (i.e., the price at which they are prepared to buy a given unit of standardised commodity at a given location at a given time), with the contract matched where a bid and offer come in at the same price level149.

15.3.2. This creates a more advanced form of price discovery as the market price continually adjusts during trading hours every time a buyer and seller are matched – and the more liquid the market (i.e., the more buyers and sellers participate and the more volume running through the exchange), the more often the market price is updated and can be disseminated to the public for use as a price benchmark.

15.3.3. However, to generate meaningful prices, bid-offer markets require at least several competing buyers and sellers to be simultaneously present and active in the market for at least a certain period of time in each trading session. In other words, bid-offer markets have a higher liquidity requirement than auctions in order to be effective. Where liquidity is too low to support bid-offer markets, an auction may make for a more effective matching mechanism.

16. The range of other core services offered by the Comex can also vary.

16.1. In theory, an exchange could offer the trading function only – i.e., the matching mechanism. In such a situation the exchange play no further role once the buyer and seller are matched other than to pass on the respective contact details of each counterparty. The risks around fulfillment of the transaction would be borne entirely by the counterparties. In practice, this would reduce the potential value provided by the Comex to market participants, and may breed reluctance for participants to commit to the trade without first performing an inspection of the commodity and an audit of the counterparty150.

16.2. Therefore, it is usual for a Comex also to offer other core services whose function is to support the realisation of the trades that are matched through the platform. These include delivery, clearing, settlement and dispute resolution services.

16.3. Delivery services are those services provided to manage the process by which the commodity is confirmed to meet the contract specification – at its most basic, these include weighment, quality grading, and entry into a secure warehouse151.

16.3.1. The provision of delivery services is an important enabler of trade to take place on a ‘sight unseen’ basis – i.e., for participants to trade based on the contract specification only, without needing first to perform an inspection of the commodity;

16.3.2. According to the operating model of the Comex, delivery services may be provided through warehouses owned and/or operated by the Comex, and/or by warehouses owned and/or operated by third parties and accredited by the Comex against defined warehouse accreditation criteria. There are arguably merits and drawbacks of each approach;

16.3.3. According to the commodity type and storage modality, commodity may be stored according to the seller’s specific consignment (in which case the buyer may receive the specific commodity delivered by the seller), or may be commingled into a pool of the same type and quality of commodity (in which case the buyer may receive commodity of the same type and quality as per the contract but not exactly the same commodity as that delivered by the seller).

16.4. Clearing services are those services provided to manage the risk that arises between the matching and the settlement of transactions when there is a time delay between them.

16.4.1. The need for clearing arises to manage counterparty risk – i.e. the risk of counterparty non-performance against contract obligations – and is performed by a clearinghouse, an institution which may be an internal part of an exchange or may be a separate institution in some way affiliated with the exchange.

16.4.2. Clearing represents the collateralisation of the position taken by each counterparty to manage this counterparty risk. Collateral may be defined to represent the equivalent value of the position taken, or a defined proportion of it (the latter being the more usual approach). Collateral may include cash or non-cash forms.

148 In other words, the longer one wishes to set a price floor or ceiling with the option, and the more volatile the market in which one wishes to hedge in this way, the more expensive the options premium, ceteris paribus.
16.4.3. Clearing is of particular importance in derivatives markets as there can be a significant time gap between matching and settlement during which time the market price can move significantly. The clearing process involves both upfront collateralisation through pre-paid deposits known as initial margin, as well as resetting of positions to zero – a process, known as ‘marking to market’ (MTM) – through regular pay-out of losses or pay-in of profits by each participant, known as MTM or variation margins. Taken together, this methodology is known as central counterparty clearing (CCP), and the expansion of the CCP methodology represents a major component of the post-GLOBAL Financial Crisis consensus by the G20 to improve the financial stability of international markets. With the marginalising process as the key component, and by holding significant additional capital, usually in the form of a settlement guarantee fund, the CCP clearinghouse (known as a CCP), acts as a central counterparty to all derivative positions it takes on: the contractual buyer to every seller, and the contractual seller to every buyer, underpinned by a full counterparty guarantee.

16.5. Settlement services are those services provided to manage the exchange of the seller’s commodity for the buyer’s payment. This applies to all transactions on a Spot Comex, and for those positions that are taken to delivery by a Derivatives Comex.

16.5.1. A basic level of the settlement would include drawing up contracts between the counterparties, and then leaving it to the counterparties to perform according to contractual obligations, with enforcement either external through the judicial process or internal through an exchange’s dispute resolution mechanisms (see below). However, this also leaves the risks around the fulfilment of the transaction to be borne by the counterparties.

16.5.2. Therefore, many Comex offer a more robust form of settlement process known as delivery versus payment (DVP). Under DVP, the exchange first confirms the conformity of the commodity to contract specification and receipt of the buyer’s payment into a trust account. When both are in place, the Comex simultaneously – or near-simultaneously – transmits the title of the commodity from seller to buyer, and transfers the payment from buyer to seller.

16.5.3. To add further value to the DVP model, the Comex may guarantee settlement to both buyer and seller – i.e. that the buyer receives the commodity of a weight, quality and in a location that was specified in the contract, and the seller receives the payment to which the buyer had committed. For such a counterparty guarantee to be sustainable, it would ordinarily be premised on the seller having the commodity already certified and under storage in an accredited facility prior to entering into the trade, and for the storage operator to provide a corresponding guarantee to the Comex about the condition and location of the commodity, usually in the form of a Warehouse Receipt (WR). For this reason, many Warehouse Receipt Systems (WRS) have been initiated by Comex as a means to facilitate settlement. On the other side of the trade, the Comex may require the buyer to have already deposited the payment – or a portion thereof – prior to or as soon as entering into the transaction.

16.5.4. Dispute resolution services are those services provided to resolve disputes between the buyer and the storage operator (or between the buyer and seller if the trade is directly against the designated seller’s physical commodity, and not against a WR issued and guaranteed by the storage operator). Most disputes typically arise around aspects of commodity quality, although where a Comex is broker-intermediated (see below), the relationship between the end user as the principal and the broker as the agent can also be a source of dispute.

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16.4.3. In practice, this is what happens in bilateral trade, also known as over the counter (OTC) or off-exchange markets, in which an appointed independent collateral manager inspects and certifies the commodity, and the counterparties sign a complex agreement governing bilateral trade through which they audit each other’s standing and determine the collateral regime they require in order to manage bilateral exposures. In OTC derivatives markets, the process has been standardised globally by the International Swaps and Derivatives Association (ISDA). Accordingly, counterparties sign with each other an ISDA ‘Master Agreement’ backed by defined supporting documents. The limitations with this approach as concerns financial stability and risk have been well-documented in light of the Global Financial Crisis. There is now a concerted move to migrate OTC derivatives trade onto exchanges and CCPs being driven by the Group of 20 nations (G20) through the Financial Stability Board (FSB), in connection with the Bank for International Settlements (BIS), and implemented by securities regulators around the world. A further limitation on OTC trade has been the implication for market access. In OTC markets, without the kind of third party guarantee that an exchange or its affiliated clearinghouse would be prepared to offer, large counterparties would only trade with other large counterparties whose standing it could validate and accept. This is to the detriment of the smaller institutions in trying to access markets within their own jurisdictions (still a challenge within many African jurisdictions as the large pan-African banking groups are reluctant to trade with smaller national institutions in domestic bond and foreign exchange markets), as well as with institutions from jurisdictions considered to be risky in trying to access counterparties outside their jurisdiction. In practice this has excluded many African institutions from global markets, and has restricted African financial sector development by limiting access to wholesale funding, limiting access to hedging instruments, and imposing a challenge for domestic stock and bond markets to build liquidity.

16.5.4. In practice, warehouses would typically be expected to offer a full range of professional storage solutions including handling, stock monitoring and preservation.
The role of brokers: In more basic platforms, the buyers and sellers directly communicate their trade orders to the Comex. In more advanced platforms, the buyers and sellers communicate their trade orders to the Comex via exchange-accredited brokers.

17.1. The broker’s role as an intermediary can add value in one or more of three dimensions:

17.1.1. in an agency capacity due to its specialism as a participant on the Comex trading platform, the broker can execute the end user buyer or seller’s trade order in the correct format, at the optimum time, and according to a strategy to optimise likely effectiveness of the trade for the end user;

17.1.2. in a regulatory and compliance capacity due to its position as a regulated entity subject to the sometimes complex compliance rules of the Comex, the broker can assess the client for risk and – if satisfied – manage the risk of the client; in the event of a default on obligations, the broker then stands in for that client;

17.1.3. in a marketing capacity due to its interest as a business in its own right to generate revenues from its client base, the broker can act as a distribution channel for the Comex to identify, capacitate and bring into the market clients with a need to use Comex services.

17.2. As such, it makes sense for a Comex to take on broker intermediation where the market is:

17.2.1. large – there are significant numbers of buyers and sellers in the market, presenting a capacity challenge for the Comex to administer the participation of each buyer and seller, as well as their respective auctions, bids and offers; and/or

17.2.2. potentially large – the Comex has a high addressable market in which it lacks sufficient capacity to perform the marketing and capacitation role to reach a large enough proportion of potential end users; and/or

17.2.3. poses significant risk – the Comex wishes to limit the application of its counterparty guarantee to a more limited number of counterparties.

18. Trading venue and ownership: The trading venue and ownership of the Comex are closely related, and as such are addressed in tandem.

18.1. Floor trading and mutual ownership models: Until the mid-1990s, trading on exchanges – whether Comex or exchanges trading financial assets – almost everywhere took place through a trading floor.

18.1.1. In this model, floor traders – some acting for their own account (so-called ‘proprietary brokerage’), some acting as brokers on behalf of other end users (so-called ‘client brokerage’), and many performing both roles simultaneously – execute orders on the floor with each other using language and signals established within the market as the basis for transacting. Trades are recorded by officials of the Comex as they are executed. The officials then provide the interface to the delivery and settlement processes. In the past, this latter process was an exercise in manual form-filling and respective visits or telephone calls to the warehouse and the bank.

18.1.2. Such a structure has tended towards mutual ownership of the exchange by the floor brokers. While specific models vary, in a typical structure each floor broker is designated a member of the exchange, known as a ‘seat’, granting entitlements that include on the one hand floor access for the broker to undertake trades for itself and/or its clients, and on the other to have a noinal ownership stake in the exchange bringing with it a right to participate in exchange governance structures, including the board and the board committees, usually on a rotating basis. The exchange itself is operated on a non-profit basis. The value of membership to an institution has been the flow of business it unlocks through the capability to perform proprietary and client brokerage via the trading floor. As such, each membership seat has tended to carry a value commensurate to the liquidity and prestige of the exchange institution, with valuation typically subject to auction among financial institutions whenever a seat becomes available.

18.1.3. The advantage of this model has been to build a sense of community among the floor brokers and warehouse operators that is argued to foster smooth and stable operation of the market based on a highly developed sense of mutual interest. The main disadvantage has been arguably to shape the exchange as an elite, club-oriented institution in which the floor brokers have privileged access to the market, with lower levels of transparency on the workings of the market to those outside the club, and arguably with higher potential for conflict of interest to the detriment of the market participants that are remote from the trading floor.

18.2. Electronic trading and demutualised for-profit ownership models: Since the mid-1990s, technological advance has seen the transition almost everywhere of Comex from floor to electronic screen-based trading, underpinned by a significant technology and networking architecture that integrates the trading, clearing and settlement processes. The advent of electronic trading has driven a huge transformation of the exchanges sector in several dimensions.
18.2.1. **Technology as a catalyst for business model transformation**: technology has been a major driver for demutualisation of exchanges into for-profit entities. The technology costs for an exchange can be substantial and have accordingly imposed a significant capital-raising requirement on them. A mutual structure has not been conducive to capital-raising. As such, exchanges have had to demutualise in order to access the greater sums of finance from banks and capital markets in order to fund technology expenditure.

18.2.2. **Technology as a driver multi-asset integration**: The same technology architecture that enables the trade, clearing and settlement of commodities can also serve financial exchanges offering trade in assets such as stocks, bonds, and foreign exchange in both spot and derivative form. As such, technology for an exchange has become akin to an infrastructure – a large fixed cost expenditure that enables multi-asset flows of trading, clearing and settlement. In the past, the relatively low costs of the exchange run as a club has promoted specialism of such exchanges according to asset – agricultural exchanges, metals exchanges, stock exchanges, etc. Today’s high costs of technology infrastructure – as well as the increasing capital costs required to support the counterparty guarantees associated with clearing and settlement platforms – has promoted the integration of commodity and financial exchanges onto one platform in order to reduce the transaction costs that would otherwise be passed on to the market participants, and to increase the liquidity of those exchanges seeking a return on their high technology investments.

18.2.3. **Technology as a driver for market access and regional integration**: The advent of electronic trading, and the consequent demutualisation of exchanges, has arguably removed the privileged position of the small clique of floor brokers. The accessibility of the exchange through data networks and the internet has promoted market access more broadly to participants further from the venue – including those located outside the major financial centres domestically as well as those located across borders. In this sense, technology has been considered a significant driver of national, regional and global market integration. Technological processes – and in particular, usable interfaces to specify and execute trade – has also simplified the more basic forms of trading compared with the arcane language and signals associated with floor trading. This has opened up markets to smaller and more marginalised participants located outside the major financial centres. On the other hand, it is also important to observe that technology has arguably created a privileged position for those with the fastest network connections who get to see and respond to market movements fastest.

18.2.4. **Technology as a driver of improved performance**: Technology has arguably boosted the performance of exchanges in multiple dimensions (summarised in brief below):

18.2.4.1. **Trading**: The accessibility and usability of electronic market interfaces – for example through the cellphone and handheld devices – can be an important driver of inclusivity. Technology also provides scope for executing a broader array of strategies effectively – and in particular, various forms of arbitrage (or spread trading) – through a more functional market interface.

18.2.4.2. **Price dissemination**: technology enables real-time dissemination of market prices and other information to a broad array of geographically dispersed stakeholders.

18.2.4.3. **Clearing and settlement**: technology enables automation of the interface between trading, clearing and settlement (known as ‘straight through processing’), and the performance of functions that were previously manual in order to more efficiently perform and scale back office functions.

18.2.4.4. **Regulation**: technology enables a full electronic audit trail to be generated for all activities performed by brokers and their clients in order to better detect and investigate various forms of market abuse.

19. **Regulation**: Regulation of a Comex – as well as a WRS (see below) – typically takes place through a combination of external and internal regulation.

19.1. The standard approach for an external regulatory framework is to ground it in legislation which defines inter alia the scope of regulation (venues, assets, instruments, activities, institutions and stakeholders), the regulatory authority, the regulatory requirements (licensing, ongoing compliance), offences, powers and procedures. For Comex specifically, the evolving global trend has been for regulation to fall under securities regulators. In some jurisdictions, a Comex is regulated under general securities law; in others a Comex is governed under a specialised law. Securities regulations are defined in line with global standards, in particular those defined by the International Organisation of Securities Commissions (IOSCO).

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159 The pros and cons of each approach are beyond the scope of this paper.
19.2. Most external regulatory frameworks provide a role for internal regulation in which the exchange acts as a self-regulatory organisation (SRO). Under this arrangement, the exchange is said to take on front-line regulatory obligations for promulgating, enforcing its own rules and bylaws, as well as specific rules that govern membership, conduct and compliance requirements by member brokers and traders. The rules also define the offences, powers and procedures around which the SRO is empowered to act. The external regulator in this schema plays the role of second-line regulator, to oversee that the SRO performs its functions fairly and effectively in line with its own rules and in line with the governing legislation.

19.3. A WRS may also be regulated under the framework of general securities law, or under a specialised law. In the former approach, a WRS is considered a settlement mechanism and thus the equivalent for a Comex of a central securities depository to a stock exchange. In the latter approach, a WRS is recognised as being categorically separate from financial systems even though the functions largely overlap.

19.4. In regulating a Comex, the regulatory framework should strive to reach a balance in which the risks to the market and its participants are adequately addressed without imposing too much additional cost on the market that may undermine its value proposition as an effective mechanism for matching buyer and seller.

20. WRS. A WRS performs two functions – it manages commodity collateral to unlock bank finance to commodity chains (‘WR financing function’); and it enables efficient delivery management for a Comex (‘Comex delivery function’). Several important features of a WRS may be drawn out:

20.1. Process. A commodity can be entered into a WRS after it has been transported to the location of a participating warehouse, weighed, graded, stored and a WR has been issued by the warehouse operator in the name of the depositor.

20.2. The WR. The prevailing practice, for WRs issued under a WRS, is that the WR is a negotiable instrument which represents a document of title to a defined volume of commodity – with quality defined – held under storage by a specified operator at a specified location for a specified fee. In contrast, a WRS is most effective where the WR is negotiable. This subject is complex and can be explored at length, but falls outside the scope of this study.

20.3. The WRS. The WRS is a set of rules, processes and systems through which a WR can be inter alia issued, transferred, pledged as collateral to banks, transacted to a counterparty, transacted via a Comex, expired and renewed. In terms of format, a WRS can issue paper certificates, electronic certificates, or a combination of the two. There is divergent practice as to the legal-regulatory framework that supports WRS – some jurisdictions regulate the WR, the WRS and public warehousing; others regulate one or a subset of this phenomenon; some are self-regulated organisations (SROs) operating under the contract laws of the jurisdiction, others do not have a regulatory framework at all.

20.4. The WR under a WRS carries a Guarantee. Standard practice under WRS is for the WR issuer – i.e., the warehouse operator – to guarantee the quantity, quality and location specified on the WR. This means that if upon collection, the holder of the WR is presented with commodities that differ from what is stated on the WR, the issuer is liable to make good for the discrepancy in a manner defined by the WRS rules and/or public WRS regulations. An effective WRS, therefore, tends to sit within a sound regime for the accreditation and inspection of participating warehouses.

20.5. Participating Warehouses. Typically, a WRS relies on a system of public warehouses. Public warehousing means storage that is open to the public to place their deposits, irrespective of whether that warehouse is owned or operated by the government (e.g., a food reserve agency), by the private sector (e.g., a professional storage management firm) or by civil society (e.g., a farmers’ association). For admission into the WRS, there are normally a number of criteria against which the warehouse facility and the warehouse operator are assessed. These typically include: physical integrity, security, accessibility, sufficient equipment, adequately trained personnel, management capability and financial strength. Accreditation criteria, and a subsequent monitoring framework for compliance with rules and conditions, serve to ensure that appropriate physical infrastructure, management capability and financial resources underpin the guarantees, normally in the form of surety covering a certain percentage of the maximum potential value of deposits, offered by the warehouse to maintain the quantity and quality specified on the WR.

154 It is noted in brief that there are negotiable and non-negotiable WRs, determined both by the legal framework as well as by the WR issuer’s role and purpose. Typically, collateral management agencies working under a tripartite collateral management agreement with banks and borrowers issue non-negotiable WRs. By contrast, a WRS is most effective where the WR is negotiable. This subject is complex and can be explored at length, but falls outside the scope of this study.

155 Financial strength is required to manage the risks arising from quality or quantity discrepancy and may refer to sufficient balance sheet strength and/or appropriate insurance policies to cover potential liabilities, however defined.
20.6. WR Financing Function:

20.6.1. The WR is a negotiable document of title which can fulfill the criteria of financial institutions to serve as good collateral against a loan. The issuance of a WR indicates that the collateral is under the control of a qualified warehouse operator which guarantees pertinent risk factors such as quantity, quality and location. The commodity has a value which can be calculated for purposes of acting as security against a loan. Should support be provided in the legal environment to ensure that the bank has an enforceable first call on the collateral in the event of default – a pre-requisite which has proven to be a stumbling block in some African jurisdictions – WR financing can provide a secure, risk-mitigated means to lend to farmers and other value chain players.

20.6.2. The WRS plays several supporting roles in facilitating bank finance to commodity value chain players:

- Organising the system for accrediting warehouses through the application of admission criteria and a compliance framework to ensure the storage operators’ guarantee of the WR as collateral is valid and enforceable;
- Providing a depository solution within which all WRs are registered and can be managed through standard account management functions;
- Offering the operational means for receipted commodity to be pledged as collateral to banks, and thus preventing the same collateral being pledged to multiple institutions;
- Offering the operational means for collateral to be seized by the bank in the event of default.

20.6.3. Box 1 overleaf shows screenshots from the WRS used in South Africa by the Johannesburg Securities Exchange (JSE, formerly SAFEX), and in Malawi by the Agricultural Commodity Exchange for Africa (ACE).

20.6.4. There are four motivations for which WR finance is typically taken:

- By Farmers for Subsistence Commodities: For commodities which are to be consumed on the farm, the prevailing basis on which farmers take loans against WR is in order to fund other income generating activities which will enable payback of the loan. This arrangement will help farmers avoid the post-harvest losses that typically arise for on-farm storage, while preserving the food supply for the farmers’ household into the lean season when availability tends to be lower and market prices tend to be higher. On this basis, farmers will typically only use a portion of their commodity for finance, with the residual retained to avoid the risk of seizure in the event that the farmer cannot pay back the loan. This is the basis on which the warrantage initiatives of Francophone West Africa typically operate.\(^{156}\)

- By Farmers for their Marketable Surpluses: For commodities which are to be marketed, the prevailing basis on which farmers take loans against a WR is in order to wait until later in a season when prices rise sufficiently to offer the farmer a higher income, even after covering the costs of finance, storage and WRS fees. For successful WR finance on this basis, it is required that there is a reasonably predictable price rise throughout the season. However, for many commodities in many jurisdictions, there are factors that may flatten or even invert the forward price curve, which in principle render WR finance under these circumstances unfeasible.

In particular, there are various forms of government interventions that can have these effects. (See Box 2 below.) It is also required that the interest rates, storage fees and WRS fees are affordable, in order to allow for a farmer to make a positive return after these costs.

In both these farmer financing approaches, farmers may use the loan to:

i. Finance pre-harvest expenses such as inputs, labour, equipment and services, thus enabling farmers to invest in upgrading production, productivity and quality;

ii. Finance production of other crops under diversification, rotation, and intercropping strategies;

iii. Finance non/off-farm activities, thus promoting income diversification strategies;

iv. Cover household expenses.

### SAFEX 3015337

#### STORAGE AND HANDLING CHARGES
- **Storage and handling charges have been paid on the product covered by this receipt up to and including the last date endorsed below by the silo owner.**

<table>
<thead>
<tr>
<th>DAY</th>
<th>MONTH</th>
<th>YEAR</th>
</tr>
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<tbody>
<tr>
<td>0</td>
<td>9</td>
<td>100</td>
</tr>
</tbody>
</table>

#### VOLUME (QUANTITY)
- **ZERO ZERO ZERO FIVE ZERO - ZERO ZERO ZERO**

#### PRODUCT DESCRIPTION

<table>
<thead>
<tr>
<th>PRODUCT DESCRIPTION</th>
<th>ISSUED AT: KLERKSDORP</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHITE MAIZE WM1</td>
<td>WHEAT B1</td>
</tr>
<tr>
<td>YELLOW MAIZE YM1</td>
<td>WHEAT B2</td>
</tr>
<tr>
<td>SUNFLOWER SEED FH</td>
<td>WHEAT B3</td>
</tr>
<tr>
<td>SOYA BEANS SB</td>
<td></td>
</tr>
</tbody>
</table>

#### ORIGIN
- South Africa
20.7. Comex Delivery Function

The WR provides a basis for enabling fulfillment of delivery on transactions traded through a Comex. Rather than physically handing over commodities, the transfer of the WR document from seller to buyer constitutes good settlement. The buyer can then proceed to claim the commodity from the warehouse through presentation to the warehouse operator of the WR, or can easily on-sell the commodity without ever having to take physical possession of it. This simplifies the settlement process for the Comex and its stakeholders, while at the same time improving risk management.
Box 2: The Impact of Government Interventions on WRS

On the one hand, the maintenance of food security is a critical role for government. This has led to governments, not only in Africa but also in other industrialised and developing jurisdictions, intervening in food markets to ensure availability, affordability and price stability for key food staples.

On the other hand, it is increasingly recognised that a WRS can play a positive role in stimulating investment into agriculture, including to smallholder producers who may otherwise fail to access finance due to lack of collateral. However, there can be a conflict between these two prerogatives when the nature of government intervention undermines efforts to develop a WRS.

A fundamental premise of WR finance for farmers is a reasonably predictable ‘forward price curve’ – in other words, a significant rise in prices from time of harvest, when prices tend to be lowest, to later in the season, when prices rise significantly.

This is because when a farmer stores their produce and takes finance through a WRS, they are anticipating that the price at the time of sale later in the season will have risen sufficiently to offer a return, even after payment of storage fees, bank interest and WRS fees. Banks likewise require a level of confidence that the value of the commodity collateral will not be eroded during the term of the loan.

Government interventions – or the expectation of government interventions – can distort the forward price curve, thus reducing the confidence of borrowers and financiers alike that WR financing represents a profitable proposition (Food and Agriculture Organisation of the United Nations (FAO) 2011).

Some common government policy measures that can suppress or invert the forward price curve can include:

- **Activities that increase the market price at time of harvest**
  - Parastatal buying, including at a ‘minimum price’ that may be higher than the ruling market price;
  - Price setting by government at a rate higher than the ruling market price;
  - Import bans preventing available sources of commodity located regionally or internationally from coming into the market.

- **Activities that reduce the market price later in the season**
  - Parastatal selling (or ‘dumping’) of excess inventory into the market, including at a rate that may be less than the ruling market price;
  - Export bans preventing sellers from tapping into regional or international demand.

While recognising that government may not be able to withdraw from playing an active role in the maintenance of food security, experience suggests the importance for interventions to be made as predictable and rule-based as possible in order to provide scope for a WRS – and for that matter a Comex – to function effectively. Arguably, a significant factor driving the success of the South African WRS and Comex has been the two decade-long commitment by government not to intervene in food markets.

Policy options for government to align food security policy with an effective WRS include leveraging the WRS to provide more accurate monitoring of food stocks in the country, and for managing a ‘virtual’ food reserve through using the WRS, taking ‘paper ownership’ of commodities located in public warehouses across the country through market-based transactions.

- **By Agribusiness to Unlock Working Capital:** For agribusiness holding commodities as inventory, those commodities can serve as collateral against loans to provide working capital and improve company liquidity.

- **By Agribusiness to Fund Seasonal Purchases:** For agribusiness – particularly traders – seeking to aggregate commodity through purchases from farmers, small traders and markets, commodity that is purchased based on an initial tranche of cash or balance sheet finance can then be financed once in the warehouse to fund further rounds of purchases. As more commodity is purchased and stored in the warehouse, more finance can be sourced in this way.

However, it is noted that a predictable forward price curve may not be such an important prerequisite for WR finance for traders. Traders typically utilise the WRS to unlock seasonal commodity finance or pre-export finance, the economics of which are not dependent on prices rising through the season. In this structure, traders make their returns from the aggregation of commodity from producers, and from arbitraging between markets.
21. **Market Information System (MIS):** An MIS is a platform for providing information about a market to a defined audience.

21.1. In the commodities context, market information can include a wide range of potential data:

- Pricing by location (current prices, historic prices);
- Volumes and/or values traded by location per period;
- Stocks by location;
- Key market locations;
- Public warehousing, and other logistics and service providers;
- Warehousing fees and conditions;
- Prevailing quality grading standards;
- Good Agricultural Practices (local, international);
- Climatic and soil information;
- Technical information;
- Tax, licensing, customs and excise information;
- Information about export markets;
- Directory of stakeholders (including government agencies, off-takers, financiers, insurance providers, input suppliers, and equipment providers).

21.2. The audience for an MIS could be the general public, subscribers, or a defined set of eligible stakeholders such as members of an industry association.

21.3. The platform could provide information through a range of channels – via print or broadcast media, via cellphone, via internet, or through distribution via partner organisations, such as farmer associations or rural service providers.

21.4. In practice, the information often considered most important by stakeholders, in particular farmers, is pricing. There is a considerable advantage for an MIS to display pricing information provided from a Comex rather than pricing sourced through other channels, such as quotes from traders in local markets. Where prices are disseminated by an MIS based on traders’ quotes, there is a danger that a farmer will travel with their produce to a particular market only to be quoted prices that are different from those on the MIS. However, the prices from a Comex are those that originate from objective, verifiable transactions. This means that they are realizable for farmers having access to the Comex. For this reason, a Comex can provide a means for enhancing MIS with more accurate, more meaningful information than other channels.

21.5. Indeed, many Comex in Africa and around the world are today effectively acting as MIS. The technology that drives Comex often includes dedicated modules for data dissemination – e.g., prices, volumes, stocks and trading history. Many Comex also offer through their websites a portal containing a richness of relevant information about commodity trade and finance including delivery locations, delivery procedures, packaging requirements, quality standards, tax and import/export information, and service provider directories for brokers and banks, among others. Increasingly, Comex are also making available through their websites interactive capacity-building materials, backed by seminars and workshops aimed at stakeholders in key industry locations.
SECTION TWO: THE ‘PROMISED’ BENEFITS OF COMEX, WRS, MIS AND STANDARDS, AND THE CHALLENGES TO REALISING THEM

22. The case for developing Comex, WRS, MIS and standards in Africa has been well articulated. In brief, the ‘promised’ benefits include meaningful agricultural market access for value chain players – including small-scale and marginalised actors, and in particular Africa’s high proportion of women producers – to information, storage, finance and markets. The ‘promised’ impacts are enhancements to the transparency, efficiency, stability, productivity, inclusivity and capacity of the underlying value chains, including their equitability through enabling producers to realise a higher proportion of the final price and their resilience through management of risk.

23. According to proponents of the Spot Comex-driven approach prominent in Africa, a market access narrative is envisaged for the farmer whose idealised version would comprise the components depicted in Box 3 below:

Box 3: Market Access Narrative for Farmer Benefits in the Spot Comex-Driven Approach

Farmer chooses optimal crop(s) to plant guided by market information from the MIS;

Farmer produces and harvests the crop(s) guided by prevailing quality standards and good agricultural practices;

Farmer deposits their crop(s) into a warehouse against which a warehouse receipt is issued under the framework of the WRS;

Farmer decides – guided by market information from the MIS – whether to:

sell immediately through the Comex for a market-determined price; or

store and wait for better prices in the future while taking finance against the commodity in storage through the WRS.

Farmer receives cash in hand which provides resources to fund costs of production for next season’s crop(s) – including critically the means to invest in upgrades to productivity, expansion of area and improvements to quality of production – as well as to fund non-farm/off-farm activities and cover household expenditures.

24. In this ‘utopian’ scenario, a range of market access-related gains would accrue multiplicatively to the farmer, depicted sequentially in the table overleaf according to the timing of the farmer’s interface with the market access institution:

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157 The WRS model here outlined applies for a crop that is to be marketed. By contrast, the warrantage model – see Konlambigue, M. (2011), “Rapport sur la revue des experiences de receipts d'entreposage et de warrantage pour le financement de l'agriculture en Afrique de l'Ouest”, UNCTAD – is understood to apply for a crop that is to be retained for consumption or as a village-based food security buffer stock. In the WRS approach, the motivation for the farmer to use the WRS is to sell for a higher price later in the season, paying back the costs of storage and finance out of those higher revenues. In the warrantage approach, the motivation for the farmer is to save on the higher costs that would have had to be paid to buy food in the market later in the season, and paying back the costs of storage from other revenue streams – sale of secondary crops, livestock, or rural services. In both cases, the farmer benefits from reduced post-harvest losses by using good quality warehousing.

158 i.e. the benefits from each type of gains are multiplied by their occurrence in tandem with the other types of gain.
It is important to emphasise there are other gains above and beyond those to farmers, which are beyond the scope of this analysis. UNCTAD (2009) identifies 66 positive impacts found from derivatives Comex in at least one of the five developing economies it appraises (Brazil, China, India, Malaysia, South Africa), of which 30 of these are farmer-related impacts, and the residual 36 are non-farmer related.

Box 4: Actions to Promote the Spot Comex ‘Utopia’ Narrative

01. introduce a Spot Comex, WRS and MIS;
02. put in place quality standards;
03. put in place warehouses;
04. provide finance to producers from the warehouses;
05. capacitate stakeholders according to their roles.

25. At first glance, this picture – the narrative, the extensive list of gains to the farmer – looks straightforward. It provides a blueprint that looks intuitive, realistic and achievable, one around which stakeholders should reasonably be able to align and implement in partnership through a relatively simple set of actions.
26. This begs several questions:

- Why does the reality not appear as simple as this?
- Why do some stakeholders – value chain participants, financiers, government – sometimes appear significantly less energised than development partners to help implement a marketing system which promises so much?
- Why has the actual, on-the-ground experience been checkered not only with occasional failure, but also with such diversity of operating model given a relatively straightforward vision?

27. To address this question, the narrative can be examined thoroughly in light of practical experience, in order to generate a gap analysis – a reality check, if you like – on the ‘utopia’ narrative.

**Gap Analysis on the Spot Comex ‘Utopia’ Narrative**

28. Step One: Farmer chooses optimal crop(s) to plant guided by market information from the MIS:

**Challenges:**

28.1. **An MIS in Africa at present can largely display spot rather than a forward or futures price**,

impairing the farmer’s capacity to make a choice that is optimal for him/herself or for society as a whole. Most African farmers today are understood not to make planting decisions based on pricing information. Many produce the same crop year after year. Some switch, rotate or diversify based on the previous season’s experience. MIS transmit price information and prices can provide market signals to producers. However, it would be dangerous for producers to make planting decisions based on historic or current spot prices. Such behaviour can exacerbate price volatility and reduce producer returns, as per the cobweb theorem of price dynamics in markets such as agriculture in which production decisions are made before prices are observed. High prices in one season can lead to over-planting and thus cause or exacerbate falling prices in the following season. Conversely, low prices in the following season can lead to under-planting and thus cause or exacerbate rising prices in the third season. However, in the presence of a futures market, in which forward price discovery is known and forward prices dynamically adjust as more information comes into the market about farmer planting activities, a farmer can make planting decisions based on the best known view about the future prices.

28.2. **Global futures prices relevant to Africa can help, but requires adjustment of pricing to the Africa context.** In sectors, such as cocoa, coffee, cotton, palm oil and sugar, futures prices could be used to guide optimal planting decisions for African farmers. However, such prices are referenced against delivery in Europe, North America or Asia and typically include insurance and freight to the overseas destination as well as the price of the commodity. The absence of futures price benchmarks for African onshore delivery at prominent trading or export centre(s) means that the farmgate price needs to be back-calculated from the global futures price, deducting the costs of insurance and freight. This calculation is complex from the perspective of the farmer, and some of the assumptions required to accurately back calculate from the global price can be contentious.

28.3. **Using prices to guide planting is not enough – prices also need to be locked in to secure the gains from optimising crop selection.** While a futures price may be the best available guide of how prices are likely to hold at the time of the next harvest, futures prices are volatile and may reflect factors other than the supply and demand ‘fundamentals’. It is therefore important that the farmer not only can use the futures market as a pricing signal but also as a mechanism to lock in that price for the time the farmer is ready to deliver – at harvest or some time thereafter. This need not involve the farmer directly taking a position in the futures market – although building that capability through capacitated farmer organisations or other intermediaries such as rural brokers would surely help – but could also involve having access to an offtaker that can hedge the price risk as a means to offer a fair fixed forward price to the farmer.
28.4. **The capacity to switch or diversify production is constrained by a range of factors.** Even if farmers are capacitated with the appropriate information to calculate the optimal portfolio of crops to produce, there are a range of constraints in the African context that would typically hinder farmer switching or diversification. Firstly, the land may not be conducive to grow certain crops. Secondly, certain crops cannot simply be switched around – some for example have long gestation cycles – or intercropped. Thirdly, access to knowledge may be lacking about how to effectively produce a given crop throughout the production cycle, and to produce to prevailing standards in order to find a market. Fourthly, the array of inputs and equipment necessary to produce effectively may not be available.

28.5. **The optimal requirement from the Comex/MIS, then, is to generate and disseminate through MIS futures prices for commodities that are relevant to Africa, based on Africa delivery, which can guide farmer planting decisions, and provide accessible futures markets that offer the means to lock in the crop selection gains.**

**Synergies with other agricultural interventions.** The actions taken by the Comex for this purpose need to synergise, however, with appropriate interventions to build the capacity for the farmer to switch or diversify across a defined range of crops. Switching and diversification may be promoted on a season by season basis where gestation cycles are short or absent, e.g. between maize and soybean. Where a farmer has a main crop – for example, as an outgrower under a contract farming arrangement – strategies could be promoted to assist farmers diversify into secondary crops to prevent single crop dependence, with switching among different secondary crops taking place on a season-by-season basis according to comex-discovered futures prices. Alternatively, switching and diversification may be promoted over a longer term – including on an economy-wide basis – for crops with longer gestation cycles if a steady upward trend in prices is identified. Examples of such actions include those undertaken in Vietnam and Malaysia to support the diversification of these economies into coffee and palm oil respectively. Interventions to support short term or long term switching and diversification may include land use assessments, extension services, and improved input supply and distribution arrangements to support a range of crops – the latter arguably also a role that can be fulfilled by the Comex.

29. **Step Two: Farmer produces and harvests the crop(s) guided by prevailing quality standards and good agricultural practices.**

**Challenges:**

29.1. **Risks to agricultural production are broad-ranging**, and go beyond the role that can be played by the Comex. Key risks include climatic performance (including climatic catastrophes such as droughts and floods), pestilence, conflict, and ‘acts of god’.

29.2. **For some African commodities, quality standards are not transparently defined.** The farmer may not have a clear quality reference against which to produce and against which to perform post-harvest processes. Alternatively, standards may vary from region to region, country to country, locality to locality, or offtaker to offtaker. A lack of consistency in standards within and across border can not only confuse the farmer but also hinder efforts to access markets and to regionally integrate value chains.

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164 See UNCTAD 2009 for an example of this in Northern China based on futures prices generated by the Dalian Commodity Exchange.

165 See 42-46 below on the mechanisms used in Brazil.


9.3. Even where quality standards are defined, there is a risk that they are not acceptable to users of the commodity in domestic, regional or international markets. A bureaucratic standards creation process can generate standards that work on paper but do not work in practice. Standards setting processes need to be industry-driven, based around the needs of the users of the commodity, in order that those farmers that invest to produce to standards are rewarded with access to a wider market.

It is also important to take into account the whole range of sanitary and phytosanitary standards that may go beyond those standards that apply to the quality of a particular commodity delivered to the warehouse or the off-taker. These include a wider range of concerns as the commodity progresses along the entire value chain, as defined under the GLOBALG.A.P. and Hazard Analysis and Critical Control Points (HACCP) frameworks. Sector-specific traceability requirements are also often in place.

9.4. Producers must be provided with an incentive to meet quality standards. Where producers are offered a similar price irrespective of quality – for example by primary aggregators at farmgate or by traders in local markets – this deprives them of a motivation to increase quality. A market signal is required that transparently demonstrates the price premium for higher quality product. This can provide the incentive for producers to deploy extra resources or spend extra time to achieve the standard.

9.5. Standards need to be achievable for the producer in order to realise quality gains. Even if farmers are provided an incentive through market signals to produce a higher quality product, there are a range of constraints in the African context that would typically hinder the farmer from achieving the higher quality. Firstly, the farmer needs to be made aware of the quality standard and the pricing premium from achieving it. Secondly, the farmer needs to be capacitated with knowhow as to how to meet the quality standard. Thirdly, the means for achieving a quality standard – the appropriate seed, relevant equipment, etc. – needs to be available to the farmer in his/her local area.

9.6. The optimal requirement from the Comex, then, is to generate pricing references based on contract specifications which include quality standards that are accepted by the users of the commodity – processors, manufacturers, or end consumers as applicable. In some cases, Comex can provide markets for a range of quality standards which make transparent the pricing premiums for standardised over unstandardized commodity, and for commodity of progressively higher quality. Comex delivery requirements can also include the need for compliance certificates with HACCP, GLOBALG.A.P. and traceability standards, in order to facilitate in particular the regional or global export trade. It is important to note that in global experience. Comex have played an important role in standards creation – some of the world’s most durable standards are those defined as the basis for trade on Comexes.

Synergies with other agricultural interventions: Comex and WRS tends to focus on commodity finance, market and price risks, including quality issues. The quality references generated by the Comex for this purpose need to synergise, however, with appropriate interventions to build the capacity for the farmer to improve product quality. Such interventions may include sensitization campaigns, appropriately targeted extension services, and improved input supply and distribution arrangements – the latter arguably also a role that can be fulfilled by the Comex.

Standards harmonisation efforts on a regional basis is also important to create the basis for a wider regional rather than national market into which the farmer can sell. The African Organisation for Standardisation (ARSO), can play a potentially critical continental role in this respect. The roles of Regional Economic Commissions and regional industry bodies such as the Eastern African Grain Council and the West African Grain Network are also recognised. However, for a regional process – in which by its nature there is often a heightened role for government – there is a particular caution required that standards creation processes avoid becoming overly bureaucratic but rather remain industry-driven shaped by the needs of the user of the commodity.

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168 However, it is well noted that some Comex in the developed world offer markets for weather index derivatives – most commonly measured against temperature or rainfall – which can provide for a level of hedging against production risk.


172 See among others, FAO (2011), ‘The Role of Women in Agriculture’, ESA Working Paper No. 11-06, Rome. A bureaucratic standards creation process need to be industry-driven, based around the needs of the users of the commodity, in order that those farmers that invest to produce to standards are rewarded with access to a wider market.
There are broader areas of production risk, though, which have not typically been the purview of Comex and WRS. There are also important challenges associated with adaptation to climate change, including escalating threats to which Africa is particularly vulnerable such as desertification, deforestation and water scarcity. There is a critical need for investment into agricultural research, including technological innovation, to address many such risks, as well as investment into irrigation and other infrastructure to promote climatic resilience. Climatic risks, and to a certain extent some climate-related catastrophic risk, may in part be managed through weather index insurance in which actuarial science is applied to the climate generating insurance policies which are triggered when climatic under-performance takes place as identified against a specified benchmark.

Finally, concerning production, it is also important to recognise the social risks that affect African agriculture, including the exclusion risks faced by women and youth. Women are over-represented in unpaid, seasonal and part-time work, and are paid less than men for the same work. 168While Africa has the fastest growing population of any region in the world and is accordingly experiencing a ‘youth bulge’, 169levels of youth rural unemployment and urbanisation remain high driven by constraints inter alia in secure land tenure, farm scale, access to resources and skills deficits. Measures required to tackle social exclusion of this kind go beyond the Comex and WRS, and may include reforms to education, training and skills development programmes, and incentives to stimulate agricultural innovation and transfer of technologies into rural areas.

30. Step Three: Farmer deposits their crop(s) into a warehouse against which a warehouse receipt is issued under the framework of the WRS170;

Challenges:

30.1. Storability of commodity: Some commodities are not storable but rather perish in short order unless placed in cold chain. Other commodities, such as sugarcane and cassava, need to be processed within a short time after harvest. In these value chains, the farmer may not have the option to store the commodity they produce.

30.2. Proximity of warehouses: There are significant gaps in Africa’s warehousing infrastructure. Cold chain is even more scarce. Production areas are remote and fragmented, often significant distances from wholesale or even retail markets at which warehousing is typically located. Transportation even along key routes can face constraints arising from poor road conditions, corruption and inadequate condition of vehicles172.

30.3. Reachability of warehouses: Even where a warehouse is established in the vicinity of the farmer, the distances, the terrain or the road conditions may make it impractical for the farmer to transport the crop direct to the warehouse. The availability, affordability and reliability of transportation is also a major constraint in many rural areas, and in particular for farmers with small volume consignments.

30.4. Condition and management capability of warehouses: A significant portion of the existing rural warehousing in Africa is understood to be in poor condition and facing deficits in management capability. Such storage may not preserve commodity adequately until later in the season but may pose similar challenges with moisture and pests as commodity stored at home or in traditional village structures. Leasing and renovation of such structures by professional operators has been hindered by uncertain contracting environments with public agencies – the owners of a significant proportion of Africa’s rural warehousing. There are also significant challenges in making a commercial business case for private sector to directly invest in rural warehousing in Africa – access to land may be difficult, access roads and other support infrastructure may be under-developed, utilisation levels are uncertain, and financiers may be unwilling to lend against real estate or assets located in rural areas.

30.5. Acceptance by warehouse: Even where rural warehouses are in adequate condition to preserve the commodity, the farmer may face challenges in obtaining acceptance by the warehouse operator for his/her consignment. Some warehouses are operated by agribusinesses purely for their own proprietary stock and do not take on third parties. Others as a matter of standard practice impose high minimum deposit requirements that are beyond the reach of an African farmer, and sometimes beyond the reach even of an African farmers’ association acting collectively.

30.6. Accreditation by WRS / guarantee of WR: to take advantage of warehouse receipt financing, even good quality warehouses that accept small deposits need to meet WRS accreditation criteria that would typically include the financial capacity of the warehouse operator to effectively guarantee the condition of the commodity under WRs. This may include balance sheet strength as well as insurance, which may elude certain operators.
30.7. Affordability of Storage and WR: Finally, even where all these factors are addressed, the farmer may not be able to afford the fees that a warehouse operator or the system may charge for storage and associated costs such as handling and bagging, and for the issuance of a warehouse receipt.

30.8. The requirements to support the development of sustainable warehousing and WRS in Africa, then, as a means to secure post-harvest handling gains, and gains as a result of access to WR finance, are:

30.8.1. To facilitate investment in agricultural warehousing by working with public and private sector as may be appropriate, on the one hand to upgrade and certify those warehouses that do exist and on the other to create plans and incentives for parties to invest in new warehouses of sufficient condition in rural areas, so as to help realise post-harvest handling gains along the value chain;

30.8.2. To stimulate the development and efficiency of the transportation and logistics sector in coordination with the development of hard infrastructure – roads, rail, etc. – through directly investing in or facilitating investment into fleet services, access roads, and other transportation infrastructure; and also through freight exchange-type solutions in which the market mechanism of a Comex is used to create similar efficiency and performance gains for the freight sector as for commodity value chains – price discovery, quality standards setting, matching of buyer and seller, and management of risk;

30.8.3. To facilitate the emergence of insurance products suitable to manage the risks of warehousing including not just standard fire, theft and building insurance but also coverage for professional negligence and catastrophic events, in order that the guarantee of the WR is robust and realisable in the event of default.

31. Step Four: Farmer decides – guided by market information from the MIS – whether to store or sell:

Challenges:

31.1. Absence of futures prices: the absence of futures prices means that decision-making by farmers whether to sell or store is taken on the basis of general pricing tendencies, rather than indicators of likely future market price during a specific season based on the available information in the market. As per 21.2 below, there can be uncertainty as to whether expected price rises will materialise during any given season. Even if price rises occur, there can be uncertainty as to whether such price rises are sufficient to generate a return on the costs of storage and finance incurred as a result of deferring sale. To the extent such uncertainty exists, it can make the farmer’s decision to store take on a somewhat speculative feel.

31.2. Price shocks: There are various factors that can cause a pricing shock that alters the forward pricing curve such that a farmer holding goods in the warehouse may end up making a loss, or at least not being able to pay back on the costs of storage and finance incurred as a result of deferring sale. Among the most prominent is an intervention by the government concerning its domestic purchase and sales or concerning the trade and tariff framework for exports and imports – see box 2 above. Another source for price shocks may include sudden changes in global trading conditions for the given commodity.

31.3. Absence of forwards or futures markets: even where futures pricing information is available to guide farmer decision-making, and even where shocks are absent, prices may continue to fluctuate until the time of delivery. To avoid taking a speculative position, the farmer needs to be able to lock in the price for delivery at an advantageous time in the future. This may be done through directly taking a position in a forwards or futures markets, or more realistically by establishing a forward contract with an offtaker which is able to use forwards or futures markets to manage the associated price risk. However, in most African jurisdictions, such markets are absent.

31.4. The optimal requirement from the Comex, then, is to generate and disseminate through MIS futures prices for commodities that are relevant to Africa, based on African delivery, which can guide farmer marketing decisions, and provide accessible futures markets that offer the means to lock in the marketing timing gains.
32. Step 4a. Sell immediately through the Comex for a market-determined price;

32.1. Market liquidity: a farmer seeking to sell through the Comex may find a lack of buyers willing to purchase from them. In theory, the Comex should reduce the transaction costs for the buyer, and draw them into the market. In practice, however, this may not be the case for a number of reasons:

- **Market Fragmentation**: the costs for buyers to procure from a particular location if it is remote or inaccessible are not miraculously removed by trading through a Comex. While the Comex may make procurement from such locations more cost effective than through other channels, it may simply remain too expensive to procure from there, even allowing for an adjustment to the market price based on a transportation differential.

- **Sunk costs and established relationships**: Many buyers may already have in place established, tested and trusted procurement channels. These may include: direct relationships with the producer (e.g., contracting or outgrower schemes); direct buying through in-house buyers, depots or collection points; or indirect buying via primary assemblers or through local markets. This may involve sunk investments into infrastructure, meaning that although total transaction costs may be lower through the Comex, the marginal costs may actually be higher. A buyer’s established channels may also utilise trusted relationships that the buyer remains keen to leverage, and thus would deter that buyer from migrating procurement onto a Comex.

- **Timing flexibility**: Established buyers can make forward purchase arrangements with traders so as to plan delivery against processing or exporting requirements. By contrast, spot Comex involve immediate purchase only. Procurement through a spot Comex may therefore be disadvantageous as it leaves open the risk of market illiquidity and thus for the processor the risk of underutilised processing capacity, and for the exporter the risk of unfulfilled orders.

- **Locational Flexibility**: The exchange typically restricts the flexibility of delivery location and terms to its accredited warehouses. By contrast, a buyer using existing channels may take delivery at its own premises as and when it requires, which offers a more convenient solution.

- **Fees**: The exchange typically charges fees which could be in the range of 1%, even before transport to the buyer’s premises. By contrast, the traders’ costs and margin may be built into the price quoted by the trader for delivery to the buyer’s premises.

- **Formality**: The Comex is a formal business from which transactions become visible to government. By contrast, a buyer’s procurement may be to a greater or lesser extent from the informal sector remaining invisible to government.

While the standardisation of terms brought in by an exchange may work in the favour of buyers some of the time, and particularly over the longer term, it may in the short term also impose additional costs and inflexibility compared with the existing channels. The risk, therefore, is that even if farmers have their goods in an exchange-accredited warehouse and are ready to sell from there, there may not be buyers in the market ready to pay a market price to buy from them.

32.2. Profitability of Selling through the Market: while a price obtained from selling through a Comex market direct to the buyer should in theory be higher than the price obtained selling to a trader at farmgate or in rural markets, realising a profit from selling through the market compared with selling at farmgate or in rural markets depends on several factors that may undermine the market competition gains and the market disintermediation gains that would otherwise accrue to the farmer:

- **Buyers** – as noted above, there must be buyers in the market willing to buy from the location from which the farmer is selling – an unsold product may be prohibitively expensive to retrieve from the warehouse;

- **Costs of supplying onto the Comex** – the higher market price the farmer may achieve through the Comex must be netted off against the incremental costs the farmer may incur, directly or through an association, to supply onto the Comex, such as quality standards achievement, aggregation, transportation, storage, receipting, and fees incurred with the exchange and its brokers;

- **Transportation differential** – the downward adjustment to the market price to account for the farmer’s sales location may reduce the realised market price for the farmer.
32.3. The optimum requirement from the Comex, then, is to create incentives to buyers that make procurement more advantageous through the Comex, including from rural facilities. The greatest value is arguably a derivatives Comex offering forwards or futures markets which enables the buyer to manage the fourfold risk of procuring direct from smallholders:

32.3.1. by planning and securing supply to avoid shortages and manage a just-in-time inventory management process that enables optimal plant utilisation (for a processor) or order fulfilment (for an exporter);
32.3.2. by managing quality risk as the Comex offers trade against a defined quality standard;
32.3.3. by managing price risk with the ability to lock in (via a forwards market) or hedge (via a futures market) a price for future delivery;
32.3.4. by managing payment risk as the buyer is ordinarily averse and faces significant logistics costs providing small payments to high numbers of suppliers.

A further means by which a Comex can create the liquidity conditions in which a seller can find a buyer for his/her produce is to broaden its scope from local to national to regional to international, in order to deepen the liquidity pool and enable the farmer to sell into a wider market;

Furthermore, where the Comex is integrated or interfaces with a WRS, it assists the buyer to obtain timely aggregation finance on the back of WRs to ensure affordability and cashflow management to support the procurement process.

In this way, the presence of a derivatives Comex boosts the market access agenda in two ways:

32.3.5. It assists the buyer manage the risks associated with procurement from the smallholder;
32.3.6. It provides liquidity to a spot Comex that can then come in to manage the deliveries by a smallholder farmer of small-scale consignments in rural areas. With an active commodity derivatives market, the buyer can be more comfortable to participate in the spot market. If there is a scarcity of supply in the spot market, a futures position taken in advance to hedge the price risk can be through to delivery in order to buy through the derivatives markets as the delivery channel of last resort at the time of scarcity. Meanwhile arbitrageurs can participate across both spot and futures to increase liquidity flows into both (see footnote 8).

33. Step 4b. store and wait for better prices in the future while taking finance against the commodity in storage through the WRS. 

33.1. As mentioned above, the absence of a futures market price and the ability to lock in that price puts a farmer waiting for higher price later in the season into a speculative position, given that in many markets government intervention or external factors in global markets can from time to time transform the forward price curve;

33.2. Interest rates may undermine the profitability of WR finance: if the costs of finance are high – and in some African jurisdictions they can exceed 40% – the required price rise in order to generate a return on WR finance needs to be much higher.

33.3. The financier needs to have comfort in the WRS in order to provide finance against WRs in the system, including for those WRs issued against smallholder deposits in rural warehouses. The challenges to building financier comfort to lend under a WRS should not be underestimated – they are multiple and complex.

33.3.1. It is important firstly to bear in mind that commodity finance has previously been based around collateral management agreements in which a third party specialist inspection and control agency (‘collateral manager’) takes control of the warehouse and monitors all stocks and flows. The costs of this arrangement are high and as such its application has been limited to high value transactions, high value commodities and large, well-established counterparties. This is the benchmark against which a financier is likely to appraise its willingness to finance against WRs, and the financier’s mindset – benchmarking the level of security that a WRS provides against that provided under CMA – is itself a major challenge.

33.3.2. A second category of challenges relates to information deficits about the physical commodity:

- the quality of the commodity collateral – a commodity can best be valued if it meets a standard: in practice, unstandardized commodity carries a very heavy discount and may be unbankable for the purposes of WR finance;
- the value of the commodity at its designated quality (i.e. the valuation risk) – in practice this is why it is advantageous for a WRS to be associated with a liquid Comex – and preferably a liquid derivatives Comex – so that the exposure of the bank can be continuously tracked and
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- the likely future price movements (i.e. the price risk) during the course of the loan as a means to set loan-to-value (LTV) benchmarks – while historic data can help determine likely general price performance as a guide to setting LTVs, a futures price may be advantageous to give indications of the likely pricing behaviour in that specific season;

- the ability to effectively liquidate collateral (i.e. the market risk) in the event of borrower non-performance, as indicated by market liquidity – another reason why it is advantageous for a WRS to be associated with a liquid Comex so that there is a ready channel for liquidation.

33.3.3. A third category of challenges relate to confidence in the issuer:

- Capacity to guarantee the WR – to give banks comfort to lend against the collateral, the warehouse operator that issues the WR must provide a guarantee on the quality, quantity and location of the commodity in order that the collateral can be seized, liquidated and its value realised in the event of borrower non-performance. A financier would want to know the warehouse operator is of good standing, and has sufficient capital – balance sheet and/or an insurance policy – standing behind the guarantee to cover any eventualities, not only the usual insurable risks such as fire and theft but also professional negligence, catastrophic risk and other so-called ‘acts of god’. It is not easy to build the financial capability for some warehouse operators to meaningfully guarantee the WR. This applies particularly to those active in rural areas such as farmers’ associations, SMMEs (traders, agro-dealers, etc.) and non-governmental organisations, which may not have the capital on their balance sheets and may not be able to access or qualify for appropriate forms of insurance.

- Special challenge in terms of obtaining credible guarantees on the WR from a public agency – in practice in many African countries, government, usually through parastatals such as a marketing board or a strategic food reserve, is the owner and operator of a large portion of warehousing capacity, especially in the rural areas. A special challenge may arise for banks, particularly in the private sector, to accept a guarantee on the WR from the public sector due to perceptions about the ability to make good against a claim on that guarantee. As such, it is imperative that government provides clear guidance backed by an appropriate legal instrument to regulators, the judiciary and the market in general that there is a similar level of recourse through the legal system or through arbitration against parastatals operating warehouses, just as their private sector counterparts.

- Self-certification – in practice, many warehouse operators use their facility for proprietary stock. In the event they seek financing of their own stock under WR, the financier would be relying on the same party to both guarantee the collateral and take the finance, a potential conflict of interest which in ordinary circumstances would call for the introduction of a collateral manager. The same conflict of interest may be considered to arise should a farmers’ association seek to issue a WR in order to obtain finance for its member farmers. The oversight regime by a WRS or a public regulator may provide some comfort. Nonetheless it is unlikely a bank will rely on this oversight regime alone. Potential solutions may include an agribusiness spinning out a separate warehouse management arm that is legally separate from its trading business in a manner acceptable to the financier, or to utilise warehouse management services from an independent service provider whose employment and incentives are not directly set by a company with a trading interest in the market.

33.3.4. A fourth category of challenges relate to the enforceability of the WR as collateral:

- Enforceability – the basic requirement for collateral is that in the event of a default by the borrower it can be seized, liquidated and the value realised. In the event that a financier’s right to the collateral is not respected by the depositor and/or by the warehouse operator as the custodian, it is important that the legal framework recognises and provides an enforcement channel for the financier to exercise its rights against the warehouse operator and/or the depositor. In some jurisdictions, ordinary contract law and the expertise in the judicial system is sufficient to provide sufficient enforceability. In others, a specific WR law may be required to ensure enforceability through a designated public regulator (which may be the WRS itself, or a separate regulatory body) and/or the court system.

- Special enforceability challenge when government is the WR issuer – when a public agency is the warehouse operator and issuer of the WR, there may be a perception that enforceability against a public sector body may be difficult to obtain through a public regulator or the ordinary judicial system. Again, it is imperative that government provides clear guidance backed by an appropriate legal instrument to regulators, the judiciary and the market in general that there is a similar level of recourse through the legal system or through arbitration against parastatals.
operating warehouses, just as their private sector counterparts.

- **Perfection** – in many African jurisdictions, there is a legal requirement under collateral or security law that collateral needs to be perfected through registration in a collateral registry for a financier to have recourse against that collateral in the event of borrower non-performance. The registration process for collateral registries can sometimes take significant time and effort to fulfil. This may make sense for real estate or certain kinds of movable asset. However, for commodity which revolves in and out of warehouses on a rapid basis, perfection requirements may inhibit the capacity of banks to take WR as eligible collateral. In practice, this issue may be addressed by providing an exemption to WRs from collateral registration requirements, or by designating the WRS as a collateral registry in which case, WR issuance simultaneously represents registration.

- **Insolvency** – a second challenge to WR finance is rooted in insolvency law. In the event of an insolvency by a party to WR finance – be it the borrower or the warehouse operator – under ordinary insolvency proceedings the assets of the insolvent party are frozen pending the outcome of liquidation proceedings, which are determined based on a hierarchy of creditor priorities. In this hierarchy, a financier with a claim on the WR collateral may not have first call on that collateral, or even if they do, may have to wait a significant period of time until the end of insolvency proceedings to recover the collateral, by which time its market value may be radically different (whether due to changing prices, deteriorating quality, or both). As such, a WR law may be required to establish a financier’s first and uninhibited right to seize and liquidate the collateral in the event of borrower non-performance.

33.3.5. A fifth category relates to the costs of finance:

- **Logistics of disbursement and collections**: even if all other conditions are fulfilled to give a financier comfort to lend against a WR, the practical costs and risks of moving money in relatively small consignments to rural locations, and the administrative requirements to manage disbursements and collections, may render the finance unprofitable to the bank or unaffordable to the borrower. As such, the advent of mobile money, e-vouchers and other ICT-driven solutions may represent an important support for scaling WR lending.

- **Banking regulations**: Central Banks may provide restrictions on a financier’s ability to participate in financing commodities, for example due to restrictions on a bank’s ability to hold commodities in various forms.

- **Capital provisioning**: finally, as African jurisdictions introduce the various Basel agreements to support financial stability, financiers are looking to conserve their capital. It is imperative that central banks do not provide WR lending a “high risk” rating which requires the bank to set aside more capital relative to the value of the loan, as this also would drive higher costs of finance.

33.4. The optimum requirement from the WRS, then, is not only to put in place a system of warehouses that meet defined standards, but also to manage the particular risks most likely to arise in an African context such as self-certification on the proprietary stock of commercial warehouse owners, ensuring that warehouse operators have sufficient financial standing (balance sheet, insurance) to meaningfully guarantee commodity quality and quantity under a WR, and obtaining credible guarantees for WR enforceability where the issuer is a public agency. Moreover, the WRS in practice may need to work closely with government on policy matters to address challenges stemming from perfection, insolvency and banking regulations. Finally, the advantage of a WRS being integrated or operating in alignment with a derivatives Comex may be considered in order for banks to manage key risks associated with collateral valuation and risk management that enable them to best finance the deposit of a smallholder farmer in a rural warehouse.

34. Step 5: Farmer receives cash in hand which provides resources to fund costs of production – inputs, equipment, labour, etc. – for next season’s crop(s) – including critically the means to invest in upgrades to productivity, expansion of area and improvements to quality of production – as well as to fund non-farm/off-farm activities and cover household expenditures.

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Challenges:

34.1. Cash in Hand: Whether a farmer chooses to sell or store, the expectation for the farmer would be to access cash. However, there can be a logistics challenge to make available cash at rural warehouses. Instead, a farmer may be required to collect cash from a bank branch located elsewhere, imposing not only additional time and costs of transportation, but also a level of trust on the part of the farmer that a document such as a WR or a payment order will be accepted at the branch. However, trust in the formal system is often lacking among farmers. Furthermore, if the commodity cannot be sold immediately through the market, even though that may be the farmer’s preferred option, the farmer would not be able to leave with cash in hand but would only be entitled to claim the cash once a sale has been made. Both of these factors may place selling through a Comex at a disadvantage from the farmer’s perspective compared with selling to a trader at farmgate or in a rural market, in which the farmer receives cash in hand, even though the farmer’s realised price may be lower through either of these other channels.

34.2. Timing of payment: The spot Comex and WRS narrative envisages not only that the farmer realises a higher price for their output but will also be in position to use these additional revenues to help fund investments into upgrading productivity, quality and area under cultivation that can underpin a sustainable improvement to livelihood. However, the farmer, with cash in hand post-harvest (whether from immediate sale or from deferred sale after storage), may have a long wait before planting commences for the next season. Many farmers do not have access to bank accounts or savings products to save this cash. In the meantime, farmers may face demands to cover household expenses and to fund non-farm or off-farm revenue-generating activities. While these may be positive opportunities for household income diversification, the Comex/post-harvest financing route may not create a direct link between the additional returns from use of the spot Comex/WRS and a farmer’s capacity to invest in upgrading productivity, quality and area under production. By comparison, pre-harvest financing – especially where it is provided in-kind financing through the provision of inputs on credit, as is the prevailing model under value chain financing structures – may offer a more direct means for helping farmers make these investments.

34.3. Willingness to invest: Even were the farmer to channel gains from the Comex and WRS to invest in upgrades to productivity, quality and area under production, the farmer may face disincentives to investment. Such factors may include insecurity of land tenure, obligations to land owners, climatic uncertainty, and a general sense of risk aversion.

34.4. Ability to invest in productivity gains – finally, even if the farmer is willing to invest to upgrade productivity, quality and area of production, constraints to the availability of land, inputs, equipment, labour and know-how could preclude such investments being realised.

34.5. The optimum requirement from the WRS, then, is to innovate ICTs and instruments that can enable farmers to obtain cash in hand (or alternatively, where it is accepted, mobile money or e-vouchers) at time of storage or sale, as well as providing the capacity to save some of those funds – or access to other funds, including through pre-harvest financing structures and instruments such as value chain finance – at an appropriate time pre-harvest to use for covering costs of production such as inputs, equipment and labour.

Synergies with other agricultural interventions: These innovations need to synergise, however, with appropriate interventions to address constraints on the farmer’s willingness and ability to invest, including working at policy level on the land tenure question, provision of extension services, and improved input supply and distribution arrangements – the latter arguably also a role that can be fulfilled by the Comex.
To recap, this Section Two first presented an idealised narrative which sets out how the prevailing spot Comex-driven approach is understood to generate a range of market access-related gains for the African farmer.

The subsequent gap analysis has deconstructed this narrative according to its component parts, resulting in four concrete outputs:

- A more nuanced view of the roles that can be played by Comex and WRS – including the importance of derivatives comex as an important prerequisite and accompaniment for effective spot trade through spot Comex and bilateral (or OTC) channels;
- An identification of the important challenges to realising the market-access related gains;
- A set of Comex/WRS-driven actions recommended to address the challenges and realise the gains, summarised in Box 5 overleaf;
- Recognising that Comex and WRS are not panaceas, a range of broader agricultural interventions are also recommended to synergise with Comex/WRS in order to realise the gains, including in areas such as research, technologies, land tenure, extension services, input supply and distribution, production risk management, climate change adaptation, gender and youth.

Section Three will now look at pertinent African and international experiences, and the lessons that arise therefrom, including how these challenges have been met in practice.

**Box 5: Summary of Actions by which Market Access Gains can be achieved for African Farmers based on a Gap Analysis of the Spot Comex-Driven ‘Utopia’ Narrative**

To support farmer access to information to optimise planting decisions as a means to secure crop selection gains:

- Comex to generate and disseminate through MIS futures prices for commodities that are relevant to Africa, based on African delivery, and provide futures markets to lock in the crop selection gains.
- Complementary interventions to build the capacity for the farmer to switch or diversify across a defined range of crops, either on a season by season basis where gestation cycles are short or absent, for secondary crops where a farmer is committed to a primary crop for example under outgrower schemes, or over a longer term – including on an economy-wide basis – where gestation cycles are longer through land use assessments, extension services, and improved input supply and distribution arrangements.

To support farmer quality adherence as a means to secure product quality gains:

- Comex to generate pricing references based on contract specifications which include quality standards that are accepted by the users of the commodity that make transparent the pricing premiums for standardised over unstandardized commodities, and for commodities of progressively higher quality.
- Comex delivery requirements can also include the need for compliance certificates with HACCP, GLOBALG.A.P and traceability standards, in order to facilitate in particular the regional or global export trade.
- Comex to take up a central role in standards creation.
- Complementary interventions to build the capacity for the farmer to improve product quality through sensitization campaigns, appropriately targeted extension services, and improved input supply and distribution arrangements; on standards harmonisation efforts on a regional basis is also important to create the basis for a wider regional rather than national market into which the farmer can sell; addressing broader areas of production risk through investment in irrigation, development of weather index insurance instruments, adaptation strategies to address climate change; investment into agricultural research, including technological innovation; and addressing social risks that exclude or disadvantage women and youth in agriculture.
To support farmer access to warehousing and WRS to secure post-harvest handling gains:
- Investment facilitation for agricultural warehousing, including in rural areas
- Investment facilitation and efficient market mechanisms for the transportation and logistics sector, aligned with the development of hard infrastructure such as roads and rail;
- Development of warehousing insurance products suitable to manage the risks of warehousing including professional negligence and catastrophic events.

To support farmer access to information to optimise marketing decisions as a means to secure market timing gains:
- Comex to generate and disseminate through MS futures prices for commodities that are relevant to Africa, based on Africa delivery, and provide futures markets to lock in marketing timing gains.
- To support farmer access to a liquid market as a means to secure a better price as a result of market competitiveness and market disintermediation gains:
  - Comex to create incentives to buyers through forwards or futures markets which enables the buyer to manage the fourfold risk of procuring direct from smallholders through a Comex – planning and securing supply; managing quality risk; managing price risk; managing settlement risk;
  - Comex to broaden the scope of the market from local to national to regional to international in order to deepen the liquidity pool, enabling the farmer to sell into a broader market;
  - Derivatives Comex to facilitate provision of liquidity sufficient to create a spot Comex that can then come in to manage the deliveries by a smallholder farmer of small-scale consignments in rural areas.
- WRS to assist the buyer obtain timely aggregation finance on the back of WRs to ensure affordability and cashflow management to support the procurement process.

To support farmer access to WR finance as a means to secure marketing-timing gains:
- WRS not only to put in place a system of warehouses that meet defined standards, but also to manage the particular risks most likely to arise in an African context such as self-certification on the proprietary stock of commercial warehouse owners, ensuring that warehouse operators have sufficient financial standing (balance sheet, insurance) to meaningfully guarantee commodity quality and quantity under a WR, and obtaining credible guarantees for WR enforceability where the issuer is a public agency.
- WRS to work closely with government on policy matters to address challenges stemming from perfection, insolvency and banking regulations.
- Derivatives Comex to assist banks to manage key risks associated with collateral valuation and risk management that enable them to best finance the deposit of a smallholder farmer in a rural warehouse.

To support farmer capacity to invest in upgrade to secure productivity, product quality and area under production gains:
- WRS to innovate ICTs and instruments that can enable farmers to obtain cash in hand (or alternatively, mobile money or e-vouchers) at time of storage or sale, as well as providing the capacity to save some of those funds – or access to other funds, including through pre-harvest financing structures and instruments such as value chain finance – at an appropriate time pre-harvest to use for covering costs of production such as inputs, equipment and labour.
- Complementary interventions to address constraints on the farmer’s willingness and ability to invest, including working at the policy level on the land tenure question, provision of extension services, and improved input supply and distribution arrangements.
SECTION THREE: LESSONS FROM AFRICAN AND INTERNATIONAL EXPERIENCE

36. Given the extensive list of challenges set out in Section Two above, how have Comex and WRS in Africa and the rest of the world addressed them in practice?

Derivatives Models

37. It is, perhaps, easier to start with the rest of the world. The Comex model has been overwhelmingly derivatives-driven (see 24-43). Spot-driven models are less common, being prevalent mainly in Eastern Europe, Central Asia and Turkey (see 44-48).

38. What have been the global experiences in developing economies with derivatives Comex? Pertinent experiences of international agricultural derivatives Comex in developing economies are appraised by UNCTAD (2009) with respect to five countries: Brazil, China, India, Malaysia and South Africa.

Model Similarities

39. It is important first to emphasise that the operating models for derivatives Comex are remarkably similar across countries and regions – developed as well as developing. The main instruments (i.e., futures and options), the trading structure (i.e., bid-offer markets), the clearing and settlement methodology (i.e., CCP clearing), the platform (i.e., the use of electronic screen-based trading with straight through processing into clearing and settlement), the ownership and governance model (i.e., for profit commercial corporations), and the nature and content of regulation (i.e., conformity with the IOSCO Objectives and Principles) are globally standardised with few exceptions, whether in the developed or developing worlds.

40. There has also been convergence around a common institutional and regulatory model for derivatives Comex. Institutions have become multi-asset, regulated by a securities regulator. In Brazil, Malaysia and South Africa the country’s stock, derivatives and commodity exchanges – once separate – have merged over time. In Brazil, China, Malaysia and South Africa, derivatives Comex have been regulated by securities regulators since inception while in India, the commodity futures regulator has been merged into the securities regulator in the wake of a scandal linked to a spot Comex in the country.

Model Variations

41. The major variance from jurisdiction to jurisdiction is the specific commodities that have been listed for trade. These have been shaped by the country’s commodity profile and global trade position – in South Africa and India, agricultural derivatives trade focuses on key domestic value chains; in Brazil and Malaysia, agricultural derivatives trade focuses on key export value chains; in China, the derivatives market has supported the country’s transition from being a surplus producer of its key commodities to a net importer. In all cases, though, the role of the derivatives market is the same – to provide price discovery, a hedging mechanism, a delivery channel of last resort, and a venue for investment.

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179 China is also understood to have experience with spot-based Comex-type institutions at wholesale markets, but these do not appear to feature in the literature.
180 This section draws extensively on UNCTAD 2009.
181 A minor variation exists between two types of exchange-traded options: ‘American’ options can be exercised at any time prior to and including the date of maturity whereas ‘European’ options can only be exercised at the time of maturity.
182 See UNCTAD 2009 for further information.
183 In South Africa, the focus is grains, which are predominantly domestic but do feature some exports; the level of which varies from season to season; in India, from which agricultural exports are small relative to the domestic sector, spices and pulses are traded in derivative markets in India alone among anywhere in the world, as well as standardised exchange-traded grains and cash crops.
Another variance among developing economy experiences is the role played by the derivatives Comex to achieve policy goals: in India the futures markets are positioned as a mechanism to drive value chain efficiency and disintermediation; in China, the derivatives markets have provided support for Chinese onshore price discovery as a net importer, and enabling both producers and processors to manage price risk in this new environment; in Brazil the markets have been a key mechanism to support the country's massive export-led growth in which agriculture has played an important role, including through stimulating large-scale financing to the domestic value chain; in Malaysia, the markets have been a key component of the national diversification strategy into palm oil, creating the only price discovery mechanism worldwide for a global commodity that resides in a developing economy; while in South Africa, the markets underpinned the country’s post-apartheid transition to replace the old agricultural control structures with a liberalised, market-driven system that has to date produced a twenty-year track record of avoiding the kind of government interventions in pricing and trade that are considered to have destabilised other African economies.

Markets to Support Different Type of Value Chain, and Implications for Africa

The varying experiences of these countries can provide inspiration for African economies with respect to establishing derivatives contracts both for its domestic and its export crops:

With respect to domestic crops, the experiences of China and India are pertinent. Both countries have established price discovery benchmarks for two categories of domestic value chain:

» Commodities which are traded elsewhere on global benchmark exchanges in hard currency terms for delivery in Europe or North America. Important examples in both countries include cotton and sugar. For these commodities, local currency-denominated price benchmarks have been set up based on onshore delivery to support domestic value chains. The prices are correlated with the global benchmark exchange, but better reflect the specific supply and demand configuration of the domestic market to provide more accurate price references for the value chain and a delivery channel of last resort.

» Commodities which do not have an established global benchmark, and for which the Chinese and Indian exchanges have established futures markets for the first time. In India, examples include futures references for a range of pulses and spices; in China, for processed agricultural products, plastics and industrial goods. These markets play an important role for the domestic value chain, but their influence also extends offshore to the extent that such products are imported or exported in raw or processed form.

» Futures markets for domestic crops have typically been established around prominent wholesale markets for the commodity in question, but could also be established based on delivery to processing clusters.

With respect to the African situation, the establishment of these kind of futures markets could support the development of processing and manufacturing industries for strategic domestic value chains on the Continent such as cassava, rice, sorghum, millet and cow pea, as well also to stimulate the development of value addition to commodities whose value chains are currently considered to be export crops – i.e., coffee, cocoa, cotton, and palm oil.

With respect to export crops, the experiences of Brazil and Malaysia are pertinent. Both countries have established price discovery benchmarks to support export-led growth, albeit with slightly different focus:

» The Brazilian focus has been to underpin exports of commodities such as soyabean, coffee, sugar and cattle. While each of these commodities already has a global price benchmark, those benchmarks typically reference historic flows to commodity consumers in Europe and the United States. A significant portion of Brazilian exports flow to Asia, however, and a new benchmark based on delivery to the Brazilian point of export, denominated in Brazilian currency, provides a more efficient signal for the Brazilian value chain than the existing global reference prices. These Brazilian-specific signals have helped stimulated massive investment into the country's agriculture leading to a significant increase in its global share of exports and helping it tap into the emerging sources of demand as the large Asian markets have integrated into the global economy since the mid-1990s.

» The focus in Malaysia has been almost exclusively on palm oil. The creation of the world’s first palm oil futures market – the first and only global price benchmark located in the developing world – has established Malaysia as the global centre for the industry, and enabled the country to take a leadership position in downstream processing and manufacturing industries for palm oil even as other countries such as Indonesia catch up as producers and exporters of the raw commodity.
Futures markets for export crops have typically been established around delivery to prominent points of export, most commonly ports.

With respect to the African situation, the establishment of these kind of futures markets could underpin not only investment into expanding production of key global commodities for export – for example, cocoa, coffee, cotton and sugar – as has happened in Brazil, but also creating first time benchmarks for African export commodities that do not as yet have global pricing benchmarks – for example, cashew, sesame, and horticultural products – following the Malaysian example.

Innovative Instruments

44. Of the international experience with derivatives Comex in the developing world, Brazil and Colombia stand out for deploying innovative instruments. (However, it should be noted that these instruments are offered by Brazilian and Colombian institutions in addition and as explicit complements to futures and options, not as replacements for them).

45. In Brazil, a sizable market has been established for a collateralised pre-harvest financing instrument, the Cédula de Produto Rural (CPR) 186, known internationally as the “crop receipt”187. The financing instruments available in Brazil under the CPR and related frameworks are widely attributed as a major contributing factor to the country’s dramatic emergence as an agricultural heavyweight since the 1990s188 through helping to finance agricultural expansion and productivity gains in key value chains. Importantly, the CPR also represents the use of Comex and WRS-type mechanisms to support market access for both inputs and outputs – a unique distinction, 186given that most Comex and WRS focus mainly on output markets, and sit separately from pre-harvest input financing structures such as value chain finance which in Africa have not tended to link to Comex or WRS.

46. The CPR in essence represents a pledge by the farmer to deliver a certain quantity of crop at a certain time in the future, or its cash equivalent, with extensive support for enforceability by the financier through a specialised legal framework. In this respect, the preharvest financing arrangements under the CPR is essentially a form of value chain finance with additional security, and with the crop receipt acting as a pre-harvest version of a warehouse receipt. The crop receipt only works well for value chains in which a liquid futures market exists – to agree to finance a farmer against a crop receipt in return for a pledge of future delivery, the offtaker needs to have visibility into the value of the crop or its cash equivalent taken as repayment.

47. While the majority of crop receipts are traded OTC between two counterparties – in particular, to support barter arrangements between a producer, an input supplier, a trader and/or a processor191 to enable provision of agricultural inputs to the farmer on credit – exchange-trading of crop receipts also takes place on two platforms: an e-auction platform run by a prominent Brazilian bank, Banco do Brasil, and on a forwards exchange offered by a subsidiary of the BM&FBovespa, the country’s multi-asset derivatives Comex.

48. In Brazil, the pre-harvest crop receipt can be rolled over into the post-harvest warehouse receipt at or after harvest, creating a streamlined year-round financing solution for producers. Both crop receipts and warehouse receipts can also be used as margin deposits to support futures positions on the derivatives Comex. In other words, the farmer’s crop can be used as collateral while still in the ground not just to access finance, input and output markets but also to hedge price risk.

49. A range of secondary instruments exists in Brazil backed by the crop receipt to support refinancing and securitisation. The CDCA, an agribusiness financing instrument backed by crop receipts, enables processors to package and on-sell crop receipts to banks in return for finance, or to securitisation companies for selling into the capital markets, in so doing tapping into institutional investors such as pension funds to scale the financial flows into agricultural value chains. The EPA, a trade finance instrument backed by crop receipts, enables exporters to perform similar refinancing or securitisation. The LCA, an interbank instrument enables banks to trade packages of crop receipts among themselves in order to continue financing their agribusiness clients while being able to carefully manage liquidity as well as to control exposures to specific commodity chains, regions or activities. The CRA instrument provides the basis for wrapping CPRs into agricultural securitisation instruments that are sold to capital market investors.
In Colombia, the Bolsa Mercantil de Colombia (BMC), or Colombian Mercantile Exchange, offers repurchase (or 'repo') contracts. In this structure, a farmer delivers commodity to a warehouse. The farmer sells the commodity through the exchange with a promise to buy it back after a defined period – 30 days, 60 days, 90 days. Financiers compete to offer finance against this promise, with the most competitive offer representing the effective interest rate for a loan over the period. This is similar to the model developed for trading in the money markets of Ghana by the CCH Finance House on the back of warehouse receipts issued by the Ghana Grains Council.

Comex and Regional Integration

A further important policy component has been the role of derivatives Comex to achieve market integration, in particular in China and India. Steps were taken by the governments of both countries to overcome barriers at sub-national level to facilitate the emergence of pan-national markets, in which a derivatives Comex has been a key mechanism. These cases of market integration through derivatives Comex can offer guidance for African policymakers looking for models towards regional integration across the Continent.

51. In the case of India, agriculture is a state-level subject and thus splits India's production into 35-plus state-level jurisdictions. Since the 1990s, multiple state-level commodity exchanges, spot and futures, had emerged in India but struggled for over a decade. Most were traders' clubs operating on a mutual basis around a trading floor in or near a major wholesale market. They generated low levels of liquidity, had minimal linkages or relevance to producers and the rural value chain, and reinforced the prevailing market fragmentation into state level areas and generated minimal inter-regional trade.

52. An attempt in India to overcome similar fragmentation in the stock market space proposed a model – known as the Interconnected Stock Exchange – which attempted to link up state-level institutions. While intuitive, this approach never bore fruit. The technical challenges of linking standalone exchanges, each one with different systems, procedures, rules and regulations, is in practice, exceptionally difficult to overcome and is lacking a successful global precedent.

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54. As such, the Government of India in the early 2000s set out a different vision for the Indian Comex sector. It sought to introduce pan-Indian multi-commodity derivative exchanges as a driver of national market integration. Three licenses were awarded to commercial rivals through a competitive tender. The conditions of the tender were that exchanges had to operate nationwide, to offer electronic trading only, and to be demutualised from inception, with freedom to trade all commodities – agriculture, metals, minerals, energy – with the exception of defined 'essential commodities', the list of which was gradually reduced over time.

55. While the fragmentation of India's physical agricultural markets has continued – and this has placed an ongoing limitation to the emergence of effective spot Comex and WRS in the country – the commodity derivatives markets, in which delivery takes place as a last resort only, have been able to overcome the physical market fragmentation and bring together liquidity from across the country, effectively underpinning efficiency gains to domestic value chains despite fragmentation. Two of the three national multi-commodity derivatives markets flourished, leveraging the collective liquidity pool of India as a single national market, and both have joined the top ten global Comexes by volume within five years of launch.

56. China's commodity exchanges first emerged under the control of municipalities across the country following liberalisation in the early 1990s. With a local scope and given the absence of a credible regulator, the sector degenerated into chaos. Speculation ran rampant, market abuses proliferated, and major scandals took place in which significant capital was lost. Each exchange focused on its own hinterland, and few had reach beyond its local market.
57. The national government stepped in to impose credible national-level regulation on the sector through two market ‘rectifications’ driven by the country’s securities regulator. Most of the forty-plus exchanges were discontinued. Only the three most credible were granted a national rather than a local platform. The government has carefully controlled the introduction of contracts for new commodities on the exchanges, with a focus on the underlying economic interest of Chinese companies and producers for price discovery and access to price risk management tools.

Derivatives Comex and Farmer Market Access

58. While derivatives instruments are more sophisticated than their spot equivalents, derivatives Comex can be in practice easier to establish than spot Comex. They can be structured around a credible secure single delivery point which consolidates flows of buyers and sellers to create a price discovery benchmark. The consequent derivatives market pricing, hedging and delivery mechanisms can then be used by offtakers and financiers to manage the risk from buying and financing small-scale producers, and passing on the benefit to them, for example through fixed forward price contracts that remove price and market risk and in so doing promote investment in productivity, quality and area under production. This compares with the more challenging requirement for a spot Comex to establish multiple secure delivery points across a wider geographical terrain, and develop both infrastructure and capacity to link large numbers of farmers from many different locations into the market.

59. Looking at the experiences in developing countries with derivatives Comex, how have initiatives addressed the farmer’s market access challenges as articulated in Section Two above? In the derivatives Comex model, a different narrative can be built around the gains to farmers from market access, which holds some similarities, but also important variances with the narrative presented in Section Two above:

60. Per this narrative, a similar list of gains as set out in Section Two is envisaged. The presence of futures prices and a futures market better facilitates the crop selection and marketing-timing gains identified in Section Two by allowing market participants first to access and second to lock in the forward price. In this respect, price transparency and dissemination through MIS, and specialised market interfaces – including in many jurisdictions, through rural brokers – are important enabling factors. In particular, a competitive brokerage space brings market competition and disintermediation gains for the direct hedging route, and competition among offtakers achieves the same for the offtaker hedging route, both routes enabling the farmer to avoid having to sell at discounted prices to primary assemblers or in local markets. Where a forward price is fixed forward or hedged, the pricing certainty provides the basis for farmers to invest not only short term in seasonal production to realise productivity and product quality gains, but also longer term to commercialise and expand the business through investment into land and infrastructure bringing not only area under production gains but also additional gains from diversification into value chain services and downstream activities.

61. The gains also extend to financing. On the basis of a valuation of the commodity at a definitive market reference price generated by a derivatives Comex and a hedged position taken on the same exchange or through a forward fixed price contract with an offtaker, finance in a jurisdiction such as South Africa can then be provided at a LTV of up to 100% - i.e., the full value of the commodity, or close to it, can be financed when the underlying position is ‘covered’ in this way. This contrasts with LTVs of 50-70% in those African jurisdictions in which ‘uncovered’ WR finance has been tried in the absence of a derivatives Comex and thus without a hedge to cover the producer’s price risk – for example, Tanzania, Uganda, Ethiopia, and Ghana. In Malawi, both routes are possible. Uncovered WR is financed at 70%, but through exchange-facilitated forward contracts – in which the offtaker commits to a price – the bank is prepared to finance at 100%.

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195 See also UNCTAD (1997), An Integrated Approach to the Management of Production and Marketing Risks in the Primary Sector of Developing Countries, UNCTAD/ DITC/COM/8, Geneva
196 See for example, FAO (2013), ‘Contract Farming for Inclusive Market Access’, Rome
198 UNCTAD (2002), Farmers and Farmers Associations in Developing Countries and their Use of Modern Financial Instruments, UNCTAD/DT/COM/35, Geneva
62. It is important to note the implications of the direct hedging and offtaker hedging routes. The direct hedging route is focused around the farmer or the farmers’ association hedging price risk on behalf of the farmer. The offtaker hedging route represents a means for leveraging routes to market access for smallholder farmers through structured value chains such as contract farming and outgrower schemes, and the value chain finance structures that typically accompany them. In this route, a farmer that participates in such a structure could benefit from hedging if the ‘lead firm’ – an entity which takes the lead in organising the value chain as the strongest player to facilitate access for farmers inter alia to inputs, extension services, finance and markets – itself hedges and passes on the ensuing pricing certainty to farmers.

63. It is emphasised that the literature on market access through contract farming and value chain finance, and the literature on market access through Comex and WRS appears to date to be separate. There does not appear to be an examination in the literature of the potential interfaces of these two narratives. The analysis below makes an attempt to do so.

64. Varying examples of the two approaches outlined in Box 6 above – direct hedging and offtaker hedging – may be identified in the literature for developing country contexts, including in Africa:

64.1. Direct hedging by farmers

64.1.1. examples of direct hedging in a smallholder context are found in India linking to a domestic Comex, usually through farmer associations (see for example Berg 2007 with reference to wheat), and in Uganda, Guatemala and Tanzania linking to global benchmark exchanges (see UNCTAD 2009 with reference to Ugandan cotton and Guatemalan coffee and World Bank 2008 with reference to farmer hedging in multiple commodity chains through a Tanzanian bank);

64.1.2. in the context of the commercial farming sector in Brazil and South Africa, as well as in many developed economies, producers routinely hedge through rural brokers, banks and trading companies (see UNCTAD 2009, for example, for details on a range of bank-provided hedging products available to South African farmers).

64.2. Offtaker hedging

64.2.1. In the Brazilian context, mainly for commercial farmers but also understood to be in place with some smaller scale farmers, is the ‘crop receipt’ instrument (see 23-97 above) – effectively a pre-financed forward contract which integrates risk management with pre-harvest financing – often in-kind financing through a barter transaction between the inputs and the crops – to channel resources through value chain relationships to producers;

64.2.2. in Malawi, the Agricultural Commodity Exchange for Africa (ACE) has evolved an instrument known as ‘forward contracts’ (see 54-56 below), which enables suppliers, including potentially smallholders, to fulfil processors’ forward purchasing requirements either through a spot or deferred sale. The deferred sale route – currently not well enough understood and consequently not extensively utilised – offers an innovative ‘commodity banking’ facility in which the commodity in storage earns a pre-determined rate of interest for the supplier.

199 UNCTAD 2002 provides a comprehensive overview of the type of contracting mechanisms that can be used to achieve offtaker hedging, setting out different types of pricing clauses in production and marketing contracts between producers and offtakers, as well as innovative approaches that link expenditure with earnings, for example by indexing loan repayments with futures price movements.

198 This is arguably a more efficient alternative to another possibility sometimes mooted (see, for example, MCX (2014), ‘Options – A Critical Missing Link in India’s Commodity Market’, Occasional Paper Series no 5, Mumbai) that government through its marketing or food reserve agencies use options to help realise minimum price commitments. The advantage of the approach taken by the Government of Mexico is that it helps facilitate minimum prices for farmers relating to procurement by private sector, rather than risk distorting markets through crowding out of private sector based on government itself conducting the procurement. A complementary suggestion, that government utilise a WRS to hold a virtual food reserve based on WRs held in third party warehouses rather than actual physical stocks in its own facilities, could however create extensive efficiency gains for food staples in Africa.


64.3. Government hedging

A variant to the two routes identified above involves government taking action to support policy outcomes through three possible hedging mechanisms:

64.3.1. Government Support for Direct Farmer Hedging: UNCTAD (2002) identifies how the Government of Mexico through an agency of the Ministry of Agriculture brokers and subsidises the premiums on an international derivatives Comex associated with producers taking out commodity options for grain, cotton and coffee production, and processors taking out commodity options for grain procurement. This enables producers to realise minimum prices for their crop and, conversely, enables processors to realise maximum prices in their procurement. In Brazil, the government directly offers put options to farmers willing to pay it a premium in order to be assured of a minimum price.

64.3.2. Government-Mandated Offtaker Hedging: UNCTAD (2009) identifies how Chinese parastatals are required to hedge their procurement on a derivative Comex and offer forward fixed prices to smallholder farmers either by contracting with farmers or by communicating a minimum buying price for procurement at or after harvest.

64.3.3. Direct Government Hedging: An important example of government directly hedging is the use of South African exchange-traded options by the Government of Malawi, with support from the World Bank and brokerage services provided by a South African commercial bank, not only to hedge price risk, but also to backstop availability for food grains in anticipation of commodity scarcity in the country.

In the examples above, it is noted that by using market mechanisms, government supports farmers without distorting markets. In situations in which government sets minimum farmer prices ahead of harvest through policy measures other than market mechanisms—often a process undertaken with insufficient information about relevant supply and demand factors—the consequences can prove to be disadvantageous for offtakers and create inefficiencies, not to mention illegal avoidance activities, in the value chain. Similarly disadvantageous outcomes can arise when government uses trade policy—import and export bans, or quotas—to backstop food availability. The presence of a derivatives Comex can thus enable a policy transition to more efficient market-related approaches to support policy objectives.

65. Despite the range of developing country experiences set out above, the derivatives Comex narrative set out in Box 6 faces a set of critical challenges with respect to the last mile link to smallholders.

65.1. In Brazil, India and Malaysia, direct government support to smallholder farmers has typically reduced the need for smallholders to work within risk management structures such as those set out above. This same factor applies also within the European Union (EU)—the presence of the EU’s Common Agricultural Policy, an extensive framework for supporting the Continent’s farmers, large and small—has inhibited the emergence of derivative markets on Western European commodities.

65.2. More broadly, the main challenges to direct hedging by farmers through their associations are routed in low levels of capacity and increasingly stringent access requirements to participate in derivatives markets. Nonetheless, should African derivatives Comex emerge, there is a significant opportunity for policymakers and development partners to support capacitation programmes to enable farmer associations to take on this role. There would also be a significant role for rural brokers to play in linking African farmer associations to derivatives Comex and assist in developing appropriate hedging strategies.

65.3. Under the offtaker hedging route, there are significant challenges facing both the offtaker and the producer in entering into forward pricing agreements:

A first key risk for offtakers is that where derivatives Comex are not in place—or at least where there is not in place some mechanism for visibility on forward prices—offering forward fixed prices to producers involves taking on significant price risk. This may be difficult to bear given high levels of market volatility, thin processing and trading margins, and the financing constraints faced by processors and exporters in many African value chains.

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66 In part, this may be due to the overwhelmingly focus in the policy discourse on building spot rather than derivative Comex structures, despite the latter arguably being easier to achieve. Derivative-based approaches build on existing value chain derivatives rather than envisage creating entirely new structures and processes, and the derivatives Comex in contrast to spot Comex require only putting in place a typically focused range of physical infrastructure—one or a small number of locations—in terms of warehousing, grading and inspection capabilities.
A second key risk is that the absence of derivatives Comex generating price discovery for African commodity prices can be compounded by the absence of derivatives Comex generating price discovery for African currency and interest rates:

65.3.1. **Currency Risks:** An exporter faces currency risks as well as commodity price risks. The absence of currency hedging mechanisms poses challenges to off-takers passing on the advantages of forward fixed pricing within export contracts to the farmer. World Bank (2008), for example, cites the absence of hedging mechanisms for currency risk as a constraint to the success of an initiative with a Tanzanian bank to provide price risk management for farmers.

65.3.2. **Interest Rate Risks:** An off-taker needs to finance aggregation. Interest rate volatility for aggregation finance can also reduce the scope for off-takers to pass on the advantages of forward pricing to the farmer.

In this sense, a multi-asset approach to derivatives exchanges – in which contracts for commodities sit alongside contracts for foreign exchange and interest rates – may prove an enabler of these kind of approaches.

A third key risk for off-takers is side-selling – i.e., smallholders delivering their crop to alternative buyers despite their commitment to sell to a specified off-taker under contract. This risk tends to be a prominent factor as to why structured value chains incorporating contract farming and outgrower schemes have been focused on cash crops (cotton, sugar, tobacco, etc.) in which there are limited alternative sales channels open to a farmer.

Conversely, from the producers’ perspective, pricing opaqueness has been a factor that has been identified as a limitation to the contract farming model, and one of the key drivers of side-selling by farmers. Pricing under some contract farming and outgrower schemes has not been linked to market reference prices at all. In some schemes in which a link has been created, the adjustments that have been made from the reference price to determine the price offered to the farmer – for example, to take account of transportation and currency differentials – are driven by assumptions that are sometimes unclear or contentious to the farmer. Pricing opacity may be driven in certain circumstances by asymmetric negotiating power in which a dominant off-taker can impose its will to exploit weakly positioned producers. However, pricing opacity may also result from the lack of forward price discovery for transportation, for foreign exchange and for interest rates, hindering an off-taker’s ability to use clear and unambiguous assumptions to discount prices from the reference price to the local price paid to the farmer. As such, in the absence of meaningful market-based signals that can be locked in through hedging, off-takers would typically build in additional buffer discounts to account for volatility in rates such as transportation costs, foreign exchange rates and interest rates.

65.4 Perhaps, the largest challenge to off-taker hedging in the African context, however, is that the derivatives markets for many African commodities simply do not exist. Commodities such as cassava, cashew, groundnuts, onion, plantains, potato, sesame, sorghum, tomato, yam, and a range of pulses and grains products as well as livestock, fishery and forestry products have neither a global price reference generated by international derivatives Comex nor African prices generated through onshore derivative Comex.

**Spot Models**

66. Turning from derivatives-driven to spot-driven models, Eastern Europe and Central Asia are the regions in which agricultural spot Comex have been the most prominent. An authoritative FAO report from 2011 identifies over 200 such exchanges, many of them spot-focused and government-driven. Almost every jurisdiction in the region appears to have experienced a policy initiative to establish one or more Comex, with the focus being on national or sub-national rather than regional initiatives.

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606 Other than maize, wheat, soybean and sunflower in certain parts of Southern Africa.

607 China, another jurisdiction in which spot Comex are understood to be present, does not appear to feature in the literature.

67. The assumptions and discourses driving Comex development in the region bear striking similarities to those prevalent in Africa. FAO 2011 highlights a range of ‘misconceptions’ that have hindered development of Comex and WRS to date. These include:

67.1. A misconceived view that government should lead Comex development. However, government in the region has generally lacked the dynamism to be responsive to private sector needs. Accordingly, “progress in the region so far [being] rather limited and stakeholders have not joined hands to support exchange initiatives”.

67.2. A misconceived view that a trading platform is itself sufficient, whereas the reality in an emerging economy is that the exchange needs to provide the whole environment for the transaction including clearing and settlement, evaluation of quality, access to finance, and conflict resolution mechanisms.

67.3. A misconceived view that a Comex must involve the trade and exchange of the physical commodity, in contrast to risk management instruments which do not often result in delivery. Per the report, this leads to a misdirected focus of public sector support for Comex development “with measures aiming to bring physical trade to the exchange (e.g. by allocating export quota or by forcing private sector or government business enterprises to buy or sell through the exchange) rather than aiming to create market transparency and financial surety”.

67.4. A misconceived view that the focus must first be on the physical rather than derivatives trade in order to first address the ‘problems in the physical marketplace’. However, the FAO (2011) notes that “in reality, commodity market development is not necessarily sequential, from the proper organization of physical markets to the development of forward and then derivatives markets. In certain cases, a derivatives exchange can create an environment in which physical trade becomes safe, even in cases where contractual non-performance is rife and the legal system is weak, and it can, thus, lead the process of market development”.

67.5. A misconceived view that if an exchange is developed, people will use it. This “often co-exists with the idea that in order to work the government has to make use of the exchanges obligatory”, the consequences of which have been a focus by Comex on “strengthening political power and conspicuous consumption”, “making management complacent and uninterested in providing genuine value to the market” and driving value chain participants into illegal activities.

68. Accordingly, the results in Eastern Europe and Central Asia, have been poor:

68.1. “Most of the exchanges in the Eastern Europe and Central Asia region have weak organisational and financial strength and play an insignificant role in their economies.”

68.2. “Most exchanges would not be recognized as such by people familiar with commodity exchanges as they exist in Europe and the Americas. Exchanges resemble wholesale markets or merely act as a mechanism for registering commodity transactions for taxation purposes.”

68.3. “Many exchanges operate at an unsustainably low transaction levels and are likely to disappear unless external support is forthcoming.”

68.4. “All the positive examples of the relatively successful, advanced exchanges in the region (e.g., Hungary, Romania and the Russian Federation) were initiatives of the local private sector without a significant involvement of the state.”

69. It may be going too far to depict the region as a Comex wasteland littered with the wrecksages of failed policy experiments. Nonetheless, the lessons seem clear – spot Comex under government leadership has not mobilised private sector buy-in and initiatives have under-performed accordingly. Moreover, these initiatives have been national or sub-national rather than regional without creating mechanisms for effective cross-border participation.
70. Turkey to a large extent reflects the experience of Eastern Europe and Central Asia. However, there are parts to the Turkey story that may also be more positive. Nearly 100 Comex exist across the country operating on a local basis, many with a long history. The government has enshrined privileges with these Comex through granting them tax registration powers, effectively making it mandatory for commodity flows to be routed through the exchanges. This has generating flows into the system that most Turkish Comex have failed to leverage to positively invest in developing their ecosystem. However, some such as Izmir Mercantile Exchange and Konya Commodity Exchange – in particular those that have invested in strengthening physical infrastructure, moved towards creating financing and risk management mechanisms, as well as offering strong counterparty guarantees – have generated significant volumes for physical trade. Turkey, therefore, offers some hope for spot Comexes. The important question remains – unfortunately one that is hypothetical – what would happen to the trading volumes of Turkey’s few successful exchanges if the government were to remove the tax privileges that trade through these exchanges generates.

African Experience

71. Finally, the analysis turns to Africa. It is notable that the experience and structures in developing Comex and WRS has been remarkably diverse, as indicated in Table 1 below with respect to the five major models established on the Continent.\textsuperscript{66}


### Agricultural Market Access Sub-Strategy for Africa: Commodity Exchanges, Warehouse Receipt Systems, and New Standards

<table>
<thead>
<tr>
<th>Comex Instruments</th>
<th>Futures, options</th>
<th>Spot Auctions, Spot Bid-Offer, Forward Contracts</th>
<th>N/a</th>
<th>Spot Bid-Offer</th>
<th>Spot Auctions</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRS structure</td>
<td>Separate but affiliated</td>
<td>Integrated</td>
<td>Standalone</td>
<td>Integrated</td>
<td>Integrated</td>
</tr>
<tr>
<td>WRS Instruments</td>
<td>WR finance</td>
<td>WR finance</td>
<td>Forward contracts</td>
<td>WR finance</td>
<td>WR finance</td>
</tr>
<tr>
<td>Warehousing model</td>
<td>Independent accredited</td>
<td>independent accredited and cooperative-owned</td>
<td>Government and cooperative-owned</td>
<td>Owned and operated</td>
<td>Owned or leased and operated</td>
</tr>
<tr>
<td>Competitive environment</td>
<td>No competition, but open to competitors subject to fulfilment of regulatory licensing criteria</td>
<td>Competes against Auction Holdings Commodity Exchange (an ECX replication)</td>
<td>No competition</td>
<td>No competition</td>
<td>Competes against Abuja Securities and Commodities Exchange (ASCE), and open to competitors subject to fulfilment of regulatory licensing criteria</td>
</tr>
<tr>
<td>Relationship with Market Participants</td>
<td>Voluntary</td>
<td>Voluntary</td>
<td>Voluntary</td>
<td>Various key activities are mandated by law</td>
<td>Voluntary</td>
</tr>
<tr>
<td>Replications</td>
<td>Joint effort with the Zambian Agricultural Commodity Exchange (ZAMACE) to launch planned Zambia-delivered grain futures</td>
<td>N/a</td>
<td>N/a</td>
<td>Arguably, GCX (Ghana), AHCX (Malawi), BMM (Mozambique), the soon-to-be-launched Tanzania Mercantile Exchange and potentially a Cameroon exchange</td>
<td>AFEX Nigeria itself is a replication of the model established by the same owners in Rwanda through the East African Exchange (EAX)</td>
</tr>
</tbody>
</table>

72. The descriptions in the literature of the experiences of African Comex and WRS are extensive and comprehensive. Accordingly, they are not repeated here. Rather, focus is made on the approaches of the respective Comex and/or WRS with respect to addressing the challenges underpinning the market access narratives set out in Sections Two and Three above.
73. To say that the JSE of South Africa has followed global practice as a derivative-led Comex would do it an injustice. The JSE has taken the global approach to derivatives Comex and expanded the farmer access component by incorporating a delivery network of warehouses in over 900 locations. This contrasts with global norms of one or several delivery locations only. In part, this has been driven by the significant commodity storage infrastructure—most commonly grains silos, or ‘elevators’—developed across the country through regional cooperatives under the previous regime. As such, these silos have been integrated as delivery channels in the JSE’s markets to enable farmers across much of the country to have access to an exchange delivery point. Moreover, under the JSE’s markets, it is possible to open up a position in the derivatives markets on one day, and take or make delivery on the next. In essence, these distinctive features—the broad delivery network and the next day delivery function—builds a kind of spot-like functionality into the derivatives framework, and enables farmers a meaningful delivery channel of last resort to farmers without a pre-arranged off-taker.

74. Several important complementary contributions can be identified. Importantly, rural banks and brokers have been proactive in offering farmers across the country to support both direct farmer hedging as well as off-taker hedging mechanisms. Concerning the latter route, the role of the former grain cooperatives—now for-profit diversified agribusinesses—has been essential in offering forward pricing and facilitating financing and hedging for South African commercial farmers. A national WRS, affiliated with but independent from the JSE, provides access to finance from all of South Africa’s major banks on a ‘covered’ basis at 100% LTVs. The industry works together to provide on the one hand an MIS through the South Africa Grain Information Service, and on the other a national coordinating body and interface with government, the National Agriculture Marketing Council.

75. On the other hand, the JSE remains by and large a market for the country’s commercial farmers. The small and ‘emerging’ farmer sectors remain underserved by the JSE, in part due to the lack of storage infrastructure in areas in which they tend to be prominent, in part due to the focus of the JSE on larger scale consignments (typically 50 MTs and above), and in part due to the reluctance of brokers and banks to take risk on this sector to facilitate their access into derivatives markets. Each of these factors represents a key challenge to the JSE to demonstrate its model can be effectively descaled and have relevance to typical African conditions outside of South Africa. The prospective introduction by the JSE in late 2016 of Zambia-deliverable grain futures contracts should provide a test of this capability.

76. ACE in Malawi started from inauspicious beginnings as a donor-funded initiative, one of the so-called second wave of African Comex alongside the Uganda Commodity Exchange, the Zambia Agricultural Commodity Exchange and the Kenya Agricultural Commodity Exchange. Whereas these other initiatives failed to generate sufficient buy-in from their market to remain sustainable, ACE has built a close and strong relationship with key agribusinesses, banks and farmers groups. ACE has also been able to develop new institutional capabilities and innovate new solutions over time. These have included developing the WRS to support settlement guarantees for the physical commodity, developing warehouse management capabilities to support a rural warehousing footprint, developing a network of rural agents to support community sensitization and nationwide price polling, and the introduction of forward contracts as a procurement, financing and risk management instrument for producers and processors alike.
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77. The introduction of the forward contract effectively represents the start of the transition by ACE from the spot Comex to the derivatives Comex market access narrative, even though the forward contract is a relatively simple instrument that functions in an unsophisticated legal-regulatory environment, an uncertain policy environment, and in conditions in which market liquidity remains low and fragmented. In simplistic terms, under a forward contract:

- A processor defines its procurement requirements over the coming months;
- A forward price is calculated for commodity to be procured on a given forward contract ‘exercise date’ using a formula of spot price plus the ‘costs of carry’ – i.e., costs of storage and finance. The processor commits to buying a defined quantity of quality-standardised commodity at the forward price on the exercise date;
- A financier accepts the processor’s forward contract procurement commitment and provides a financing facility of the value equivalent to the quantity of commodity multiplied by the current spot price. This can be drawn down on by ACE to finance commodity aggregation through its markets to fulfil the processor’s requirement;
- ACE procures the commodity through its markets, and stores under WR in WRS-accredited warehouses – including the processor’s own warehouse, if it is WRS-accredited – until the forward contract exercise date;
- On the exercise date, the ownership of the WRs is transferred to the processor and the processor pays to ACE the full value of the commodity per the forward pricing formula (i.e. spot price plus costs of carry), which in turn is used to repay the storage operators and the financier.

Arguably the most interesting feature of ACE forward contracts is the choice it opens up to suppliers – i.e., farmers and traders:

Option One - Spot sell: the supplier receives 100% of the value of the commodity at the prevailing spot market rate. While this is equivalent from the suppliers’ perspective to a spot sale, technically it is 100% finance against a WR until the change of ownership takes place on the exercise date. ACE funds this procurement by drawing down on the financing facility;

Option Two - Defer the sale and earn interest: in agreeing to the forward contract, the processor has fixed the level of interest that will be paid against the total consignment. If a supplier agrees to defer the sale, the financing facility is not drawn down until such time the sale is made. Rather, the interest that would otherwise have been paid to the financier can be paid to the producer instead. In this way, the ACE forward contracts creates a kind of ‘commodity bank’ that pays interest against a commodity deposit in the warehouse. This could potentially help farmers stagger their sales and cashflow, using the commodity in the warehouse as a form of interest-bearing savings that can fund food purchases in the lean season when prices tend to be higher (food security impact) and to fund the costs of production for next season’s crop (input financing impact). A mechanism of this kind could be particularly valuable in a context in which farmers have low levels of access to financial services such as savings products, and when interest rates are high and can exceed 40%.

78. ACE also offers uncovered WR finance at 70% LTVs. However, given an uncertain policy environment in which pricing development over the season can be dramatically affected by export bans or domestic market interventions, the farmer depositing against a WR for sale later in the season may lose out if prices fall, or if price rises are insufficient to cover costs of interest and storage. Thus, the forward contract may be advantageous for the farmer – the farmer can secure a predictable but still significant return (given interest rates over 40%) without the risk of price falls triggered inter alia by government intervention. However, access to this facility depends on there being an off-taker with a forward contract procurement requirement for the time period when the farmer would like to sell. Moreover, the forward price offered by ACE is artificial – it is not a market-discovered forward price. This may be amended in the future by making obligations under forward contracts tradable. Finally, access by farmers to these facilities is at present very low based on deficits in awareness, understanding and capacity to deliver. Nonetheless, the forward contract provides the farmer with a real means to realise marketing-timing gains, through being able to lock in a return on deferring sales after harvest.

79. ECX has proven itself to be effective at building volumes – including reportedly a significant flow of sales by farmers – through a spot-driven model for coffee and to a lesser extent sesame. Other attempts by ECX in the grains sector have not been effective, however. ECX operates 16 large warehouses in wholesale markets around the country, to which farmers and traders can transport, certify, store and sell their produce through the ECX floor. The ECX therefore provides a platform for the sale of standardised quality-certified coffee and sesame, as well as offering a newly-introduced platform for the auction of specialised coffees based on previous complaints that ECX clouded the origin of beans sold through its markets.
80. ECX, together with ACE, AFEX and other spot focused-models, see their added value to be the proprietary methods by which they aggregate commodity from smallholder farmers. In so doing, these initiatives position themselves as a channel to market that competes with other channels offered by primary assemblers, rural market agents, and structured value chain approaches such as contract farming and outgrower schemes. To perform farmer aggregation, each of these initiatives strive to tackle the range of challenges identified in Section 2 – in particular, aggregation, transportation, and warehousing – as a foundation for providing access to finance and markets.

81. A first major challenge has been scaling these models in a robust and affordable manner. This comprises two related challenges – on the one hand, how rapidly and sustainably can farmers be capacitated to produce to standards, aggregate their commodity, and make informed decisions on financing and marketing; and on the other, how rapidly and sustainably can transportation and warehousing infrastructure be put in place to support the resulting flows?

81.1. In terms of capacitation, the form, structure and content of capacity-building programmes is key – a one-off programme or continuing hands-on support that extends over many seasons? a focus on decision-making around finance and marketing, or also working to organise, structure and put in place governance arrangements within farmers’ associations? whether to deploy full-time staff within the communities in which the Comex is working, or whether to work remotely from a regional or national structure?

81.2. In terms of transportation, some African initiatives – including ACE and AFEX – have taken on trucks which collect the crops from farmers and deliver to warehouses; in the JSE model transportation must be taken on by the producer.

81.3. In terms of warehousing, some initiatives such as ECX and AFEX have sought to put in place accredited delivery points at wholesale markets only, whereas others, such as TWLB and ACE, have sought to put in place delivery points in rural and village-based sites. A further difference on warehousing is between those initiatives that own and operate their own warehousing (e.g., ECX and AFEX), and those that accredit warehousing operated by private sector (e.g., JSE and ACE).

Two broader sets of questions arise with respect to aggregation, transportation and warehousing models performed by spot Comex:

» Cost: Firstly, who bears the cost of service provision, and is such cost commensurate to the returns – commercial and/or developmental – that are generated through Comex and WRS? Can the costs be loaded onto the Comex’s operating model while making transaction fees viable for buyers, or is there a need for continual donor support?

» Crowding Out: Secondly, is it appropriate for Comex and WRS to set up such large infrastructures, especially if they are to become the owners and operators? Is this a necessary means to ‘jump start’ the market and fill in the commercial gaps where private sector agribusiness would otherwise not operate, or does it represent a crowding out of private sector activity that would ordinarily be performed by agribusiness?

While it is understood that none of these models – ECX, ACE or AFEX – have yet achieved commercial sustainability, and each has required ongoing donor support, the literature does not as yet appear to provide responses to these questions.

82. A second major challenge has been whether a spot Comex and WRS is resilient to shocks of various kinds – climatic, policy, global trading conditions, etc.? In these conditions, it is unclear from the literature as yet how institutions have fared.
83. A third major challenge has been how to bring buyers onto the platform, especially where risk management instruments are not provided.

83.1. The response to the challenge of bringing buyers onto the platform in the case of ECX has been to mandate trade through the Comex for designated commodities, including coffee, the country’s major export earner. This has been a controversial move. The proponents of the approach justify the move on public interest grounds – that private sector need to be forced to do what is in the best interests of the country (price discovery, fair market access, liquidity). The question that arises, though, is why the private sector would need to be forced to do what proponents of the spot Comex narrative would argue is in their own interests through the reduced transaction costs, and expanded opportunities to trade and finance stock that a Comex and WRS is supposed to bring. Those with reservations about the ECX model – reservations alluded to in both FAO (2011) and African Development Bank (2013) – would see the use of the law to force trade through the Comex as being antithetical to the purpose of the market, and could be a recipe for management complacency as volumes are assured even without the Comex having to be responsive to the needs of market users.

83.2. For ACE, the forward contracts have been the means to attract buyers onto the platform – an instrument that is considered to create genuine value for the buyer through unlocking finance as well as to provide risk management on the costs, reliability, quality and timing of deliveries.

83.3. For AFEX and other spot Comex and WRS which do not benefit from the controversial option of trade being mandated through the institution by government, it is at present unclear whether they have cracked the means to bring in buyers. Further investigation is required.

Conclusions

84. In concluding this review of market access models, several points are important to note:

84.1. Firstly, market access narratives for farmer benefits have been presented for both spot and derivatives-driven approaches to Comex and WRS. In the spot Comex-driven approaches in Africa as well as Eastern Europe and Central Asia, the scope of activity undertaken by the Comex has extended beyond the traditional core Comex functions of trading, clearing, settlement and delivery to include direct facilitation – and in many cases, ownership and operation – of aggregation, transportation and warehousing infrastructures. The literature does not yet appear to provide views on the two key questions identified in the paper – whether these models can become commercially feasible, and whether they represent the crowding out of private sector activity ordinarily performed by agricbusiness.

84.2. Elsewhere, derivatives-driven approaches are prominent. There are concrete examples of derivatives-led market access models in developing countries such as Brazil, China, India, Malaysia and South Africa. African policymakers can draw on these experiences to support the development of different types of market to support priority value chains (for domestic or export chains, for food staples or cash crops, etc.). Such approaches can create market access by building capacity for farmers – or more likely, their associations – to directly hedge in the market. However, they need not do so. The alternative offtaker hedging modalities can build on established value chain relationships through models such as contract farming in which the farmer benefits from the capability of a corporate ‘lead firm’ to organise the chain and facilitate service provision to its suppliers. As such, the route of offtaker hedging may be more realisable in those African value chains in which contract farming and outgrower schemes are already in place.

84.3. Secondly, by introducing the possibility for indirect or offtaker hedging mechanisms to create pricing certainty for the farmer, a derivatives-driven approach to Comex development can help integrate two kinds of market access narrative that in the context of African agriculture appear to have been largely separate to date: namely, the market access narrative around Comex and WRS, and the market access narrative around structured value chain approaches such as contract farming, outgrower schemes and value chain finance. Whereas the market access narrative around Comex and WRS tends to focus on post-harvest inventory financing, the narrative on structured value chains and value chain finance tends to emphasise pre-harvest input financing. By integrating them into a single narrative, providing for lead firms to use Comex for pricing and hedging, both the pre- and post-harvest financing components can be brought together. This appears to be best demonstrated in the experience of Brazil in which the pre-harvest crop receipt to facilitate input financing sits alongside the post-harvest WR to facilitate inventory financing.

84.4. Thirdly, the policy implication of the offtaker hedging approach is to expand structured value chains such as contract farming and outgrower schemes. Within this context, ‘lead firm’ offtakers can be encouraged to adopt market-based pricing and hedging through mechanisms such as industry codes of conduct and the incorporation of market-based pricing and hedging into qualification criteria for fairtrade labelling. To enable this to happen, capacity-building may be required for offtakers to assist
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There is no basis to think that Africa is special or different, and that derivatives Comex are beyond its reach. Fundamentally, the role for the spot Comex is prevalent, not all producers are well located to integrate into such structures. There is no basis to think that Africa is special or different, and that derivatives Comex are beyond its reach. Fundamentally, the role for the spot Comex is prevalent, not all producers are well located to integrate into such structures.

Fifthly, what then is the role for the spot Comex in light of the derivatives-driven narrative set out in Box 67? It is here argued that a spot Comex can play an important role as a complement to a derivatives Comex where lead firm offtakers are not in place. There are three areas identified in which a spot Comex may be salient:

- **Value Chains that Struggle Naturally to Structure under Contract Farming Modalities:** There are some value chains for which structured value chain approaches – including contract farming and outgrower models – have not been prevalent. Often, this has been due to a multiplicity of marketing channels that foster a low level of confidence that farmers will honour their commitment to deliver to an offtaker designated in the contract. Grains, food staples, dairy, livestock and fisheries are prominent among these value chains, but some cash crop market structures in which diffuse marketing channels are present – including coffee and cocoa – may also struggle in some countries to naturally develop contracting structures.

- **Geographic fragmentation:** Even for those value chains and those countries in which contracting is prevalent, not all producers are well located to integrate into such structures.

- **Excluded and Marginalised Producers:** In particular, women and youth producers are identified as some of the producer types that are persistently marginalised or excluded from markets, and face a range of disadvantages in utilising advantageously existing channels for market access.

In these circumstances, a spot Comex may function as an effective complement to a derivatives Comex, to provide a more efficient market access channel than prevailing primary-assembler or rural market channels. However, it is important to emphasise the role of the spot Comex as a complement rather than an alternative to the derivatives Comex. The important point here argued is that the spot Comex can operate best in situations in which a derivatives Comex is already operational. As has been explored, the derivatives Comex plays a vital role in helping respectively offtakers and financiers managing the risks associated with procuring and financing smallholders through a spot Comex and a WRS.

Sixthly, when further considering derivatives-driven approaches, it is important to look at the experiences of the World Bank’s International Task Force on Commodity Risk Management in the early/mid 2000s.

The Task Force was set up with the “primary concept to ‘bridge the gap’ between developing country clients and commodity hedging tools in developed countries” (World Bank 2008). This took place through encouraging African entities to hedge on derivatives Comex in Europe and the United States for commodities such as cocoa, coffee, cotton and sugar. This approach is recognised to have faced significant limitations, and it is important that lessons are drawn when looking again at derivatives-driven approaches.

Experience suggests there is a range of drawbacks from encouraging African entities to use offshore exchanges: the approach provides solutions only for those few – albeit important – commodities for which there is a global reference market (cocoa, coffee, cotton, sugar, palm oil), and not for other value chains including those domestic and food staple chains which are also essential to drive Africa’s agricultural transformation; the basis risk is high – i.e., there are meaningful differences in price movements internationally for commodity delivered in Europe or the US which include cost, insurance and freight (CIF), compared with the price for delivery at an African point of origin on a ‘free on board’ (FOB) basis; that back-calcultating a producer price from the global price can be contentious, and leave producers feeling short-changed; that the global prices are dollar- or pound sterling-denominated, and thus, create currency risk which can be expensive or impossible to mitigate; that the international exchanges do not provide a meaningful onshore delivery option, and thus, no delivery channel of last resort.

Whereas the World Bank approach focused on linking African entities to hedge on offshore comex, the argumentation here is that onshore comex offer a more effective route to derivatives-driven market access for five reasons:

- price discovery that better reflects African supply and demand;
- price references that are more relevant for African processors and exporters, and better enable the price paid by offtakers to the farmer to be back-calculated from the market price;
- hedging instruments with lower levels of basis risk;
- delivery arrangements that allow for delivery channels of last resort accessible to the African value chain player, whether through an exchange-accredited warehouse or through an EFP;
- the possibility to set up spot Comex and WRS working in tandem as a complement with the derivatives Comex.

In particular, lessons may be learnt from the successful onshore derivatives Comex developed by Brazil, China, India, Malaysia and South Africa to support both domestic and export chains. In the African context, this translates into derivatives market for three types of value chain:

- global cash commodities, such as cocoa, coffee, cotton, palm oil and sugar, for which a global reference market already exists, but an onshore African benchmark does not, following the example of Brazil to support exports of coffee, sugar and soya bean; and following the example of China to support imports and domestic processing of commodities including sugar, cotton, maize and wheat;
- global cash commodities, such as cashew, sesame and some horticulture products for which a global reference market does not already exist, and thus Africa would create a first of its kind, following the example of Malaysia with palm oil;
- commodities which are predominantly domestic, with localised rather than global pricing, and in which there is a need to structure markets and facilitate the development of onshore processing industries, such as cassava, rice, sorghum, millet and cow pea, following the example of India with pulses and spices.
SECTION FOUR: PREREQUISITES

85. The challenge with identifying preconditions for a Comex is that a Comex is a dynamic and catalytic entity which in some sense ‘creates its own reality’.

86. UNCTAD (2005) considers a Comex to be an ‘island of excellence’ in an otherwise disorganised economy which can stimulate the development of the enabling environment around it, including the structuring of the physical markets and the development of a WRS. Examples of this catalytic effect include:
   a. By developing rules and bylaws, backed by arbitration, the Comex helps to create a functional regulatory framework, even before formal legislation comes in at national or regional level;
   b. By defining contract specifications in consultation with the market, the Comex helps to define a uniform structure and process around which the value chain can perform;
   c. By defining quality standards against which pricing premiums and discounts are attached, the Comex helps to incentivise all players to invest in upgrading their quality so as to achieve a premium (or avoid a discount);
   d. By either running its own or certifying third party warehousing for its delivery network, the Comex creates a physical infrastructure foundation through which trade can take place;
   e. By performing business development, the exchange helps to persuade and develop the business case for value chain participants to engage in Comex trading and WRS financing, creating liquidity for the market;
   f. By creating a brokerage network, the Comex helps to open up the market to previously marginalised players, and incentivises private sector at their own cost to capacitate the value chain;
   g. By creating a technology infrastructure comprising relevant hardware, software and networking solutions, the Comex creates the venue and modalities for linking buyers and sellers in a fair and competitive fashion;
   h. By building a reliable financial settlement system, the Comex helps participants to trade with all counterparties, including smallholders, with whom they would not previously have considered dealing;
   i. By developing or integrating with a WRS, the Comex helps participants more efficiently perform physical settlements, while also finding a new channel for financing to better invest in bulking their production and improving quality performance;
   j. Underpinning all of these functions are awareness-raising and capacity-building services tailored to the needs of each type of stakeholder – farmer, trader, buyer, storage operator, financier, regulator.

87. In other words, the Comex itself can give structure to its ecosystem through its core processes such as inter alia developing rules and bylaws, defining contract specifications, defining applicable quality standards, putting in place a physical infrastructure foundation, performing business development, creating a brokerage network, setting up a technology infrastructure, devising a settlement system, putting in place a WRS, and capacitating stakeholders. Thus, by pursuing the activities that are in any case a part of its ordinary set-up process, the Comex can create those ‘preconditions’ based on which it can be successful.

88. The important questions arising from this perspective are:
   - firstly, whether the ecosystem is capable at all to support the development of these elements;
   - secondly, whether a Comex can pursue these activities with sufficient skill to provide a sound basis for its core processes – trading, clearing, settlement and delivery; and
   - thirdly, what are the indicators to suggest a Comex has done enough in its set-up phase to suggest it is ready for launch.

89. The appropriate approach for assessing these questions is to evaluate a business plan from an investor’s perspective (and in particular, a development-oriented investor’s perspective), rather than ticking off a checklist of preconditions from an academic perspective. The framework in Table 2 below provides a means for assessing a Comex or WRS business plan in terms of its readiness for launch, based on a specified range of questions and indicators.
### Table 2: Framework for Business Plan Assessment to Determine Comex/WRS Readiness

<table>
<thead>
<tr>
<th>Business Model Component</th>
<th>Readiness Questions</th>
<th>Ready-for-Launch Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rules and bylaws</td>
<td></td>
<td>A risk map that defines legal-regulatory risks and demonstrates how they are mitigated within the current environment.</td>
</tr>
<tr>
<td></td>
<td>• Is there a wider legal-regulatory framework which will create a second level of enforceability for the Comex self-regulatory mechanisms?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• If not, will the market take the Comex seriously enough to abide by the rules and regulations, and accept sanctions emerging from the Comex internal disciplinary proceedings in the event of wrongdoing?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• If not, does the market have the means and motivation to discipline itself in order to promote the orderly conditions which benefit all participants?</td>
<td></td>
</tr>
<tr>
<td>Contract specifications</td>
<td>• Can modalities of trade be defined which broadly meet the needs of each stakeholder sufficient that a consensus along the value chain can be created and formalised?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• If not, can the market support two or more variants of specifications – for example, large contracts and small-scale contracts – that collectively satisfy stakeholder needs?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• If not, can contract specifications be developed which meet the needs of a subset of stakeholders capable of contributing sufficient liquidity to create a viable market?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Complete contract specifications with endorsement from major interests on either side of the market (i.e., buyers, sellers).</td>
<td></td>
</tr>
<tr>
<td>Quality Standards</td>
<td>• Do market-accepted commodity quality standards already exist that the exchange can adopt as the basis for trade?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• If not, can benchmark quality standards applicable internationally – for example, those traded on the ‘reference’ exchanges in Chicago or London – be adopted?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• If not, can the exchange mobilise its stakeholders to create a new standard that will be accepted by the stakeholders as the basis for trade?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Comprehensive quality standards should be incorporated in the contract specification, as referred above.</td>
<td></td>
</tr>
<tr>
<td>Warehousing Infrastructure</td>
<td>• Does available storage already exist of sufficient calibre and sufficient capacity in the right locations to support trade?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• If not, can third parties – public, private or international sector – be persuaded to open up their warehouses to accept deliveries on exchange?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• If not will stakeholders or third parties invest to develop new warehousing that can support an exchange?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Itemisation of warehousing committed to the exchange, demonstrating capacity sufficiency to support breakeven projections, and demonstrating calibre sufficiency against objective assessment criteria.</td>
<td></td>
</tr>
</tbody>
</table>
### Business Development
- Are parties controlling sufficient volumes of commodity on both sides of the market – i.e. as buyers and as sellers – amenable to participate in the exchange?
- If not, can the exchange take steps to create its own flow of volumes through capacitating, aggregating, diversifying or internationalising the scope of its markets?
- If not, can liquidity enhancement mechanisms such as market makers, or innovative trading strategies such as various forms of arbitrage, create the liquidity conditions that will slowly draw in the value chain players?

### Brokerage Network
- Are existing stockbrokers amenable to serve the exchange?
- If not, will financial institutions, traders or entrepreneurs step in to play the role?
- If not, will international brokers be persuaded to serve the domestic market?

### Technology Infrastructure
- Is there a reliable system in place – electronic or floor-based – that allows buyers’ bids and sellers’ offers to be matched in a fair, objective and appropriately risk-managed and/or supervised manner, backed by a reliable, fair means for those bids and offers to be communicated into the marketplace?

### Financial Settlement Mechanisms
- Is there an existing payment system through which banks can affect transfers of cash?
- If not, can alternative payment channels such as e-money / mobile wallets or money transfer services be used?
- If not, can the financial flows of the market be offshored to a jurisdiction which supports a payment system?

### WRS/Physical Settlement mechanism
- Is there a reliable system in place – electronic or manual – that allows for transfer between seller and buyer of the physical, in electronic or paper form, backed by a meaningful guarantee of quality and quantity?

### Financial projections of breakeven, supported by costing and fee schedule, with breakeven volume supported by endorsements - referred above - from major interests on either side of the market (i.e. buyers, sellers), which may be supplemented by plans for aggregation arrangements to originate non-commercial volume into the market.

### Map of market intermediation arrangements demonstrating routes by which the volume from the institutions providing the endorsements comes onto the market, backed by expressions of interest as applicable from brokers and/or other intermediaries.

### Detailed description of matching mechanism (electronic, floor), connectivity modalities, and other supporting functionalities offered by the exchange.

### Expressions of interest from settlement banks and/or alternative payment channels, as applicable.

### Detailed description of physical settlement process (electronic, manual), connectivity modalities, and other supporting functionalities offered by the system.

90. While the framework above sets out the ‘internal factors’ relating to whether the Comex or WRS has a sound business plan, there are also external factors that have hitherto negatively affected the development of African Comex and WRS. In particular, experience suggests that the policy environment is a critical factor – whether government has accepted market-based pricing mechanisms, whether government policy and interventions in areas such as food security, trade and industrialisation policy provide incentives, barriers or distortions to Comex/WRS development, and whether different branches of government are aligned in their understanding and support for Comex and WRS development. These challenges are exacerbated in the context of regional Comex strategies in which the governments of different jurisdictions would be required to align around certain basic policy principles to facilitate cross-border flows through the Comex.
REFERENCES


CAADP Pillar II Framework for Improvement of Rural Infrastructure and Trade-Related Capabilities for Market Access, April 2009.


ANNEXURE IV: PIPELINE OF BANKABLE COMMODITY EXCHANGE AND WRS PROJECTS IDENTIFIED DURING THE STUDY

1. OVERVIEW

Summary of Pipeline

This annexure details the pipeline of bankable Comex and WRS projects identified during the Study.

13 projects have been identified in 7 countries with a total value of USD 1,439.4 million. These are summarised as follows in the table below:

<table>
<thead>
<tr>
<th>No</th>
<th>Country</th>
<th>Investment Basic Description</th>
<th>Investment Type</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mozambique</td>
<td>Rural Warehouse Investments</td>
<td>Debt / Grant / TA</td>
<td>23.5m</td>
</tr>
<tr>
<td>2</td>
<td>Tanzania</td>
<td>Rural Warehouse Investments</td>
<td>Debt / Grant / TA</td>
<td>98.5m</td>
</tr>
<tr>
<td>3</td>
<td>Tanzania</td>
<td>Quality Standards Development</td>
<td>TA</td>
<td>98.5m</td>
</tr>
<tr>
<td>4</td>
<td>Tanzania</td>
<td>Package Standardisation</td>
<td>TA</td>
<td>2.5m</td>
</tr>
<tr>
<td>5</td>
<td>Tanzania</td>
<td>WRS/Comex Training</td>
<td>TA</td>
<td>1.0m</td>
</tr>
<tr>
<td>6</td>
<td>Nigeria</td>
<td>Market Access Promotion Investment Package</td>
<td>Debt / Grant / TA</td>
<td>5.0m</td>
</tr>
<tr>
<td>7</td>
<td>Ghana</td>
<td>Market Access Promotion Investment Package</td>
<td>Debt / Grant / TA</td>
<td>1,087.7m</td>
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<tr>
<td>8</td>
<td>Cote d'Ivoire</td>
<td>Warehouse Investments</td>
<td>Debt / TA</td>
<td>58.7m</td>
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<tr>
<td>9</td>
<td>Cote d'Ivoire</td>
<td>WRS Implementation</td>
<td>Debt / TA</td>
<td>4.2m</td>
</tr>
<tr>
<td>10</td>
<td>Cote d'Ivoire</td>
<td>Comex Implementation</td>
<td>Debt / TA</td>
<td>8.4m</td>
</tr>
<tr>
<td>11</td>
<td>Malawi</td>
<td>Rural Warehouse Investments</td>
<td>Debt / Grant / TA</td>
<td>91.0m</td>
</tr>
<tr>
<td>12</td>
<td>Malawi</td>
<td>WRS Institutional Development</td>
<td>Debt / Equity / Risk-Sharing / TA</td>
<td>9.9m</td>
</tr>
<tr>
<td>13</td>
<td>Zambia</td>
<td>Warehouse Investment and FRA Transformation</td>
<td>Debt / TA</td>
<td>192.5m</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td></td>
<td></td>
<td>1,439.4m</td>
</tr>
</tbody>
</table>

These investments have arisen as a result of engagement by the consultants during their country missions undertaken as part of the Study.

While each project is meaningful and its write up has been confirmed with stakeholders, it is important to emphasise that they are considered to address only a portion of the total overall investment need in each jurisdiction.

Comex and WRS are newly emerging institutions in most African jurisdictions. They are still in their formative stages. With the exceptions only of the JSE and perhaps ECX, they tap only a fraction of their potential. Stakeholders have engaged in most jurisdictions only with quite basic manifestations of the kind of products and service that a comex and WRS can offer.
Accordingly, many stakeholders need to go through an educational process to understand their broad needs in terms of investments and capacity-building, let alone to fully define their specific requirements. It has also been noted in many of the consultant’s country reports that promoters of comex/WRS – and in particular, the public sector promoters in countries such as Tanzania, Kenya, Mozambique, etc. – have not done sufficient awareness-raising and consultation with private sector stakeholders.

It is specifically in response to these constraints that the AMASS strategy proposed in the Study Report has been devised. The AMASS strategy – fulfilled by Credible Anchor Institutions (CAIs) through CAI Investment Plans (CAIPs) – offers a methodological journey by which comex and WRS can work collaboratively with stakeholders from across their ecosystem to define a holistic investment plan.

The purpose of AMASS is to put in place a strategic process by which stakeholders are given the proper knowledge, time, materials and collaborative modalities to develop cohesive national strategies themselves, driven by the host comex/WRS and customised to stakeholder requirement.

This approach shares a similar philosophy underpinning the CAADP methodology for developing National and Regional Agricultural Investment Plans (NAIPs, RAIPs) through which African governments are collaboratively engaging with stakeholders. Specifically, the proposed AMASS strategy follows CAADP in seeking a bottom up, participatory approach as a more reliable, impactful, sustainable, consultative means of designing the Bank’s interventions in this sector.

Finally, in addition to the USD 1,439m pipeline presented herein, and the AMASS strategy which seeks to institutionalise within a collaborative participatory framework the process of investment needs assessment going forward in the comex/WRS sector, it is also noted that the Study Report identifies a broader market opportunity for AMASS Products that may be quantified as in excess of USD 19 billion and potentially as high as USD 62 billion.

A Note on the Universe of Investments within the context of Comex/WRS Promotion

The universe of investments when considering a strategy to promote comex/WRS may be identified with respect to the pillars and building blocks that support such institutions. The Study identifies three pillars that support domestic comex and WRS, with a fourth ‘regional pillar’ supporting those institutions that operate across borders. Each pillar comprises building blocks that represent the components the institution needs to arrange in order that it can provide products and services to the market.

![Diagram showing pillars and building blocks supporting comex/WRS market.](Source: Darhei Noam Ltd.)
Of the four pillars depicted above, the institutional pillar represents the market access institutions themselves. Investments to support the institutional pillar constitute direct investments into or in support of those institutions.

The physical market, financial and regional pillars together comprise the enabling ecosystem. Investments to support these pillars seek to strengthen the conduciveness of the ecosystem to promote market access through comex and WRS. Each building block includes ecosystem elements that – often but not always – are beyond the direct ownership or control of the comex or WRS. Rather, the comex or WRS sets rules, conditions, or accreditation and compliance criteria to align the conduct and performance of controllers of these elements with the operations and integrity of their markets.

A challenge emerges. Investments as part of a comex/WRS sector promotion strategy to support the development of ecosystem elements would be similar in nature to existing investments already being undertaken to develop agricultural value chains without any specific consideration for their impact on comex and WRS.

A question that arises, therefore, is: how can investments in the enabling ecosystem be differentiated from existing investments so as to be specifically catalytic for promoting market access through comex and WRS?

• For example, investments are already being made to support development of Africa’s agricultural processing, warehousing and transportation infrastructure. Should such investments merely be continued and increased in order to promote comex and WRS? Or is there some different way or alternative approach to investing in processing, warehousing and transportation infrastructure that would be specifically catalytic to the promotion of market access through comex and WRS?

It is here argued that differentiation of investments to promote market access through comex/WRS can be achieved with three goals in mind, as per Guiding Principle Seven articulated in the study: the promotion of price discovery, market liquidity, and creating smallholder market linkages.

Consequently, a number of the investment components within the AMASS Products proposed in the Study are carefully targeted towards strategic entities that either:

• control large volumes of commodity flow (irrigation scheme operators, lead firm agribusiness, agro-processing firms, food reserve agencies); or
• control enabling infrastructure (warehouse and logistics operators)

Either of these, if integrated into a comex or WRS, could make a significant addition thereto in terms of market liquidity and thereby create the conditions in which price discovery can best emerge.

These AMASS Products – seven in total (see below) – are known as ‘market-access-oriented’ products, and are framed around value-based incentives. They are designed to transform the level of value realisation through appropriately structured and calibrated incentives in the financing package by which concessionality – i.e., a reduction or ‘softening’ of interest rates, for example by incorporating grant components into the funding mix or by the application of lower risk premiums and financing spreads – is built into the terms of financing in return for beneficiaries’ commitments to use market mechanisms, or to integrate or structure infrastructure around market mechanisms.

The specific level of concessionality – i.e. the amount of grant funding or the level of reduction of risk premiums/spreads – should be set according to the level required to transform the value equation so that a beneficiary makes higher positive averaged returns on market participation through a comex or WRS compared with using other channels.
2. MOZAMBIQUE INVESTMENTS

PROJECT (1) MOZAMBIQUE RURAL WAREHOUSE INVESTMENTS

1. Identified Problem

There are significant challenges facing attempts to achieve economic development in Mozambique, including to agriculture. These include power and infrastructure deficiencies, smallholder fragmentation/capacity, financial sector under-development, institutional and governance factors, among others.

However, it is also important to recognise some of the advantages – the country has huge potential in terms of size, strategic Indian ocean location, mineral wealth, diversity of climatic zone and crop cultivation, and untapped arable land. International private sector is already present in Mozambique, and the country has close relationships with important global development partners.

There is also understood to be one other apparent major advantage, at least from the comex/WRS perspective: in comparison to some other countries in the region, in particular Malawi and Zambia, the government of Mozambique is understood not to intervene in the underlying value chains through pricing, buying and selling, or trade bans.

Moreover, the government has empowered the comex/WRS as a key custodian for food security and other policy objectives – a situation Malawi and Zambia private sector and their respective comex/WRS, currently dream about. Effectively, Mozambique is already in the position for which Zambian and Malawian private sector and development partners are lobbying government in their respective countries. It is important to ensure this advantageous situation remains embedded as a key principle of sectoral governance going forward to mitigate risks of destabilising policy change which is one area that is comparative advantage for Mozambican agriculture compared with Malawi and Zambia.

The BMM has been designated by government as the WRS and comex for Mozambique.

A comex can potentially play a role in three main dimensions: pricing, physical trade, and risk management. A WRS can play a role in two further dimensions: storage and financing. Experience suggests that both institutions – a comex and a WRS – work best when operated in combination, or at least in affiliation with the other.

In particular, pricing is particularly important in the Mozambican context: farmers need price signals to grow the right crops at the right time with the right inputs to the right quality and to decide when to store and when to sell. Pricing signals – in tandem with other activities to develop the value chain– can thus be a help in boosting production, productivity, quality and marketing.

Facilitation of physical trade by a comex may also be important where fragmentation exists and agribusiness are unwilling to contract and provide support to producers – such support is usually manifested through inter alia facilitation of input finance and supply, quality control, and extension services.

However, it is an area of debate as to whether in situations in which offtakers are willing to contract and support the farmer whether a commodity exchange can add value by facilitating physical trade in competition with those relationships. Rather in this context, the value of the commodity exchange may be to provide pricing benchmarks – spot, and ideally forward – around which fair pricing practices may be structured by the offtaker to ensure equity in the producer relationship. This invites a role for a comex and WRS in forward contracting (as per the experience of Malawi) and, at its more advanced level of sophistication, futures and options (i.e. forms of exchange-traded derivative).
Additionally, the Comex/WRS itself can give structure to its ecosystem through its core processes such as inter alia developing rules and bylaws, defining contract specifications, defining applicable quality standards, putting in place a physical infrastructure foundation, performing business development, creating a brokerage network, setting up a technology infrastructure, devising a settlement system, putting in place a WRS, and capacitating stakeholders.

A major challenge to BMM relates to its storage infrastructure. Government placed several of its silos under BMM management with the intention to reduce post-harvest loss and improve quality-consciousness among the smallholder sector. Private sector, however, are critical of the location, condition and technology at the silos which they see as being unsuitable in the current market conditions.

1. Private sector sees silos as inappropriate for the level of market-development in Mozambique given the absence of quality consciousness among producers, the deficit of silo management capacity to maintain and preserve standardised commodity, the absence of the relevant aggregation and transportation infrastructure to carry flows of bulk commodity along the value chain, and the absence of pricing incentives to encourage the moves towards quality standardisation. Commodities in silos are commingled, and it will also be important to understand whether commingling itself meets the needs of depositors, off-takers and financiers in the current market environment.

2. The location and condition of the silos – if the locations are sub-optimal, they may impose additional costs of transportation, and if the conditions are inadequate condition and/or management capability is lacking, they may impose losses on depositors’ commodity.

In light of the current situation, the BMM has identified the need for small-scale rural aggregation warehousing as feeder storage to build the volumes steadily from farmgate to flow into its silos. It seeks support in this area to develop a project structure and pipeline, and to facilitate the necessary mix of commercial and concessional funding backed by risk-sharing instruments, donor grant-funding, and technical assistance.

2. Rationale

The project is based on a replication of a structure that has gained traction in Malawi (see above) under USAID auspices.

It is aimed at creating a pipeline of investment into rural warehouses, operated by private sector in conjunction with farmer organisations and SMEs. The aim is for private sector to take on ownership of the sites, provide technology and management capability while development partners and NGOs work to drive utilisation by farmers and SMEs.

Grants are envisaged to secure availability of capacity for farmers and SMEs, while buying down the cost of financing for agribusiness. Technical assistance components support the capacity-building of agribusiness, banks, farmers and SMEs alike to adapt to new commodity exchange- and WRS-centred mechanisms for conducting their business.

From the perspective of farmers and SMEs, rather than the old way of doing things – a 100% capital grant by a donor to a farmers’ organization or SME for constructing the warehouse, an approach that has proven in most cases unsustainable – the grant contribution buys the right for the farmers’ organization or SME to collocate with the agribusiness. In the same way that the anchor tenancy of a supermarket promotes the access of smaller boutique stores in a shopping mall, so too the anchor tenancy of the agribusiness – providing the commercial critical mass to underpin warehouse sustainability – promotes the access of farmers’ organizations and SMEs to a professional warehouse.

In summary, then, the project vision is to facilitate rural warehousing that is both inclusive and sustainable:

INCLUSIVE – given the right support structures, rural warehousing is open to and can be used advantageously by all value chain actors, including as a hub for access by farmers and/or SMEs to storage, finance, markets and rural services through the WRS;
SUSTAINABLE – given the right initial financing terms, rural warehouses can be operated, maintained and utilized for their economic life, and rural warehousing capacity in Mozambique can be continuously scaled once established as a bankable asset.

3. Investment proposal

Objectives

- More rural warehousing capacity
- Sites adequately equipped and in good condition
- Sites linked into WRS and commodity exchange
- Making rural warehousing a bankable asset
- Sites accessible for all players, and through the sites, access to storage, finance and markets;
- Reduced post-harvest losses
- Increase rural service provision, including inputs, equipment, information, financial and extension services;
- Generate rural employment

Component Activities

The proposed project comprises the following four components:

(i) DFI investment as credit line to a Mozambican bank for onlending to agribusiness;

(ii) Donor grants to cover up to 25% of capital investment per warehouse on condition an equivalent proportion of capacity is made available to third party depositors;

(iii) A risk-sharing instrument is in place to share in losses arising from the bank’s exposure to the counterparties it lends, which enables the bank to accept rural warehouses as collateral and to finance more to counterparties with single obligor limit thresholds; and

(iv) Technical assistance programmes are being designed to capacitate stakeholders, including the structuring of a warehouse management company to overcome warehouse management bottlenecks in Mozambique.

Organisation and Management

BMM is to drive the process of pipeline development through inviting private sector to take on investment and management of the new facilities, while BMM integrates them into its WRS/comex as the basis for facilitating trade and finance from these warehouses. The local bank as beneficiary for the pipeline, once identified by BMM, would facilitate both investment capital to the beneficiary agribusiness while also providing working capital to finance against the WRs issued from the warehouse.

Scale and Cost

The total investment requirement for the project is estimated at USD 15 million to cover a pipeline of 100,000MT of storage at 75-100 locations.

The primary focus of the investments is to cover warehousing and equipment. A contingency of USD 5 million within the USD 15 million may be made to support allied investments into rural processing and transportation, where required to support the primary investment into warehousing.
The project seeks a further USD 5 million to be made available as working capital to support WR financing structures around the new warehouses; USD 2.5 million in grants to promote the capacity of BMM and the accessibility of farmers and SMEs to the warehouses; and USD 1.0m in Technical Assistance to promote capacity-building of stakeholders for utilisation of warehouses and to build warehouse management capability among prospective storage operators.

Benefits and Beneficiaries

For farmers:
- Access to and capacitation for storage (closer, affordable, accepts small-scale deposits);
- Access to and capacitation for WR financing;
- Access to and capacitation for market linkages through the comex;
- Access to and capacitation for rural services (inputs, financial services, extension etc.).

For SMEs:
- A pathway to bankability to construct own warehouses after building direct practical experience and sufficient track record;
- Unlock aggregation finance and storage for small-scale rural processors;
- Support emergence of rural brokerage by SMEs looking to link farmers to markets.

For Agribusiness:
- A hub to integrate value chains and get closer to farmers;
- Increased security of supply;
- Increase rural aggregation and procurement capacity;
- Improve rural logistics efficiency;
- Enabling cost effective financing of own inventories through cheap always on-site collateral management.


The Mozambique rural warehouse investments project is fully aligned with AMASS Product (6): Market Access-Oriented Rural Warehousing and Rural Service Hub Investments. It seeks to promote a rural warehousing footprint around which the WRS and commodity exchange can engage to provide access to storage, finance and markets for value chain players including smallholder farmers, SMEs and agribusiness.

5. Project Risks and Mitigation Actions

<table>
<thead>
<tr>
<th>Risk description</th>
<th>Rating of risk</th>
<th>Mitigation measures</th>
<th>Rating of risk (after mitigation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing a pipeline of private sector investors</td>
<td>M</td>
<td>Technical assistance for BMM through additional resources</td>
<td>L</td>
</tr>
<tr>
<td>Integrating new warehouses into WRS</td>
<td>H-M</td>
<td>Technical assistance to BMM</td>
<td>L-M</td>
</tr>
<tr>
<td>Mobilising utilisation from farmers organisations</td>
<td>H</td>
<td>Partnerships with development partners to build capacity and promote use of WRS/comex</td>
<td>L-M</td>
</tr>
<tr>
<td>Willingness of banks to take risk on rural warehouses</td>
<td>H</td>
<td>Risk instrument to share in losses arising from exposure to rural warehousing</td>
<td>L</td>
</tr>
</tbody>
</table>
3. TANZANIA INVESTMENTS

PROJECT (2) TANZANIA RURAL WAREHOUSE INVESTMENTS

1. Identified Problem

Agriculture is Tanzania’s economic mainstay, contributing USD 13.9bn to its GDP (nearly 30%) and 67% to total employment during 2014. As of 2016, Tanzania has over 44 million hectares of arable land with only 33% of this amount being cultivated. More than 80% of the poor population live in rural areas and almost all of them are involved in the farming sector. Land is a vital asset in ensuring food security and among the main food crops in Tanzania are maize, sorghum, millet, rice, wheat, beans, cassava, potatoes and bananas. Agricultural products also contribute to the country’s foreign exchange earnings with over 1 billion dollars in earnings from cash crop exports. Main cash crops include coffee, sisal, cashew nut, tea, cotton and tobacco.

The agriculture sector faces various challenges and has been a major government priority for reducing poverty. Farming efficiently has been a challenge for many producers and lack of finances and lack of farming education has confined many farmers to subsistence. Farm sizes remain small with the average land size being around 2.5 ha.

Tanzania’s crop production rose by 44% during 2008–2013, beating the Sub-Saharan Africa average crop production growth rate of 18% during the same period, according to the World Bank’s (WB) crop production index.

Tanzania does however enjoy a number of potential advantages over some other countries in the region, including the size of the country and the availability of untapped land resources, ports through which imports and exports can be facilitated, untapped mineral wealth as well as a relatively strong private sector and donor support.

Regrettably, the Government of Tanzania still intervenes in the market and imposes export and import bans from time to time, as well as price caps on raw commodities on occasions. These actions are taken irrespective of the fact that Tanzania is part of the EAC and SADC, both of which promote free trade within the region.

The EAC Agriculture and Rural Development Policy (EAC-ARDP) recognizes the importance of eliminating hunger and ensuring sustainable food security within the region as a necessary first step to poverty eradication and consequently a stimulus for rational agricultural development and realization of the aspirations of the Treaty establishing the EAC. However, before and since the signing of the Treaty, the ability of the Partner States to achieve individual and collective durable food security status has been elusive. This has been further compounded by the negative impacts of Climate Change.

The EAC ARDP guides the development of strategies and programmes and projects for realisation of the above goals of the EAC in line with CAADP and NEPAD principles. This action plan has been developed to guide the implementation and actualization of a regional food security objective.

Achievement of food security in the region has been constrained by:
- a) Low and unstable production and productivity occasioned by over-reliance on rain-fed agricultural production systems;
- b) Low surface water storage per capita in the EAC region;
- c) Inefficient utilization of water resources for agricultural production;
- d) Low capacity on rain water harvesting;
- e) Poor or no access to affordable agricultural credit by resource poor producers;
- f) Low producer prices making agriculture less remunerative;
- g) Uncertainty in income flows due to price volatility in agricultural commodities;
- h) Inadequate and weak farmer’s institutions incapable of supporting a vibrant agricultural sector;
- i) Inadequate infrastructure such as transport, communications, storage and processing facilities etc.
that hinders access to factor and product markets within, between Partner States and beyond;

- j) Low usage of agriculture production enhancing inputs such as fertilizer, improved seeds, agrochemicals and veterinary drugs etc.;
- k) Inadequate institutional support to livestock production systems in arid and semi-arid areas;
- l) Inadequate institutional support to the fishing industry including capture and aquaculture fisheries;
- m) Increased frequency and severity of extreme weather such as floods and drought as a result of global warming and climate change, adversely affecting food production;
- n) Inadequate flow of information on the adverse climate change impacts and actions to the producers;
- o) Prevalence of HIV/AIDS and other tropical human and animal trans-boundary diseases that not only divert the already constrained resources from agricultural production but also waste the labour force;
- p) Increased pressure on natural resources and degradation of environment due to rapid population growth, poor soil management practices, overgrazing etc.;
- q) High post-harvest losses due to inadequate/lack of food storage and processing facilities;
- r) Disruption of food production and distribution due to social unrest and political instability;
- s) Inappropriate and low adoption of production technologies by farmers due to weak research – extension-farmers linkages;
- t) Inadequate food access particular among the vulnerable population/resources poor population;
- u) Gender imbalances in access to opportunities in production, marketing and consumptions, access and control of productive resources.

The Government of Tanzania has been supportive of the development of the Tanzania Mercantile Exchange (TMX) and was fundamental in the establishment of the Tanzania Warehouse Licensing Board (TWLB), which is now renamed the Warehouse Receipt Regulatory Board (WRRB).

TMX is being established to address constraints identified above, including pricing for farmers, physical trade and risk management and has until now relied on funding from the Government of Tanzania, with some additional support from donors. Despite efforts to have the TMX operational in time for the 2016 cashew harvest, this target was not met and efforts are currently focussed on having a functioning exchange operational for this years’ harvest in September. The two warehouse receipt initiatives in Tanzania, both of which are keen to collaborate with the TMX, are run by the WRRB and RUDI respectively and are designed to improve access to safe and secure storage and financing against warehouse receipts. The Government has also been the prime source of funds for this organisation, although the WRRB remains under-funded.

Farmers in Tanzania require price information, especially as prices vary considerably from one agronomic area to another. These price indications can also be used by producers to determine which crops to plant to derive the best prices available. The use of storage can assist farmers to decide when to store and when to sell based on potential returns on investment. The Malawian model provides a good example of just how effective holding commodities in store can be, despite very high interest rates and considerable distances from the actual market.

Physical trade through a properly functioning commodity exchange is important where farmers have difficulty in financing the costs of inputs, which can be financed through the Exchange, where quality controls and sound storage techniques are supported by extension services and detailed market information, including forward prices.

Although large buyers do support farmers with the purchase of their commodities, there is clear evidence that prices offered to farmers are generally below optimum market price, which is part of the system whereby major buyers use intermediaries to purchase on their behalf. These primary buyers are usually very small operators without the financial resources needed to purchase large volumes who then on sell to a larger buyer and so on down the line until the larger buyers sell to the main buyer. This also impacts on the quality of the final product as these buyers do not lay great store on the need for quality.

One of the major benefits to be derived from properly functioning exchanges and WRS initiatives is the rules and/or regulations governing their operations, including contract terms and conditions (including quality standards), terms of payment, costs involved, broking services, educational programmes about their respective operations and a true benefit to those who use the exchange and WRS as well as to the agricultural industry as a whole and ultimately the country.
The establishment of the TMX has faced many challenges, with a lack of support from the private sector paramount amongst these. The attitude of one major buyer was that there is no need for an exchange in Tanzania as the private sector already provides price discovery through competition in the market! It is clear however that the majority of farmers remain unaware of prices available in Tanzania. Additionally, the lack of recognised standards in the country mitigate against the operations of an exchange. The use of warehouse receipts, whilst growing steadily has also faced challenges including the quality of the facilities themselves and the staff employed to run them. With few exceptions, the banks have not supported the WRS initiatives and more needs to be done to get the banks on board.

A significant part of any WRS is the certification of storage facilities, both public sector and privately owned, as suitable for the purpose of issuing warehouse receipts. Relatively few private facilities have been registered and many of these drop out from one year to the next. Again, more needs to be done to explain the potential benefits to be derived by storage facilities on the national register. In fact, the lack of suitable storage facilities has been identified as one of the largest stumbling blocks to both the establishment and efficient operation of both and exchange and WRS.

There is also need for investment in ports, rural roads, storage facilities (both rural and urban), irrigation, standardised pack sizes, quality standards, laboratories, quality seed and other inputs, new farming technologies, reliable market information systems, access to finance, training for farmers, bankers, storage operators and exchange staff and quality management systems.

2. Rationale

Much of what has been achieved in Tanzania insofar as a WRS and commodity exchange is concerned has been implemented by the Government of Tanzania, with donor support, but these initiatives have not been fully embraced by the private sector.

There is need for investment in storage facilities, both rural and urban and both small and large to meet the needs of TMX and the WRS if they are to be successful over time. Whilst the private sector has already invested in these areas and continues to do so wherever they see a benefit, there is need for these facilities to be made available to third parties who wish to store their goods in the facilities without selling them immediately and to have the option of placing their deposits onto a warehouse receipt.

Whilst it is understood that the private sector is in business to make money, there is equally the need for them to understand that the introduction of a commodity exchange and the use of warehouse receipts are designed to benefit the whole agricultural industry, including the traders, processors, storage facilitators, seed and other input suppliers and transport operators amongst others.

The system used to date of grants to farmer organisations and others to build storage facilities and in some cases to equip those facilities is no longer sustainable and new models need to be considered.

3. Investment Proposal

Objectives

- Increased quality rural warehousing capacity;
- Sites to be easily accessible and adequately equipped;
- Sites linked into WRS and commodity exchange;
- Sites accessible for all players, and through the sites, access to storage, finance and markets;
- Reduced post-harvest losses;
- Increase rural service provision, including inputs, equipment, information, financial and extension services;
- Generate rural employment.
Component Activities

The proposed project comprises the following four components:

i. DFI investment as credit line to a Tanzanian bank for on-lending to agribusiness;

ii. Donor grants to cover up to 25% of capital investment per warehouse on condition an equivalent proportion of capacity is made available to third party depositors;

iii. A risk-sharing instrument is in place to share in losses arising from the bank’s exposure to the counterparties it lends, which enables the bank to accept rural warehouses as collateral and to finance more to counterparties with single obligor limit thresholds; and

iv. Technical assistance programmes need to be designed to capacitate stakeholders, including the strengthening of WRRB in all its operations.

Organisation and Management

TMX, WRRB and RUDI should drive the process of pipeline development through inviting private sector to take on investment and management of the new facilities, while these organisations ensure that they are integrated into the WRS/comex so that trade and finance can be facilitated from the warehouses. The local bank, once identified by these three organisations, would facilitate both investment capital to the beneficiary agribusiness while also providing working capital to finance against the WRs issued from the warehouse.

Scale and Cost

The total investment requirement for the project is estimated at USD 20 million to cover a pipeline of 120,000MT of storage at 100 to 125 locations.

The primary focus of the investments is to cover warehousing and equipment. A contingency of USD 7.5 million within the USD 20 million may be made to support allied investments into rural processing and transportation, where required to support the primary investment into warehousing.

The project seeks a further USD 5 million to be made available as working capital to support WR financing structures around the new warehouses; USD 2.5 million in grants to promote the capacity of TMX, WRRB and RUDI as well as the accessibility of farmers and SMEs to the warehouses; and USD 1.0m in Technical Assistance to promote capacity-building of stakeholders for utilisation of warehouses and to build warehouse management capability among prospective storage operators.

Benefits and Beneficiaries

For farmers:

- Access to and fuller use of storage (closer, affordable, accepts small-scale deposits);
- Access to and increased demand for WR financing;
- Access to and increased access to market linkages through the comex;
- Access to and increased use of rural services (inputs, financial services, extension etc);
- Potential for well-organized farmer groups to purchase and run their own storage facilities.

For SMEs:

- A pathway to bankability to construct own warehouses after building direct practical experience and sufficient track record;
- Unlock aggregation finance and storage for small-scale rural processors;
- Support emergence of rural brokerage by SMEs looking to link farmers to markets.
For Agribusiness:
- A hub to integrate value chains and get closer to farmers;
- Increased security of supply;
- Increase rural aggregation and procurement capacity;
- Improve rural logistics efficiency;
- Enabling cost effective financing of own inventories through cheap always on-site collateral management.


The Tanzania rural warehouse investments initiative is fully aligned with AMASS Product (6): Market Access-Oriented Rural Warehousing and Rural Service Hub Investments. It seeks to promote a rural warehousing footprint around which the WRS and commodity exchange can engage to provide access to storage, finance and markets for value chain players including smallholder farmers, SMEs and agribusiness.

5. Project Risks and Mitigation Actions

<table>
<thead>
<tr>
<th>Risk description</th>
<th>Rating of risk</th>
<th>Mitigation measures</th>
<th>Rating of risk (after mitigation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing a pipeline of private sector investors</td>
<td>M</td>
<td>Technical assistance for TMX, WRRB and RUDI through additional resources</td>
<td>L</td>
</tr>
<tr>
<td>Integrating new warehouses into WRS</td>
<td>H-M</td>
<td>Technical assistance to TMX, WRRB and RUDI</td>
<td>L-M</td>
</tr>
<tr>
<td>Mobilising utilisation from farmers organisations</td>
<td>H</td>
<td>Partnerships with development partners to build capacity and promote use of WRS/comex</td>
<td>L-M</td>
</tr>
<tr>
<td>Willingness of banks to take risk on rural warehouses</td>
<td>H</td>
<td>Risk instrument to share in losses arising from exposure to rural warehousing</td>
<td>L</td>
</tr>
</tbody>
</table>
PROJECT (3) QUALITY STANDARDS

THIS PROJECT MAY BE PURSUED IN TANDEM WITH PROJECTS (4) AND (5) BELOW WITH FOCUS ON SPECIFIC VALUE CHAINS, CREATING PRODUCTS THAT ARE TRADABLE THROUGH COMEX AND FINANCEABLE THROUGH WRS.

1. Identified Problem

The need to have acceptable quality standards has been one of the priorities for the EAC, yet despite the introduction of these standards for a wide variety of commodities these have not yet been adopted by any of the countries in the EAC region and are currently under review. The lack of certifiable standards does not allow for better qualities to be rewarded or for poorer grades to be discounted and this results in difficulties for small holder farmers in particular, whose goods are often discounted for no apparent reason.

From a storage perspective, it is crucial to be able to store similar qualities together and there is therefore an urgent need to address this issue. Markets like to know what is on offer, where it is and what the price is. Unless this can be addressed prices are likely to be discounted to allow for poorer grades.

2. Rationale

The rationale behind the need for quality standards for commodities is simple and is founded on the principle of food safety, nutrition and increased income for farmers. Markets need to be aware of what is being offered from a quality perspective to enable buyers to purchase the qualities needed for their processes. Without the quality standards being available, markets will react by offering lower prices for the goods available.

The EAC has battled to have the countries within the region accept the standards as originally designed, despite consultation and discussion with all the countries involved. However, much of the work has already been undertaken and it is therefore proposed that the Bank look to lend limited support to the EAC to have these standards approved and introduced as soon as possible.

3. Investment proposal

Objectives

- Quality standards accepted and used in the EAC region;
- Regulations promulgated in each of the countries in the EAC to ensure that these standards are adopted by all links in the agricultural sector and that all the countries are using the same standards;
- Educational material produced to meet the needs of the various sectors within the agricultural industry in Tanzania;
- Making quality standards an important part of agricultural trade in Tanzania and the region;
- Ensuring that the TMX, WRRB and RUDI help to drive the initiative forward.
Component Activities

It is proposed that the following components be considered:

i. Grant to the EAC to enable them to finance the completion of this project, which is some five years overdue;

ii. Experts in the area of quality standards to be employed on a short-term basis (three months maximum) to help drive the process forward;

iii. A public meeting to be held in Tanzania (and in the other countries) to promote the introduction of the EAC quality standards; and

iv. Technical assistance programmes designed to capacitate stakeholders in understanding the quality standards.

Organisation and Management

Whilst this initiative will involve not only the EAC, but the public sector in Tanzania as well, it is considered that the TMX, WRRB and RUDI will be strong proponents of the initiative. The private sector will also have a significant role to play in the adoption of the quality standards and their buy-in to the process will be vital.

Scale and Cost

The total investment required is USD 2.5 million, to cover the costs of technical support to the EAC, the employment of a team of experts to help drive the process, as well as the public meeting and the technical assistance programmes and materials to capacitate stakeholders in understanding and adopting the quality standards.

Benefits and Beneficiaries

The introduction of approved quality standards will benefit the whole agricultural sector and provide better marketing opportunities for producers and will help to stabilise markets with known volumes and qualities of commodities. It will also assist processors to determine the mix of qualities needed to produce their end products as well as providing better nutritional value for consumers.

The market as a whole will be better equipped not only to service local requirements but also to seek export opportunities based on the quality specifications of the goods supplied. The introduction of common standards will also assist storage operators to better identify and store common grades in one place. Farmers potentially stand to gain the most by obtaining higher prices for a well-graded, better quality product.

The ratification of quality standards, not only in Tanzania but the whole EAC region is aligned with AMASS Product (14): Fund for Taking Equity in New Contract Development (TEND-F). The project seeks to make products tradeable and financeable for target value chains on comex and WRS based on support for the range of expenditures usually incurred during the product development and management processes at comex and WRS.

5. Project risks and mitigation actions

<table>
<thead>
<tr>
<th>Risk description</th>
<th>Rating of risk</th>
<th>Mitigation measures</th>
<th>Rating of risk (after mitigation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifying the current state of play with the proposed EAC Quality Standards</td>
<td>L</td>
<td>Technical assistance for EAC through additional resources</td>
<td>L</td>
</tr>
<tr>
<td>Obtaining acceptance from all EAC Members to introduce the updated Quality Standards</td>
<td>H</td>
<td>Technical assistance to EAC</td>
<td>L-M</td>
</tr>
<tr>
<td>Mobilising utilisation from farmers organisations</td>
<td>H</td>
<td>Partnerships with development partners to build capacity and promote use of quality standards</td>
<td>L-M</td>
</tr>
<tr>
<td>Promulgation of regulations in country to identify the new standards as obligatory to all parties in the agricultural sector</td>
<td>H</td>
<td>Encourage governments to promulgate regulations as soon as possible.</td>
<td>M</td>
</tr>
</tbody>
</table>

Note: L = low; M = medium; H = high.
PROJECT (4) STANDARDISED PACK SIZES

THIS PROJECT MAY BE PURSUED IN TANDEM WITH PROJECTS (3) AND (5) WITH FOCUS ON SPECIFIC VALUE CHAINS, CREATING PRODUCTS THAT ARE TRADABLE THROUGH COMEX AND FINANCEABLE THROUGH WRS.

1. Identified Problem

Pack sizes used in Tanzania are not standardised but rather vary from fifty to one hundred kilograms and all points in between. Not only are pack sizes in excess of 50kg in contravention of a number of regional trade agreements, they also have a negative impact on the health of those people handling them. Additionally, storage is made much more difficult by the plethora of pack sizes delivered to the storage facilities.

There has been resistance in the past from farmers who are reluctant to purchase more bags to facilitate the same volume (i.e. two 50 kg bags instead of one 100 kg bag), but handling larger bags creates problems at all stages of the value chain.

2. Rationale

Most countries, including many in Africa, have standardised pack sizes at 50 kg which are easier to handle - having to rotate bags of 100 kg in a stack is difficult and requires specialist equipment to do so. 50kg bags are thus significantly easier to store, and promote more efficient tracking of the stored commodity underpinning finance and marketing arrangements.

3. Investment proposal

Objectives

The objective is to have one uniform pack size used for all deliveries and/or storage of agricultural commodities in Tanzania, to assist in the handling of the commodities as well as the storage of them in warehouses. This is designed to improve efficiencies and reduce handling costs within the value chains.

Component Activities

The proposed project includes the following activities:

i. A campaign to promote the use of a single pack size for all agricultural commodities in Tanzania;

ii. Seek buy-in to the concept from storage companies/operators in the first instance;

iii. Hold a stakeholder meeting to promote the idea;

iv. Design and produce promotional materials supporting the initiative; and

v. Draft regulations to ban the use of and packs larger than 50 kg’s and establish the 50 kg pack size as the standard for Tanzania.
Organisation and Management

Effective management of the project is key to getting a standard pack size accepted in Tanzania. To this end, the Ministry of Agriculture, Food Security and Cooperatives needs to drive the initiative with support from the WRRB, RUDI and the soon to be established TMX. Technical assistance will contribute to the success of this project. The Ministry of Health and Social welfare can play an important part in this, as can storage companies, from both public and private sectors.

Scale and Cost

The total cost of this project is estimated to be USD 1 million to cover all the costs involved and to provide budgetary support to the government ministries involved.

Benefits and Beneficiaries

Farmers will benefit from the smaller pack size as they are easier to handle and transport. Buyers too will find 50kg bags easier to handle as will storage operators, who will also benefit from easier stacking within their facilities. There is a possibility that storage charges for these bags may be cheaper than for larger bags.

In order that the market benefits more fully from the introduction of standardised pack sizes, it is crucial that this be enforced through legislation over time.


The introduction of standardised pack sizes in Tanzania is aligned with AMASS Product (14): Fund for Taking Equity in New Contract Development (TEND-F). The project seeks to improve the efficiency of managing stored collateral to promote the tradability and financing of target value chains on comex and WRS based on support for the range of expenditures usually incurred during the product development and management processes at comex and WRS.

5. Project Risks and Mitigation Actions

<table>
<thead>
<tr>
<th>Risk description</th>
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<th>Mitigation measures</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Seek buy-in to the concept from storage operators and other value chain players</td>
<td>H-M</td>
<td>Technical assistance to government ministries and WRRB</td>
<td>L-M</td>
</tr>
<tr>
<td>Managing the policy risk to passing regulations in country to specify the 50kg pack size as obligatory to all parties in the agricultural sector</td>
<td>H</td>
<td>Partnership with development partners</td>
<td>L-M</td>
</tr>
</tbody>
</table>

Note: L = low; M = medium; H = high.
PROJECT (5) TRAINING ON THE USE OF WRS AND COMEX

THIS PROJECT MAY BE PURSUED IN TANDEM WITH PROJECTS (3) AND (4) ABOVE WITH FOCUS ON SPECIFIC VALUE CHAINS,CREATING PRODUCTS THAT ARE TRADABLE THROUGH COMEX AND FINANCEABLE THROUGH WRS.

1. Identified Problem

There remains a lack of understanding of commodity exchanges and WRS in Tanzania, despite efforts to address this over the years, both by the Government of Tanzania and the donor community. A number of commodities in Tanzania are seen as critical to the Country and are subject to controls by the Government of Tanzania. These include cashew nuts, which remain an important source of foreign currency earnings and maize which is politically sensitive and is prone to export bans to ensure that the country remains food secure.

These actions, whilst well intended, impact negatively on trade and the operations of both commodity exchanges and WRS. Added to this is the bad publicity that some of the WRS activities have received and the delay in the establishment of the TMX, which is now only due to begin operations in September this year.

Whilst the TMX has held a number of training sessions, including the training of 65 brokers under the auspices of the CMSA, understanding of the operations of a commodity exchange remains low and the potential benefits have clearly not been understood.

2. Rationale

It is clear that the CMSA, TMX, WRRB and RUDI have all faced difficulties in obtaining buy-in to both the commodity exchange and the use of warehouse receipts, whilst the potential for these services is enormous. Financing of receipts remains low as banks see this as high risk business and interest rates are high as a result. There are lessons to be learned from other countries in the region, and advantage need to be taken of these lessons. However, there is no doubt that training on both the commodity exchange and the WRS is essential and needs to be continuously reinforced.

Messages need to be tailored to the target audiences, including farmers, bankers, storage operators, exchange staff, traders, processors and consumers to be effective and need to be available in all languages used in the country. They need to be clear and concise and where possible reinforced through diagrams. From experience, a good way to illustrate the commodity exchange and WRS is through plays and audience participation. Another excellent way is by utilising the services of other who have used them in the past and can therefore speak from experience.

3. Investment Proposal

Objectives

The objectives of this project are to educate, sensitise and provide a better understanding about the operations and potential benefits that a commodity exchange and WRS can bring to the markets as well as to those who are directly involved. In order to obtain acceptance, it is crucial that people fully understand the potential benefits they can bring to the market. This will be no easy feat in a country the size of Tanzania and it therefore suggested that training and sensitisation activities be targeted at specific groups such as well performing farmer groups, banks looking to increase exposure and secure a large share of the market, traders who are progressive in their approach, and processors who are looking to use warehouse receipts to enhance their purchases. In other words, those who demonstrate that they are willing to experience a new initiative.
Component Activities

The proposed project comprises following activities: -

i. Creation of awareness of the availability of the commodity exchange and WRS;

ii. Awareness campaigns, educational programmes and training courses to engender a better understanding of the operations and potential benefits of commodity exchanges and WRS; and

iii. Stakeholder engagement to promote the use of commodity exchanges and WRS.

Organisation and Management

There will be need for a number of organisations to be involved in the organisation and management of this project, including the Ministry of Industry and Trade, TMX, CMSA, WRRB and RUDI. It is proposed that a task force comprising representatives from all these organisations be established, with a chairman elected from the membership, to drive this project forward.

Scale and Cost

The investment required for this project is estimated to be USD 5 million over three years. The primary focus is to concentrate activities on selected groups which have shown initiative, innovation and a willingness to try new initiatives, rather than embarking on a country wide exercise. It is important that the agricultural sector understands the basis for and exchange and the operations of a WRS as soon as possible to provide impetus to these initiatives.

There will be need for a programme to be drawn up of the type of activity to be conducted, as well as a list of potential beneficiaries who are best placed to help drive these activities forward.

Benefits and Beneficiaries

The benefits are potentially enormous as a fully functional exchange and a robust WRS can bring much more liquidity to the market, enhance contract performance, identify new and previously untapped markets and provide important market information. Farmers will be able to sell to best advantage, either in the spot market or through the use of warehouse receipts, buyers can be assured of the quantity and quality of the commodity they are purchasing and consumers will benefit from a higher quality of goods used in processing of foodstuffs.

There is much to be gained if and when Tanzania has an operational exchange and WRS, provided volumes traded across the exchange floor and deposited onto warehouse receipts allow the organisations concerned to be self-sustainable.


Training to support takeup of commodity exchange and WRS services in specific value chains is aligned with AMASS Product (14): Fund for Taking Equity in New Contract Development (TEND-F). The project seeks to build participation and volume to make products tradeable and financeable for target value chains on comex and WRS based on support for the range of expenditures usually incurred during the product development and management processes at comex and WRS.
## 5. Project Risks and Mitigation Actions

<table>
<thead>
<tr>
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<th>Rating of risk (after mitigation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating sufficient penetration of training in a country as large, diverse and fragmented as Tanzania</td>
<td>M</td>
<td>Technical assistance for government ministries, TMX, CMSA, RUDI and WRRB through additional resources</td>
<td>L-M</td>
</tr>
<tr>
<td>Ensuring that training leads to takeup of comex and WRS services</td>
<td>M</td>
<td>Effective design and format of materials, and careful consideration for appropriate delivery mechanisms through channels and modes that are meaningful to target sectors</td>
<td>L-M</td>
</tr>
</tbody>
</table>

Note: L = low; M = medium; H = high.
4. Nigeria Investments

Project (6) Market Infrastructure for Access to Markets

1. Identified Problems

Agricultural production and trading in Nigeria contributes approximately 24% to GDP and employs over 60% of the working population. With a population of about 175 Million, Nigeria’s demand for grains alone is in the order of 26.25 Million per annum, indicating a strong potential for developing structured markets. Some of the identified constraints to the development of the industry obtained during a survey conducted as part of the study pointed out the following:

- Farming takes place mostly on small farms, with rain-fed systems;
- There is inefficient and high costs of supply of inputs;
- Inefficient procurement and distribution of fertilizers;
- Purchasing of produce is done mostly by merchant aggregators, who normally finance under structured and unstructured pre-harvest finance schemes;
- High post-harvest losses and waste;
- There is no standard system of quality adopted by end-users and industry, therefore trade is normally done by “sight seen” verification of quality and quantities creating high transaction costs;
- High inter-seasonal price volatility for food crops;
- Hardly any commercial plantations deliver the required quantities of commodities to a comex for local processing;
- As a result of the structure of smallholder farming system, different varieties of each of the commodities are produced without any accompanying standards;
- Poor access to markets due to poor rural roads.

Issues were identified relating to the agricultural value chain: production – harvest – post harvest management – storage – value addition (cleaning, bagging, transportation etc.) – market access – consumption, which need to be fixed to obtain a robust value chain. Some of the identified critical aspects for development, including:

- Infrastructure: storage, including cold chain network, rural roads to facilitate market access;
- Education: agronomy (Good Agricultural Practices), farmer technological inclusion, extension services;
- Quality standardization;
- Improved access to inputs;
- Irrigation infrastructure;
- Access to finance in particular for smallholder farmers;
- Insurance: increased development and use of agricultural insurance products.

According to the respondents, what is needed to effectively develop agriculture is considerable capital investment in infrastructure – storage locations, aggregation centres and equipment sited strategically to be easily assessable by the beneficiaries and farmers. The absence of the adequacy of the above, amongst several other secondary issues, has resulted in lower yields and higher post-harvest losses and lower returns to producer.

Efficiency of access to markets for smallholder farmers to obtain the necessary incentives for growth has been hampered by the existing chain structure.

WRS and comex seek to structure the market, generate price discovery, and promote transparency and incentives for expansion and modernization to optimize returns to the producers. Nigeria’s commodity market has been without much formal structure for many years, with actual recorded structured and taxable trade being less than 30% of over 25 Million metric tons.
Developing a successful WRS and comex in Nigeria would require the following:

- Large number of market participants, buyers and sellers;
- A focussed strategy to grow and convert the informal structure to a transparent one; obtained by incentive/profit-driven private sector participants and supported by developmental partners, with ease of operations provided by government;
- Robust storage infrastructure available to manage a minimum volume of 500,000Mt of commodities;
- Reliable and enforced rules and regulations for standards, receipting and delivery;
- Clearing and settlement system and fund to settle all trades at Transaction date + 1;
- Information system to gather data and disseminate data;
- Improved transportation and logistics efficiency, e.g. identify specialized logistic companies to provide services under contract;
- Capacity building of the participants through trainings, workshops and certification;
- Trading systems to manage parallel and simultaneously running markets.

Poor rural roads hamper the delivery of produce from rural markets into the formal marketing chains. Nigeria’s road network is estimated at 197,000 km, with only about 18% of it paved. The network carries 90 percent or more of the internal and cross-border freight of the country. Even though about 47 percent of rural inhabitants live within two kilometres of an all-season road, access to rural markets presents inefficiency in the system, especially for bulk commodities like cocoa, cashew and rubber. Requests were made by some respondents for improved feeder roads for access to the rural markets their merchant aggregators and/or clients to source commodities.

2. Rationale

Infrastructure: The respondents to the survey conducted during the study identified requirements for improving and/or expanding infrastructure to position stakeholders to enjoy economies of scale and efficiency gains through market access via WRS and Comex. The requirements included:

- Installation or expansion of physical operational capacities, including cleaning and drying equipment for quality improvement to meet trading standards;
- Investment in soft systems to improve market access efficiencies:
  - Electronic trading platforms: for efficient matching of contracts and execution of trades, as well as networking with global markets for price discovery for export cash crops;
  - Mobile app and short codes for small farmer access to the trading platform: to provide smallholder farmers with access to high value contracts;
  - Small farmer capacity-building program on post-harvest handling: to improve overall quality of commodities and reduce post-harvest losses, and grow smallholder incomes;
  - WRS Issuance and Management Development: for efficiency management and security of stock for trading;
  - Auction Price Intelligence Training Program: capacity building of staff.
- Loans and lines of credit for last mile assistance:
  - Clearing and Settlement Capitalization Fund to provide liquidity to guarantee trades on the platforms;
  - Working capital loans to assist in the operations until break-even;
  - Support in meeting regulatory licensing requirements;
  - Establishing cooperative elevator systems, by incorporating market structures in Northern Nigeria.
Storage Capacity: Even though the Federal and State Governments in Nigeria have sunk large sums of investment in the development of storage capacities managed under the Federal Grains Reserve, the capacity utilization has been less than 10 – 15% of the installed 1.3 million tons. However, WRS can only be a useful tool if it enjoys the highest level of trust among depositors and financiers. A WRS based on large government-owned silos and warehouses, even when leased to private players, raises concern about independence and credibility, and is likely to drive away depositors and financiers. Most of the value chain players also stated that these capacities do not suit their operational needs as they are poorly located. The expressed requirement was estimated at 426,000 MT. Akure Commodities Exchange, a just-launched system to purchase and trade cocoa, cashew, and shea on a trading platform has requested a storage capacity of 210,000 MT in the main cocoa producing states.

Requests were expressed for expansion of silo and warehouse capacities and new modern storage facilities, fully equipped with laboratories and testing equipment by:

- Members of the Poultry Association of Nigeria involving 95,000 MT additional capacities. This against the backdrop of a thriving poultry industry of about 75 million birds, requiring about 2.5 million tons of maize and 1.5 million tons of soya beans annually, which requires efficient and safe stock management.
- The newly-launched Akure Commodities Exchange requires extensive warehousing capacity of about 210,000 MT in Ondo State and other South Western states which produce about 80% of cocoa in Nigeria. The exchange is a Public-Private Partnership established to provide WRS for aggregation of export cash crops and trading of these on an electronic platform for export.
- The Heritage Bank required funding to support development of modern storage systems for clients involved in commodities aggregation and trading in Northern, South Eastern and South Western Nigeria, totaling 180,000 MT of capacity.

Logistics: There is a high interest in investments for transportation systems for efficiency in the farm gate to market channels. These involve large trucks for the movement of goods from farmgate to storage centres and to markets. A total of 57 trucks were requested by the recipients. The purpose is to:

- Improve rural aggregation to provide market access to farmers;
- Improve the easing of supplies for reaching and developing new supply potential;
- Improve the delivery system of grains in Nigeria towards efficiency to entrench bulk grains delivery and logistics systems in Nigeria;

and, for logistic management and inventory management systems to:

- improve logistics efficiency for increased access to markets and financing for farmers;
- improve stock count and tracking of stocks under WRS to improve access to finance and enhance the integrity of storage systems.

Value Chain Development: Structured market development in Nigeria to deal with some of the identified problems is likely to require a value chain approach. The poultry and feed-miller industries expressed strong concerns about supply chain problems, notably the following:

- inadequate upstream drying and storage capacity (silos and warehouses) – the trading networks tend to work hand-to-mouth without holding much stock, and this makes it hard to plan ahead and know the cost of the raw materials with which they must work;
- the variability of raw material prices during the year;
- difficulties in getting working capital loans for stocking; only landed property is eligible collateral, and funds often arrive late;
- there are irregularities in the quality of grain procured (including aflatoxin), resulting from lack of timely drying and cleaning in rural and poor storage practices; and
- some millers (particularly smaller operators) are often undiscriminating in terms of the quality of raw materials accepted due to the lack of laboratories for testing.
Most of the actors interviewed saw the need for a WRS operated by a self-regulated organization ahead of any public law for the system. The Poultry Association of Nigeria opted to lead the formation of a Nigerian Grains Council, with Ecobank, Stanbic, Guinness, etc., expressing interest in this development to integrate producer organizations into a formal market structure, to standardize and certify storage systems, to develop industry accepted grading standards adopted with the Standards Authority of Nigeria, develop market information and dissemination systems, and provide incentives for the financial sector to develop WR-backed products to adequately and efficiently finance stocks of feed.

To support the development of the Nigeria Grains Council, there would be a need for a grant to support the formation, promotion for membership from the value chain, incorporation, provision of operational systems and budget for staffing, capacity building of staff and members in developing goals and plans to increase in the efficiency of the grains and pulses value chain in Nigeria.

Plantation & Value Chain Financing: One of the leading players in agriculture financing and in developing WRS in Nigeria, Stanbic, has expressed interest in financing the development of commercial plantations to deliver large quantities of commodities e.g., maize and soyabeans to be stored under WRS for local processors to participate in their trade on the various comexes under development, thus driving investments in required varieties and quality for reliable delivery. This would involve creation of specialized plantation financing schemes to support commercial farmers. The scheme is to be supported by seedlings, extension services, etc. The harvests from the commercial plantation schemes will only be sold on comexes, thereby giving the exchanges guaranteed volumes, and thereby depend less on smallholder farmers for viability. Gradually the schemes would be expected to be popular and attract more organizations/farmers cooperatives to participate. It proposes to initiate the scheme with value chain financing of selected chains: oil palm, cashew, poultry, and horticulture. The Bank can also provide support in developing the commercial plantation schemes for specific short tenor crops e.g. soya beans, maize, millet, sorghum which are in high demand locally.

Initial requested investments are targeted at:
- Cashew value chain to bring efficiency and increase volumes for receipting and trading for export markets;
- Oil Palm value chain (quality seedlings and other inputs) to supply for bio-fuel for the generation of power and other derivative products. There is high demand over the current supply for both local market and for processing of the various products derived from the extraction; e.g., expansion/integration into the production of candles etc.
- Poultry Value Chain: the establishment of formidable GPX breeder farms and egg powder processing industry across the 6 geopolitical zones, to improve on the availability and quality of the DOCs adopted by the farmers
- Vegetables and horticultural plants: the erection of specialized cold chain and packaging materials for the value chain to reduce the large-scale losses generated due to lack of quality preservation.

The Poultry Association of Nigeria also proposes installing pre-cleaners at five grain-producing areas in Northern Nigeria to support the establishment of clean grain culture at farm levels prior to processing and marketing.

Regulatory Development: There are various on-going regulatory reforms in Nigeria to support the development of the agricultural markets that need further support to achieve their objectives:
- There is no public law regulating WRS in Nigeria. All WRs activities are unregulated and are managed under contract laws. The Securities & Exchange Commission and the Central Bank of Nigeria are promoting a bill for WRs. Support is required for:
  » Capacity building of the SEC
  » Sensitization of the participation institutions.
- There is no explicit law for commodities exchanges, but licenses are issued by the Securities & Exchange Commission under its statutory mandate, Investment and Securities Act of 1999, amended by Section 315 of the Investment and Securities Act 25. There would be a need for a definite Commodities Exchange Law to define in detail holistic regulations for licensing and for the operations of a commodities exchange in accordance with global best practices. Support to the SEC and the Select Committee on Trade is required for:
  » Capacity-building
  » Institutional visits for sensitization.
The existing licensed exchanges operate under their self-regulated rules and regulations approved by the SEC. Support is required to harmonize the SRO rules and regulations into a unitary public law. At the moment, WRs issued in Nigeria are non-negotiable instruments and confer title only to the named person on the receipt, or to its transferee as authorized by the issuer: e.g., AFEX, Akure, or by collateral managers. This limits the efficacy of the receipts for access to finance and markets.

The development of universal standards for grading and trading of agricultural commodities is a critical issue in the development of WRS and Commess in Nigeria. At the moment, each “exchange” has developed its own trading standards with its value chain and created contracts based on these. There is a Regulatory Committee of the Parliament working with the Standards Authority of Nigeria and the actors in the industry to develop: certification of standards, certification of Warehouse Operators, and defining the role of Collateral Managers.

There is a need for national standards for grains, pulses and root crops traded within Nigeria to enable an effective WRS with volumes that are adopted by industry and end-users, providing the necessary returns incentives to drive robust exchanges. There is also a need for regional standards harmonization, particularly for grains, that move from one market to the other via non-normal routes and systems, to formalize these trades and bring these under regional WRS to facilitate sight unseen regional trading via exchanges.

Regional financial institutions need their capacities to be built in structuring deals across borders based on WR financing, risk management and hedging on derivatives markets.

All the above require support in terms of capacity building, training, sensitization, etc.

Feeder Roads to Rural Markets: Akure Comex and HBN have requested funding for development of feeder roads via MARD for access to rural farmers by their aggregators and clients. The inaccessibility affects the delivery of such commodities and increase costs making the industry globally uncompetitive, not mentioning post-harvest losses of perishable commodities.

3. Investment Proposal

Objectives

The overall goal of the proposed investment package is to promote efficiency in the value chain that can deliver access to markets, especially for smallholder farmers, and contribute to food security and poverty reduction through standards, WRS and Comex development in Nigeria. The specific objective is to develop systems that can modernize agricultural marketing channels and efficiency of delivery by investing in market access infrastructure, including storage capacity, logistics, value chain development, etc.

Project Component Activities

The proposed project comprises the following component activities:

1. Promoting last-mile efforts in the development of WRS products and Comex in Nigeria, including the development and promotion of the use of standards in trade practices;
2. Rehabilitation and construction of modern storage facilities with equipment and testing facilities needed to meet certification requirements of WRS and Comex, together with requisite logistics support;
3. Supporting the development and financing of value chain systems, including self-regulated WRS ahead of a public law for same; and
4. Providing support for regulatory development and reforms to support WRS, standards and Comex development in Nigeria, including capacity building to the entire value chain on the systems, new technologies, financing and aggregation, standards, regulatory issues and global best practices for trading.
5. Support to funding rehabilitation/construction of identified rural feeder roads for access to markets, involving detailed assessment of the identified feeder roads and the rehabilitation and/or construction of the roads with project implementation support to the Ministry of Agriculture and Rural Development.
Organisation and Management

The institutional beneficiaries in the proposed investments are well established, either as self-regulated organizations (PAN), a public-private partnership organization (NGC) or private companies licensed by the Central Bank (HBN and Stanbic), or licensed by the SEC (AFEX, Akure).

It is proposed that the Private Sector Unit of the Bank manage the facilities provided for the market access infrastructure and related investments with an oversight/steering committee provided by the Ministry of Finance. The responsibilities of the steering committee will include provision of policy guidance and approval of investment work plans and budgets, quarterly progress reports, and audit reports.

The rehabilitation/construction of the identified rural feeder roads will be under the steering management of the Ministry of Agriculture and Rural Development.

Procurement under the project will be carried out in accordance with the AfDB’s Rules and Procedures for Procurement of Goods, Works and Related Services and Rules and Procedures for the Use of Consultants. The implementing institutions will be required to use accounting systems that conforms to international standards. Project accounts and financial statements must be audited annually by qualified and independent external auditors recruited by the implementing institution and acceptable to the Steering/Oversight Committee and the PSU of AfDB.

Scale, Cost and Timeframe

The total cost of the proposed investments in market infrastructure development in Nigeria, including physical and price contingencies, is estimated at about USD 1,087.7 Mn over five years. Individual project component costs as follows (see Investment Template attached for further information):

- US$ 23.95 Mn for the promotion of last-mile efforts in the development of WRS products and Comex in Nigeria, including the use of standards in trade practices;
- US$ 454.14 Mn for the rehabilitation and construction of modern storage facilities with equipment and testing facilities needed to meet certification requirements of WRS and Comex delivery sites, together with requisite logistics support;
- US$ 492.57 Mn for supporting the development and financing of value chain systems, including self-regulated WRS;
- US$ 11.00 Mn for providing support for regulatory development and reforms to support WRS, standards and Comex development in Nigeria, including capacity building to the entire value chain capacity; and
- US$ 176 Mn for rehabilitation/construction of feeder roads for access to 63 rural markets under the management of MARD.

Proposed Project Structures

(A) Provide funds for investment in last-mile efforts in the development of WRS products and Comex in Nigeria:

It is proposed that AfDB sets up a Liquidity Fund for qualifying beneficiaries under the intervention program with concessionary terms that enable drawdown, for qualifying activities like, clearing and settlement operations, for a fixed period, not exceeding 5 years. The liquidity fund drawdown could be convertible to equity at the end of the tenor, if terms and conditions are acceptable to both parties.

It is further proposed that lines of credit for qualifying projects should be made available to selected banks to on-lend to beneficiaries, for a fixed period not exceeding 5 years, after credit review by the selected banks and guarantees from the beneficiary institutions. These lines should be provided with concessionary terms that will provide additionality for drawdowns. However, the debt to equity ratio must not exceed 70:30.
Afex specifically requires investments in:
- Smallholder farmer capacity building program on post-harvest handling: Grant from West Africa Food Markets Program (SO:SO);
- Clearing/Settlement Capitalization Fund: Liquidity Fund from AfDB;
- Electronic Trading Platform: AfDB LOC via Banks in Nigeria;
- Capacity building of stakeholders: Grant from ITC/WAFMP;
- Mobile apps: Grant from WAFMP;
- Working Capital Funds: AfDB LOC via Banks in Nigeria;
- Capacity building of value chain: Grant from AGRA/AfDB.

PAN: members specifically require investments in:
- Drying of grains, pre-cleaning and processing of foods (Northcent Foods) AfDB LOC via Banks in Nigeria;
- Developing Community Grains Storage System: Grant from AfDB/AGRA;
- Capacity building of value chain: Grant from AGRA/AfDB.

Akure Comex specifically requires investments in:
- Electronic Trading Platform: AfDB LOC via Banks in Nigeria;
- WRS CDS: AfDB LOC via Banks in Nigeria;
- Smallholder capacity building: Grant from AGRA/AfDB;
- SEC Licensing: Equity funds of shareholders
- Training in Auction Pricing Intelligence: Grant from ITC
- Capacity building of value chain: Grant from AGRA/AfDB.

Dala Foods specifically requires investments in:
- Cleaning machines: LOC via Banks in Nigeria

(B) Provide funds for investment in the development and expansion storage capacity and logistic systems in the development of WRS products and Comex in Nigeria

It is proposed that lines of credit for qualifying projects should be made available to selected banks to on-lend to beneficiaries, for a fixed period not exceeding 5 years for equipment and 10 years for storage systems, after credit review by the selected banks and guarantees from the beneficiary institutions. These lines should be provided with concessionary terms that will provide additionality for drawdowns. However, the debt to equity ratio must not exceed 7:30.

PAN:
- Silo and warehouse systems for members: AfDB LOC via Banks in Nigeria, with each borrowing member as the counterparty, with counter-guarantees from PAN

Akure:
- Warehouse systems, 20 X 30 MT Trucks, Logistics Management System and Inventory Management System for aggregating and trading of export cash crop: AfDB LOC via Banks in Nigeria, with Akure as the counterparty, with counter-guarantees from the Ondo State

HBN:
- Warehousing facility for clients, 20 X 30 MT Trucks, Logistics Management System and Inventory Management System: AfDB LOC via HBC, with each borrowing client as the counterparty, with credit risk on HBN

Dala Foods:
- 5 x 30 MT Trucks: AfDB LOC via Banks in Nigeria, with Dala Foods as the counterparty.
Afex:
- 30 x 20 MT Trucks: AfDB LOC via Banks in Nigeria, with Afex Foods as the counterparty.

PAN:
- 10 x 30 MT bulk delivery Trucks: AfDB LOC via Banks in Nigeria, with PAN as the counterparty.

(C) Provide funds to Supporting the development and financing of value chain systems, including self-regulated WRS

It is proposed that AfDB sets up a Liquidity Fund with Stanbic for qualifying beneficiaries under the intervention program with concessional terms that enable drawdown, for qualifying activities like value chain development, for a fixed period, not exceeding 10 years. The liquidity fund drawdown could be convertible to equity in the beneficiary institutions at the end of the tenor, if terms and conditions are acceptable to both parties.

It is also proposed that lines of credit for qualifying projects should be made available to selected banks to on-lend to PAN for the purpose of investment in its value chain development, for a fixed period not exceeding 5 years, after credit review by the selected banks and guarantees from PAN. These lines should be provided with concessionary terms that will provide additionality for drawdowns. However, the debt to equity ratio must not exceed 70:30.

PAN:
- Installation of pre-cleaners at 5 grains producing areas in the Northern Nigeria: AfDB LOC via Banks in Nigeria, with PAN as the counterparty.

Stanbic:
- Various Value Chain development investment - liquidity Fund from AfDB to develop identified value chains.

(D) Provide support for regulatory development and reforms to support WRS, standards and Comex development in Nigeria

- Development of Nigeria Grains Council: Grant from AfDF/USAID/AGRA;
- Regulatory Development & Reform: Support Grants from AfDF, ITC & UNECA.

(E) Support to funding rehabilitation/construction of identified rural feeder roads for access to markets

- MARD/Akure/HBN identified Rural Feeder Roads – funding via MARD for rehabilitation/construction of roads: Lending from AfDB as a sovereign debt to the Federal Government.

(F) Other Overarching Investments

It is also proposed that the Bank considers investments in the following instruments for the benefit of the Nigerian ecosystem:
- Invest in the capitalization of the NIRSAL to improve on its balance sheet size and therefore enable it to undertake the provision of credit risk enhancement instruments for “big-ticket” deals as well as the “crowd-in” smallholder agricultural enterprises for support.
- Invest in Equity Funds which will focus on investment in the agricultural as well as agribusinesses and in particular the Comexes and trading platforms for agricultural commodities
- Invest in a regional derivatives system where commodity-backed instruments and spot contracts can be hedged and the underlying offered to global markets for efficient price discovery.
Benefits and Beneficiaries

The direct beneficiaries of the investments will be:

- Smallholder farmers, especially, women who dominate the production of grains and pulses;
- Aggregators, transporters and non-producer intermediaries, in the breadbasket regions, reducing their
  post-harvest losses, increasing household income and providing market information needed to plan
  their planting and expansion of farms based on price discovery, access to markets and ability to ride
  price curves for premium markets.

This is made possible with the proposed expansion of investments in market infrastructure of key institutions,
such as the Poultry Association of Nigeria, providing resources for key value chains development and financing
to explore opportunities in large plantation production and efficiencies, as well as, the development of a
stakeholder-based self-regulated WRS. The expansion and development of modern storage facilities in
producing centres, and provision of requisite logistics, will enable the reduction in post-harvest losses and
waste, while facilitating the aggregation of commodities into the storage facilities for WRS management and
feed into the emerging exchanges.

The development and reform of the regulatory framework for WRS and Comex will provide the promoters
of such institutions to extend their systems from self-regulated, stand-alone and limited reach into universal
systems regulated under public law, which can then take advantage of scale by leveraging their pilot operations’
experience.

It is anticipated that the proposed Nigeria Grains Council will comprise the major producer organisations of
grains and pulses, incorporating smallholder farmers, a system whose viability has been demonstrated by the
intermediation of Afex with targeted smallholder farmers, spread over the entire breadth of the country, and
especially in the breadbasket regions with high incidence of poverty and under-development. It should target
development of women producers, which comprise majority in the production of agriculture in Nigeria, to
increase their yield, minimize their post-harvest losses and provide access to markets through the systems
financed under the proposed investments.

With the proposed investments leading to efficiencies in the value chains, the rural areas are likely to be
transformed with market information and price discovery that would enable producers to respond positively
to market signals to modernize agriculture and slowly introduce wealth creation, especially to the rural youth.

4. Congruence with proposed amass strategy as a sub-strategy of
the bank’s ‘feed africa’ agriculture strategy 2016-2025

The proposed projects, to provide capital investment into storage and logistics infrastructure, are in consonance
with frameworks defined in the Bank’s agriculture strategy and also through the Bank’s Infrastructure Department,
and in its capacity as the executing agency for the Program for Infrastructure Development in Africa (PIDA). They
are in line with proposed AMASS products:

- Product (5): Market Access-Oriented Commercial Warehousing Investments
- Product (6): Market Access-Oriented Rural Warehousing and Rural Service Hub Investments
- Product (7): Market Access-Oriented Logistics Efficiency and Enhancement Program

In all three of these products, funding is targeted towards entities controlling infrastructure – warehouse and
logistics operators – which, if integrated into or structured around comex and WRS, could make a significant
addition thereto in terms of market liquidity and thereby create the conditions in which price discovery can
best emerge.
They are also in line with:

- Product (8): Bank Market Enhancement (BME) Program

The investments are intended to provide resources enabling commercial banks and other financial institutions to sustainably participate in comex in various capacities: as WR financiers, as settlement agents, as clearing and custodian institutions, as brokers, as investors, as providers of guarantees and other collateral credit enhancement and risk mitigation instruments, with funding lines to support WR financing, margin financing, clearing capital and guarantees, and other comex-directed activities.

All the above products have related capacity building components. However, beyond these, the project also makes provision for:

- Product (12): Capacity-Building on Adoption of International Best Practices

The investments envisage capacity-building programs to identify, diffuse and capacitate the public regulatory authorities: the SEC, SAN, the Ministry of Finance, Parliamentary Select Committees, the SROs like the NGC, PAN, etc to promote understanding and adherence to international standards, enabling bank and other financial institutions’ participation in the Comex and WRS, including to support and (co-)finance innovations to integrate commodity assets and financial markets and increase market liquidity.

- Product (13): Commodity Market Infrastructure Investment Fund (MII-F)

Relevant investments include the capital investments to support the development of technologies and capabilities by WRS operators and participants; and working capital to cover the costs and overheads of operating the platform. The Nigerian Government’s Agricultural Transformation Agenda (ATA) attests to the level of priority attached to agriculture and agribusiness development.
## 5. Project risks and mitigation actions

Fortunately, the project and its management are expected to face very limited risks due to the fact that the implementing agencies are mostly private sector, SROs and PPPs; Government intervention is limited to the rehabilitation/construction of rural feeder roads, in the implementation. The table below presents these risks, their level of probability, possible mitigation measures and rates of risk following mitigation.

<table>
<thead>
<tr>
<th>Risk description</th>
<th>Rating of risk</th>
<th>Mitigation measures</th>
<th>Rating of risk (after mitigation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political stability and security in intervention regions that may affect successful implantation of project</td>
<td>L-M</td>
<td>Strengthen rural economy; promote employment creation; advocate and support changes that deter marginalization of groups</td>
<td>L</td>
</tr>
<tr>
<td>Government policy</td>
<td>M</td>
<td>Establish a Steering Committee chaired by the Ministry of Finance, with participation of MARD and Ministry of Trade, Industry &amp; Investments but with strong participation by the Private Sector Associations to attenuate negative policies</td>
<td>L</td>
</tr>
<tr>
<td>Value chain coordination risks leading to mismatch and inefficiencies of delivery of outputs to support expected performance of the project</td>
<td>M</td>
<td>Require that the beneficiary institutions form an implementation coordinating body to smooth out the implementation roll out to obtain expected outcomes</td>
<td>L</td>
</tr>
<tr>
<td>Political interference; mismanagement of project assets and deviations in use of funds;</td>
<td>L-M</td>
<td>Require that procurement conforms with the Public Procurement laws, where applicable, and enforce adherence to the Bank’s procurement procedures and regulations; provide training; ensure regular supervision and M&amp;E; promote stakeholder sensitization &amp; awareness to encourage transparency</td>
<td>L</td>
</tr>
<tr>
<td>Climate change and pest attacks affecting production of surplus to feed the upstream of the value chain</td>
<td>L-M</td>
<td>Include the Ministry of Food &amp; Agriculture and the National Conservation Foundation to provide advice on policy for adaptation, including capacity building of farmers in awareness of climate issues.</td>
<td>L</td>
</tr>
</tbody>
</table>

Note: S = Small, M = Medium, L = Large.
5. GHANA INVESTMENTS

PROJECT (7) MARKET ACCESS PROMOTION INVESTMENT PACKAGE

1. Identified problems

Agricultural production and trading in Ghana contributes approximately 20% of the GDP, being the largest contributor, and employs over 50% of the working population. Inefficiencies in Ghanaian agricultural commodities markets exist in food crop production, financing and market systems, due to the following factors:

- Crop production is small-holder based, rain-fed, low productivity, with limited technology input;
- High post-harvest losses of between 20% to 30% of production;
- Trade is by “sight seen” verification of quality and quantities, together with other inefficiencies in the marketing chain, lead to high transaction costs;
- Most trade in grains and other feedstock is not done via standard grades, and therefore there is hardly quality price differentiation;
- In the absence of efficient WRS for managing surpluses, there is resultant high inter-seasonal price volatility for food crops;
- There is inefficient and ineffective aggregation of the tradeable commodities due to systemic constraints;
- There is systematic high market risk of future price shocks and lack of storage incentives
- Formal financial sector intermediation in the value chain is less than 5% of total loan assets;
- There is no or limited integration of the markets with industrial production: the major processors of consumer products do undertake massive importation of inputs to meet global-set quality and brand standards, optimal operational requirements, transparent pricing, etc.

Various constraints need to be addressed in the Ghanaian context to promote market access through comex and WRS:

a. Access to Finance for Agriculture Production

Several factors have been cited by industry players to explain why banks have shied away from scaling up lending to the agriculture sector in the country. Of these, three major reasons stand out:

i. High levels of risk perception and inadequate risk management systems;
ii. Highly prevalent perception that, even though the sector is considered as of strategic importance, it has received less than the required attention by the government. It is perceived to have easier import substitution solutions;
iii. Limited reach of the banks and high banking service delivery costs.

To provide solutions to these problems, the Bank of Ghana (BOG), the Ministry of Food and Agriculture and AGRA have collaborated, designed, launched and in the process of implementing the Ghana Incentive-Based Risk-Sharing System for Agricultural Lending (GIRSAL) to de-risk the banks’ intervention in agricultural lending. The objective is to attract formal financial institutions lending to the agricultural value chain to increase productivity and production of commodities.

b. Systematic Problems of WRS in Ghana

- Inadequate production to provide the necessary surplus to feed into WRS due to inefficient farm practices, is further threatened by climate change and pest attacks;
- Storage capacity to store large stocks of commodities is limited both in the rural production communities and for the certified warehouses required for effective WRS;
- The smallholder farming system requires large intermediation for aggregation activities, which requires efficient and effective financing through a regulated WRS;
- Financial intermediation of, especially staple crops (which by the way, are the central product pillars for the emerging exchange), is very low;
- The systemic interest rates are rather high, serving as a disincentive for aggregation and market efficiency.
c. Constraints of WR Financing in Ghana

- Access to finance by the agricultural sector is extremely limited: despite the sector’s role in contributing about 20% of GDP in Ghana, it received only 3.4% of total bank lending to the economy in 2015;
- Licensed banks are not allowed to hold pledged commodities’ as assets on their balance sheets; reducing risk rating of the WR asset class for funding;
- Financing of commodities under WR has required over-collateralization with fixed or liquid assets, which most SME aggregators are unable to provide;
- Banks only trade instruments that are liquid or near liquid, pledged WR financing is poorly rated and subject to portfolio limits;
- Prudential requirements of the universal banks with limited net-worth restrict funding on stand-alone basis;
- No universality of asset class for WR financing, so syndication is near impossible;
- Absence of standardization of this asset class in the money market, the transfer of the asset is limited, affecting portfolio liquidity; and
- Systemic high costs of interest lead to high carrying costs for commodities under WR, limiting the efficacy of WRS instruments in supporting an efficient commodities exchange, even with the expected increased production from the GIRSAL Initiative.

d. Systematic Constraints of Access to Markets

- Gao traders and the “market mammies” in Ghana have dominated the flow of produce from farmgate to market. These traditional traders would travel to the markets in the production belts, buy sacks of crops, without any certification of foreign materials content, moisture content, discoloration, etc., with as much as their working capital would allow, and in accordance with the availability of transport, then move the stocks to the urban markets, mostly for household consumption.
- The inefficiency in the links of the value chain is a contributor to the high postharvest losses and spatial price variability feeding into an already poor ecosystem.
- Industrial demand for processing of staples to respond to the changing consumer preferences in the grain sector, including the desire for more convenient foods such as milled maize, face problems of sourcing reliable supply of inputs with certified quality.
- To circumvent these problems some private companies have developed a value chain approach: supplying seeds, providing extension services, buying-back the produce at pre-production agreed prices, processing the produce (cleaning, grading, bagging, etc.), storing under WRS and delivering certified quality inputs for industrial processing, e.g. Wienco Ghana Ltd. Masara Narziki, the farm club of Wienco, comprising over 15,000 plus smallholder farmers, are able to achieve higher than average yields, lower postharvest losses, guaranteed prices and access to markets for their production by this system.
- With the infancy of WRS in Ghana, yet to provide the required reliability, global brand food processing companies like Unilever, Diageo, Nestle, etc., have difficulties sourcing commodity inputs from the host country and do import inputs in some cases, due to lack of assurance of qualities and minimum supply quantities required for planned production/processing throughput.
- The development of a commodity exchange to provide incentives for price discovery, financing and access to markets is hampered by the systemic constraints.

2. Rationale

The best approach in dealing with the systematic constraints for access to markets, especially for smallholder farmers, is to provide a value chain solution that integrate the actors in the chain to optimize their efficiency and smooth out the links between the chains. In Ghana, for the grains sector, the Ghana Grains Council (GGC) was formed in 2010 to:

i. lead the development of an improved grain warehouse system;
ii. provide advocacy for the grain system for constructive public-private dialogue; and
iii. facilitate the integration of smallholders into more competitive markets.
GGC has established a regulated warehouse receipt system under the law of contract, with GGC itself acting as certification and regulating agency. Rules and regulations for the warehouse receipt system have been developed and approved, and being used to manage the system. The GGC has, as of December 2013, been certifying warehouses and warehouse operators under its regulated WRS. It then proceeded with a pilot scheme certifying grains for access to credit. In 2015, it began to issue WRs for trading and access to markets. It has therefore established itself as the leading institution in promoting WRS in Ghana. GGC is the only functioning regulated WRS in the sub-region, with membership now in excess of 120, including the largest aggregators, farmer-based organizations, warehouse operators, processors, input suppliers, insurance companies, banks and non-bank financial institutions, etc. So far in this pilot, GGC has issued WRs covering 55,193 MT for white and yellow maize (about 9.4% of marketed surplus) supplied by thousands of smallholder farmers via their member producer organizations (POs).

In recognition of the capability of the GGC, the Ghana Commodities Exchange (GCX) entered into strategic alliance with the GGC to manage the exchange’s WRS, and to deliver a national WRS that can support the emerging exchange. However, to achieve this objective would require a systematic development of the Council’s market infrastructure, mostly systems for efficient management of the receipt system (which suffered a setback during the pilot phase due to lapses). Investment in systems that enable the efficient management of deposits in community warehouses (CBWs), then moved up (when there is a minimum truck-able quantities) to the certified warehouses, where the grains can be cleaned, dried, graded and bagged and certified for premium markets, would enhance the wealth creation potential of the smallholder farmers.

To be able to attract the smallholder farmers to deposit their grains into the CBWs and move them up through the WRS into premium markets, there is a need to provide financial incentives for them to do so. The CCH repo system and the commodity-backed warrants provide the systems for financing stocks at harvest period when prices are low, move the stocks into the WRS to ride the price curves and obtain access to premium markets, while integrating the entire system into the money markets for liquidity that can support volumes of aggregation of commodities for the exchange. There is a need to invest in the systems of the CCH to provide a reliable structure for delivery, financing and access to markets for agricultural commodities.

The GCX is a public-private initiative to develop a spot market for the trading of commodities, with initial focus on the grains sector. Significant investment has gone into developing the ecosystem and market structures, but the process has been stalled by the value chain inefficiencies which the private partners view as high risk barriers for further investment. Once the upstream systems, including adequate production of surplus, efficient aggregation, WRS and financing of stocks, etc. can guarantee the delivery system of the exchange, it is anticipated that the private partners can realize the value of the investment and proceed. It may require that the Bank fill in capacity gaps and promote confidence among stakeholders by making a strategic investment into the infrastructure of the exchange.

Storage capacity for agricultural commodities in Ghana is quite limited. The GGC has 54,600 MT of certified warehousing capacity, with the potential of extending this to 92,200 metric tons in 2017. It has approved 93 units of CBWs with total capacity of 2,560 MT, with potential of extending this under USAID ADVANCE project with additional 38 units of 4,440 metric tons. There are other project-funded capacities: NRGP (funded by the AFDB): 8,000 MT; GCAP (funded by the USAID/IFC): 9,900 MT and MCA/MDA (funded by USAID): 5,000 MT. The GCX projected a throughput of nearly one million tons of grains in 5 years of operations and had planned to have 7 Delivery Centres. The projected trading volume projections suggest a total warehouse capacity gap of 930,000 tons over 5 years for these sites. The GGC capacity gap to meet the aggregation throughput is estimated at 139,250 MT at 119 sites spread across the grain belts of Ghana.

For an effective linkage of CBWs into the WRS ecosystem, there is a need for systems that provide both remote warehouse inspection capability and remote surveillance and control of the stocks of commodities placed in community warehouses. This would enable the development of financing of deposits at those warehouses and provide incentives for such deposits, especially when there is assurance of additional payments from riding price curves with the WRS. The Goods Received Notes issued on the Central Depository System must obtain a high degree of trust for financial institutions to issue payments against such Notes. The GGC has stated the need for the installation of these systems in their ecosystem to attract grains to be deposited and moved up the formal market chain. The CCH requires the capability to visit deposit warehouses for random inspection of financed stocks to provide additional security of the repo system.
The objective of CCH’s Commodity-Backed Warrants (CBWs) product is to create a universal asset-class instrument that can be traded in the money market to obtain resources to fund the repos representing commodities under WRs. In order to provide incentives for the universal banks to purchase the CBWs onto their investment portfolio, it would be necessary to possess the capability to originate repos that are not funded by the same universal banks, but by an originating fund which will kick-start the monetization of the underlying commodities. There is therefore the need for a “seed fund” to originate the funding of the repos prior to their re-financing via the money markets and become self-sustaining over time. For the throughput of commodities to be funded over five years, there is a need for a fund size of about US$ 10 million.

The producer organizations, market participants, participating financial institutions, regulatory organizations, etc. would need to have to build up their capacities through seminars, workshops, training and visits to offshore systems and institutions operating successful WRs and commodities exchanges in Africa and elsewhere.

3. Investment proposal

Objectives

The overall goal of the proposed investment package is to promote value chain system efficiency that can increase access to markets and contribute to food security and poverty reduction, especially for smallholder farmers. The specific objective is to develop systems that can modernize agricultural marketing channels and efficiency of delivery by investing in market access infrastructure.

Project Component Activities

The proposed project comprises the following component activities:

1. Promoting last-mile efforts in the development of WRS products and Comex in Ghana, including promoting the use of standards in trade practices;
2. Rehabilitation and construction of modern storage facilities with equipment and testing facilities needed to meet certification requirements of WRS and Comex, together with requisite logistics support;
3. Supporting the introduction of innovative financial instruments enabling efficient aggregation of smallholder farmers’ production into the WRS and Comex ecosystem and provide liquidity by integrating the commodity assets into the money markets; and
4. Providing capacity building to the entire value chain on the systems, new technologies, financing and aggregation, standards, regulatory issues and global best practices.

Organisation and Management

The institutional beneficiaries in the proposed investments are well established, either as self-regulated organization (GGC), a public-private partnership organization (GCX) or a private company licensed by the Central Bank (CCH).

It is proposed that the Private Sector Unit of the Bank manage the facilities provided for the market access infrastructure with an oversight/steering committee provided by the Ministry of Trade and Industry. The responsibilities of the steering committee will include provision of policy guidance and approval of investment work plans and budgets, quarterly progress reports, and audit reports.

Procurement under the project will be carried out in accordance with the AfDB’s Rules and Procedures for Procurement of Goods, Works and Related Services and Rules and Procedures for the Use of Consultants. The implementing institutions will be required to use accounting systems that conforms to international standards. Project accounts and financial statements must be audited annually by qualified and independent external auditors recruited by the implementing institution and acceptable to the Steering/Oversight Committee and the PSU of AfDB.
Scale, Cost and Timeframe

The total cost of the proposed investments in market infrastructure development in Ghana, including physical and price contingencies, is estimated at about USD 58.71 Mn over four years. Individual project component costs as follows (see Investment Template attached for further information):

- US$ 12.66 Mn for the promotion of last-mile efforts in the development of WRS products and Comex in Ghana, including the use of standards in trade practices;
- US$ 30.54 Mn for the rehabilitation and construction of modern storage facilities with equipment and testing facilities needed to meet certification requirements of WRS and Comex delivery sites, together with requisite logistics support;
- US$ 13.75 Mn for supporting the introduction of innovative financial instruments enabling efficient aggregation of smallholder farmers’ production into the WRS and Comex ecosystem and provide liquidity by integrating the commodity assets into the money markets; and
- US$ 1.76 Mn for providing capacity building to the entire value chain and ecosystem on the developed systems, new technologies, financing and aggregation, standards, regulatory issues and global best practices.

Proposed Project Structures

(A) Provide funds for investment in the development of public warehousing capacity

GGC: requires expansion of aggregation warehousing capacity, including community-based and certified warehouses, from the current 54,000 by as much as 139,250 MT costed at US$ 20.76 Mn, to optimize aggregation of grains that form the target products of the GCX. The funding of this capacity is proposed to be spread:

- Community-based Warehouses: 15.62% Grant from AGRA (CWs with about 10% equity, 90% Grant, SS < 2 years);
- Intermediate Warehouses: 17.68% Grant from USAID (IWs with no less than 15% equity, up to 85% grant, SS < 3 years);
- Large Public Warehouses: 66.30% Loan Facility from AfDB.

It is proposed that lines of credit for qualifying projects should be made available to selected banks to on-lend to beneficiaries, for a fixed period not exceeding 5 years for equipment and 10 years for storage systems, after credit review by the selected banks and guarantees from the beneficiary institutions. These lines should be provided with concessionary terms that will provide additionality for drawdowns. However, the debt to equity ratio must not exceed 70:30.

GCX: Would require Delivery Centres to be fed with GGC’s throughput with total capacity of 70,000 MT, costed at US$ 7.00 Mn. The funding of this capacity is proposed to be spread between:

- SECO Grant for soft assets investment;
- AfDB Loan Facility.

It is proposed that lines of credit for qualifying projects should be made available to selected banks to on-lend to beneficiaries, for a fixed period not exceeding 5 years for equipment and 10 years for storage systems, after credit review by the selected banks and guarantees from the beneficiary institutions. These lines should be provided with concessionary terms that will provide additionality for drawdowns. However, the debt to equity ratio must not exceed 70:30.
(B) Provide funds for investment in last-mile efforts in the development of WRS products and Comex in Ghana

**GGC** requires investments in:
- Upgrading its CDS to eWRS with ability to initiate bid/auction trades within members before the GCX starts trading – grant from SECO;
- Remote Inspection and Control systems for CBWs – grant from SECO;
- Capacity building of stakeholders – grant from ITC.

**CCHFHL** requires investments in:
- Remote back-up systems for its operations – grant from SECO;
- Vehicles for Monitoring and Inspection of remote operations at CWs – grant from AGRA (with about 25% equity, 75% Grant, SS < 3 years);
- Capacity building of stakeholders – grant from ITC;
- Repo Origination Fund: LOC from AfDB;
- Warrant Investment Fund: LOC from AfDB.

It is proposed that AfDB sets up a Liquidity Fund for qualifying beneficiaries under the intervention program with concessionary terms that enable drawdown, for qualifying activities like, clearing and settlement operations, for a fixed period, not exceeding 5 years. The liquidity fund drawdown could be convertible to equity at the end of the tenor, if terms and conditions are acceptable to both parties.

**GCX** would require investments in:
- a turnkey electronic trading platform and ancillary operating systems for a spot exchange, costed at US$ 10.5 Mn to be funded by loan from AfDB and private equity;
- capacity-building of members, brokers, other stakeholders, costed at US$ 1.00 Mn and funded by a grant from ITC.

**Market Regulators:** SEC, Bank of Ghana, GGC staff, GSA require capacity building of the regulatory institutions on global best practices, estimated at US$ 250,000 and funded by a grant from ITC.

(C) Other Overarching Investments

The Bank is also requested to invest in the following instruments for the benefit of the Ghanaian ecosystem:
- Invest in the capitalization of the GIRSAL to improve on its balance sheet size and therefore enable it to undertake the provision of credit risk enhancement instruments for “big-ticket” deals as well as the “crowd-in” smallholder agricultural enterprises for support.
- Invest in Equity Funds which will focus on investment in the agricultural as well as agribusinesses and, in particular, the Comexes and trading platforms for agricultural commodilies.
- Invest in a regional derivatives system where commodity-backed instruments and spot contracts can be hedged and the underlying offered to global markets for efficient price discovery.

**Benefits and Beneficiaries**

The membership of the GGC includes the major producer organizations of grains and pulses in Ghana spread over the entire breadth of the country, and especially in the breadbasket regions above latitude 8 degrees with high incidence of poverty and under-development. The produce of these regions feed the commercial and industrial regions in the south, where they are traded or processed into industrial feeds and finished products. The investment in the storage capacities will enable the GGC to promote the development of public warehouses under its WRS and enhance the credibility of the system, which is currently dominated by self-issuing certified warehouse operators, with concomitant risk of abuse of third-party deposits and/or the sanctity of the receipts used to secure financing.
The direct beneficiaries of the investments will be:
- smallholder farmers, especially, women who dominate the production of grains and pulses;
- aggregators, transporters and non-producer intermediaries, in the breadbasket regions, reducing their post-harvest losses, increasing household income and providing market information needed to plan their planting and expansion of farms based on price discovery, access to markets and ability to ride price curves for premium markets.

This is made possible with availability of community warehouses for deposits, payments against GRN at close to farm-gate harvest prices, ability to swap produce with fertilizer and other inputs, produce moved to certified warehouses for cleaning, drying, grading, bagging and stored in certified warehouses for premium markets, with premium bonus paid against sales, arising from efficiencies provided by the market infrastructure investments. The introduction of technology, e.g. mobile telephony market data dissemination and payment systems will transform and modernize agriculture in the rural areas and slowly introduce wealth creation to the rural poor.

The monetization of warehouse receipts through the warrant-backed instruments will bring liquidity to the commodity asset class and reduce costs of intermediation for financing aggregation of stocks, providing incentives for modernization of agriculture and potentially moving it into a more commercial business. Trading on the exchange and dissemination of prices on mobile telephony will provide price discovery for the rural farmers, providing them with incentives to produce. The proposed investments have the potential to increase the purchasing power of smallholder farmers, serve as incentives to attract the youth into agriculture.

4. Congruence with proposed AMASS strategy as a sub-strategy of the bank’s ‘Feed Africa’ agriculture strategy 2016-2025

The proposed projects, to provide capital investment into storage and logistics infrastructure, are in consonance with frameworks defined in the Bank’s agriculture strategy and also through the Bank’s Infrastructure Department, and in its capacity as the executing agency for the Program for Infrastructure Development in Africa (PIDA). They are in line with proposed AMASS products:
- Product (5): Market Access-Oriented Commercial Warehousing Investments;
- Product (6): Market Access-Oriented Rural Warehousing and Rural Service Hub Investments

In all three of these products, funding is targeted towards entities controlling infrastructure – warehouse and logistics operators – which, if integrated into or structured around comex and WRS, could make a significant addition thereto in terms of market liquidity and thereby create the conditions in which price discovery can best emerge.

They are also in line with:

The investments are intended to provide resources enabling commercial banks and other financial institutions to sustainably participate in comex in various capacities: as WR financiers, as settlement agents, as clearing and custodian institutions, as brokers, as investors, as providers of guarantees and other collateral credit enhancement and risk mitigation instruments, with funding lines to support WR financing, margin financing, clearing capital and guarantees, and other comex-directed activities.

All the above products have related capacity building components. However, beyond these, the project also makes provision for:
- Product (12): Capacity-Building on Adoption of International Best Practices
The investments envisage capacity-building programs under the project to identify, diffuse and capacitate the public regulatory authorities, the GGC and the GCX as SROs and the Bank of Ghana, to promote understanding and adherence to international standards, enabling bank and other financial institutions’ participation in the Comex and WRS, including to support and (co-)finance innovations to integrate commodity assets and financial markets and increase market liquidity.

The Ghana Government’s current priority policies for agriculture and agribusiness development include the following:
- Planting for Food and Jobs;
- One Village-One Dam for the three northern regions, as well as
- One District-One-Factory.

are expected to lead to massive agricultural transformation. There is no doubt that the proposed project is in line with the said policies.

5. Project risks and mitigation actions

Fortunately, the project and its management are expected to face only limited risks due to the fact that the implementing agencies are mostly private sector, SROs and PPP, with little government interventions in their implementation. The table below presents these risks, their level of probability, possible mitigation measures and rates of risk following mitigation.

<table>
<thead>
<tr>
<th>Risk description</th>
<th>Rating of risk</th>
<th>Mitigation measures</th>
<th>Rating of risk (after mitigation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty in attracting well-trained and skilled personnel, especially for the roll-out of the innovative instruments and capacity building of the ecosystem</td>
<td>L-M</td>
<td>Recruitment of experienced staff and partners; including global experts for the capacity building; close supervision and monitoring; quality control and audits</td>
<td>L</td>
</tr>
<tr>
<td>Government policy</td>
<td>M</td>
<td>Establish a Steering Committee chaired by the Ministry of Trade &amp; Industry but with the participation of the Private Sector Foundation to attenuate negative policies</td>
<td>L</td>
</tr>
<tr>
<td>Value chain coordination risks leading to mismatch and inefficiencies of delivery of outputs to support expected performance of the project</td>
<td>M</td>
<td>Require that the beneficiary institutions form an implementation coordinating body to smooth out the implementation roll out to obtain expected outcomes</td>
<td>L</td>
</tr>
<tr>
<td>Political interference; mismanagement of project assets and deviations in use of funds;</td>
<td>L-M</td>
<td>Require that procurement conforms with the Public Procurement Act, where applicable, and enforce adherence to the Bank’s procurement procedures and regulations; provide training; ensure regular supervision and M&amp;E; foster stakeholder sensitization &amp; awareness; encourage transparency</td>
<td>L</td>
</tr>
<tr>
<td>Climate change and pest attacks affecting production of surplus to feed the upstream of the value chain</td>
<td>L-M</td>
<td>Include the Ministry of Food &amp; Agriculture and the Ministry of Environment, Science &amp; Technology on the Steering Committee to provide advice on the National Climate Change Adaptation Policy, including capacity building of farmers in awareness of climate issues.</td>
<td>L</td>
</tr>
</tbody>
</table>
6. COTE D’IVOIRE INVESTMENTS

PROJECT (8) EXPANSION AND REHABILITATION OF WAREHOUSING INFRASTRUCTURE

1. Identified problem/constraint

Since the reform of the cashew sector initiated in 2013, domestic production has increased from 560,000 MT in 2014 to 715,000 MT for the current campaign. In so doing, the Ivory Coast has become the world’s leading cashew exporter.

Several operational measures have been implemented since 2014 which have driven these results. The creation of a powerful regulatory agency for the industry, the Conseil Cotton Anacarde, has allowed for:

- the identification of the actors of the value chain via granting licenses for members;
- the introduction of standardized commercial documents;
- traceability instruments (e.g., book-keeping of purchases and transfer cards);
- systematic control of humidity at the export gate in the port by a certified agency;
- prohibition of product export through land borders and the establishment of an official document for cashew exports.

These measures have allowed for the respect of floor prices for farmers and proven their effectiveness in the traceability of commercialization.

The other challenge for the Ivorian authorities remains processing the cashew nuts to almonds, which have much higher value. The second International Salon of Equipment and Transformation Technologies of Cashew (SIETTA) was held in November 2016 with Ivorian leaders encouraging efforts to increase onshore cashew processing.

For the 2016 campaign, more than 40,000 MT of cashew nuts have been processed to almonds locally. The goal is to achieve more than 600,000 MTs of processed cashew. To this end, different fiscal measures have been implemented by the State to encourage investors to develop this activity of local processing.

A major problem facing local processors is their need for funding, in particular at the start of the campaign in order to procure sufficient stock to cover their industrial consumption needs throughout the year.

Bank financing is concentrated mainly on export/trade financing of raw nuts, and focuses on large multinational corporates – often the leading international traders. The backbone of local processors – national corporates and SMEs – face bottlenecks in accessing finance. Accordingly, for the current campaign, the Conseil Cotton Anacarde is directly financing the initial buffer stock for a dozen local processing plants.

The State has identified warehouse receipt financing as a major priority for unlocking greater access to finance for cashew processors. To this end, it has worked with the World Bank Group to establish a regulatory framework for a Warehouse Receipt System and set up a regulatory body, the Autorité de Régulation du Système de Récépissés d’Entreposage (ARRE). The State has also put in place a process to establish a commodity exchange to support a more efficient and inclusive marketing system. In order to be able to finance and exchange-trade warehouse receipts sustainably, the country must have sufficient quality and quantity of warehousing infrastructure across the producing and transformation areas.
2. Rationale

In the Programme to Support the Agricultural Sector in Ivory Coast (PSAC) and, particularly, in the cashew sector, a first step was to generate a clear mapping of the existing warehousing infrastructure across the country in order to introduce the national warehouse receipt mechanism, regulated under ARRE.

Bureau Veritas were contracted to conduct an exhaustive analysis to evaluate the existing storage capacity as well as the storage needs of the cashew sector going forward with particular concern to ensure the success of the warehouse receipt system. The main elements of the study are:

- An inventory of warehouses;
- The evaluation of the condition of the warehouse;
- The estimated work requirement and costs of warehouse rehabilitation;
- The estimate work requirement and costs of replacement;
- The selection of storage sites of the WRS;
- An estimate of the storage needs;
- The estimated investment to meet storage needs.

At the end of this mission, the results are as shown below:

- 1056 stores and warehouses have been inventoried.
- Most of the stores and warehouses inventoried had in common, recurring problems of hygiene, lack of ventilation, recovery of the screed, paving, sealing of the roof (metal tray or corrugated), (often nonexistent) washed out paint, treatment of cracks, connection to electrical, telephone and internet networks weak or non-existent.
- On the 333 stores whose surfaces are greater than or equal to 100 m², only 266 are selectable for the warehouse receipt mechanism under ARRE, and must first be rehabilitated under the above-identified failures. These selectable 266 stores have a storage capacity of 152 930 MT without rotation.
- To store the current productions and those of the years’ futures, the additional storage areas are estimated at 106 000 m² spread over the time horizon as follows
  » 2018: 42 400 m²;
  » 2019: 11 700 m²;
  » 2020: 11 900 m²;
  » 2021: 13 000 m²;
  » 2022: 13 500 m².

3. Investment Proposal

Objectives

The overall goal of the sectoral investment is to contribute to food security and poverty reduction. The specific objective is to foster agricultural commercialization by improving value addition and market access infrastructure.

Project Component Activities

The proposed project comprises the following component activities:

1. Rehabilitation of the existing warehouses with improved storage facilities and processing equipment;
2. Creation of new warehouses with a 5-year action plan.

For the rehabilitation of the existing warehouses, the overall costings are estimated to USD 7.7 million; and the cost of building additional warehouses is estimated to USD 56.6 million;
The total investment requirement – including the above components plus additional costs reflecting equipment and others – is estimated at USD 67.2 million.


Organisation and Management

The project is driven by the Government under the Projet d’Appui au Secteur Agricole (PSAC). A project structure to administer the investment is not yet finalised. It is likely that the funding would be structured as a lending facility to government, and then either deployed directly by government to fund the rehabilitation and construction through competitive tender, and/or invested into or alongside other stakeholders including private sector and farmer and community-based organisations. A provision for Technical Assistance equivalent to approx. 2% of capital investment – i.e. USD 1.35m - would be beneficial to build capacity to manage and maintain the warehouses.


The proposed projects, to provide capital investment into storage infrastructure, is in consonance with frameworks defined in the Bank’s agriculture strategy and also through the Bank’s Infrastructure Department, and in its capacity as the executing agency for the Program for Infrastructure Development in Africa (PIDA). They are in line with proposed AMASS products:
- Product (5): Market Access-Oriented Commercial Warehousing Investments
- Product (6): Market Access-Oriented Rural Warehousing and Rural Service Hub Investments
## 5. Project Risks and Mitigation Actions

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<tbody>
<tr>
<td>Difficulty in attracting well-trained and skilled personnel in the warehouses</td>
<td>M</td>
<td>Recruitment of experienced staff and partners; capacity building; close supervision and monitoring; quality control and audits</td>
<td>L</td>
</tr>
<tr>
<td>Limited capacity of attracting private sector for managing these warehouses</td>
<td>H-M</td>
<td>Projects can be handled under PPP, or even outsourcing of relevant services where possible and/or supporting agencies with technical assistance and/or equipment</td>
<td>L</td>
</tr>
<tr>
<td>High premiums charged by contractor firms</td>
<td>M-L</td>
<td>Utilisation of firms already working in Ivory Coast in warehousing</td>
<td>L</td>
</tr>
<tr>
<td>Very limited number of agricultural producers willing to bring their crops in the warehouses</td>
<td>H-M</td>
<td>Education and new mechanisms such as the warehouse receipt systems and the commodity exchange will attract farmers. Widespread and vigorous advertising of opportunities in the country and abroad in different media – radio, print, internet, etc</td>
<td>L</td>
</tr>
<tr>
<td>Political interference; mismanagement of project assets and deviations in use of funds, inequitable distribution of benefits</td>
<td>M-L</td>
<td>Ivory coast is leading in the region in terms of encouraging transparency, and already conducted efficient reforms of public financial management; already developed procurement and implementation procedures and regulations; provided training; ensured regular supervision and M&amp;E; foster stakeholder sensitisation &amp; awareness; encourage transparency</td>
<td>L</td>
</tr>
<tr>
<td>Stable socio-political and economic environment, including stable food prices and continuing commitment to land tenure security and other reforms</td>
<td>M-L</td>
<td>Strengthen rural economy; promote employment creation; promote production of food staples and agro-processing locally</td>
<td>L</td>
</tr>
</tbody>
</table>
PROJECT (9) WAREHOUSE RECEIPT SYSTEM IMPLEMENTATION

1. Identified problem/constraint

A major problem facing local processors is their need for funding, in particular at the start of the campaign in order to procure sufficient stock to cover their industrial consumption needs throughout the year.

Bank financing is concentrated mainly on export/trade financing of raw nuts, and focuses on large multinational corporates – often the leading international traders. The backbone of local processors – national corporates and SMEs – face bottlenecks in accessing finance. Accordingly, for the current campaign, the Conseil Cotton Anacarde is directly financing the initial buffer stock for a dozen local processing plants.

The State has identified warehouse receipt financing as a major priority for unlocking greater access to finance for cashew processors. To this end, it has worked with the World Bank Group to establish a regulatory framework for a Warehouse Receipt System and set up a regulatory body, the Autorité de Régulation du Système de Récépissés d’Entreposage (ARRE). The State has also put in place a process to establish a commodity exchange to support a more efficient and inclusive marketing system. In order to be able to finance and exchange-trade warehouse receipts sustainably, the country must have sufficient quality and quantity of warehousing infrastructure across the producing and transformation areas.

2. Rationale

In order to be able to finance warehouse receipts sustainable, the country must have an efficient warehouse receipt system backed by a guarantee fund in case of defaults, to protect the banks financing these contracts.

The Conseil Cotton Anacarde has requested the Ministry of Industry to present laws and decrees to create the regulatory body: Autorité de Régulation du Système de Récépissés d’Entreposage (ARRE), which has the mission to regulate the warehouse receipts mechanism and the central depository system.

The Law n°2015-538 of 20 July 2015 Regulating the Warehouse Receipt System and the Decree Fixing the Denomination, Attributes, Composition and Functioning of the Regulatory Authority for the Warehouse Receipt System grant ARRE the powers with respect to the warehouse receipt system to:

» Implement a reliable and secure control system of the warehouse receipts via an electronic warehouse receipt system including in accordance with the objectives of the future agricultural commodity exchange;
» Regulate and control the functioning of the warehouse receipt system, in accordance with the regulations in force, to ensure its effectiveness, efficiency, transparency and integrity;
» Promote and support the development of the system of the WRS;
» Contribute to the definition of the policy of the State in trade and warehousing of goods;
» Contribute to the training of the various actors of the system of storage receipts.

3. Investment proposal

Objectives

The overall goal of the investment is to improve warehouse receipt financing through the warehouse receipt system, including as the means to scale and improve the efficiency of the onshore agricultural processing sector.
Project Component Activities

The proposed project comprises the following component activities:

1. Acquisition of the hardware and software for the central depository system and its recovery site;
2. Capacity building support for ARRE and WRS stakeholders.

Estimated cost for a state of the art central depository system and warehouse receipt system is projected to be USD 1.7 million USD upfront expenditure, plus USD 300,000 annual maintenance expenditures for the first five years – providing a five-year total of USD 3.2 million.

The estimated budget for capacity-building of ARRE and its stakeholders is provisionally projected to be USD 400,000 in the first year, and then USD 150,000 per year thereafter for the next four years – providing a five-year total of USD 1.0 million.

Organization and Management

The project is driven by ARRE through its mandate defined under Law n°2015-538 of 20 July 2015. A project structure to administer the investment is not yet finalised. It is likely that the funding would be structured as a lending facility to the government, and then deployed by ARRE for the defined purposes under competitive tender.

4. Congruence with proposed amass strategy as a sub-strategy of the bank’s ‘feed africa’ agriculture strategy 2016-2025

The project is consistent with AMASS Product (13): Commodity Market Infrastructure Investment Fund (MII-F). This Product is specifically tailored to provide capital for development and implementation of market infrastructures such a warehouse receipt system. Relevant investments include the capital investments to support the development of technologies and capabilities by WRS operators and participants.
### 5. Project risks and mitigation actions

See overleaf.

<table>
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<tbody>
<tr>
<td>Very limited number of agricultural producers willing to bring their crops in the warehouses</td>
<td>H-M</td>
<td>Education and new mechanisms such as the warehouse receipt systems and the commodity exchange will attract farmers. Widespread and vigorous advertising of opportunities in the country and abroad in different media – radio, print, web.</td>
<td>L</td>
</tr>
<tr>
<td>Limited capacity of attracting private sector for managing these warehouses</td>
<td>H-M</td>
<td>Projects can be handled under PPP, or even outsourcing of relevant services where possible and/or supporting agencies with technical assistance and/or equipment</td>
<td>L</td>
</tr>
<tr>
<td>Banks may resist participation in the WRS</td>
<td>H-M</td>
<td>The mechanism has been developed hand in hand with the banking sector, with actions taken to address their fears and risks, such as the creation of the guarantee fund</td>
<td>L</td>
</tr>
<tr>
<td>Traders prefer to buy directly from farmers</td>
<td>H</td>
<td>Significant Education on the new mechanisms of the warehouse receipt systems and the commodity exchange. Price efficiency in this new mechanism must be there in order to succeed. Widespread and vigorous advertising of opportunities in the country and abroad in different media – radio, print, web.</td>
<td>L</td>
</tr>
<tr>
<td>Political interference; mismanagement of project assets and deviations in use of funds; inequitable distribution of benefits</td>
<td>M-L</td>
<td>Ivory Coast is leading in the region in terms of encouraging transparency, and already conducted efficient reforms of public financial management, already developed procurement and implementation procedures and regulations; provided training; ensured regular supervision and M&amp;E; foster stakeholder sensitisation &amp; awareness; encourage transparency.</td>
<td>L</td>
</tr>
<tr>
<td>Stable socio-political and economic environment, including stable food prices and continuing commitment to land tenure security and other reforms</td>
<td>M-L</td>
<td>Strengthen rural economy; promote employment creation; promote the production of food staples and agro-processing locally</td>
<td>L</td>
</tr>
</tbody>
</table>

Note: L = low; M = medium; H = high.
PROJECT (10) COMMODITY EXCHANGE IMPLEMENTATION

1. Identified problem/constraint

Ivory Coast is one of the leading producers of agricultural commodities in West Africa. However, it is still dependent on international prices. Even though the government sets floor prices at farmgate, these prices are calculated by flattening – based on a moving average of a percentage of the value of international market-places (usually 60% of CIF prices) – as there is no efficient national price discovery mechanism in place.

Price compensation mechanisms are in place to support cocoa exports, but the recent sharp drop in prices has revealed serious sustainability challenges to maintain this mechanism.

Finally, with the warehouse receipt system regulated by ARRE being set up, one of the key risks associated with warehouse receipt financing is the lack of a market into which financiers can liquidate commodity collateral.

A commodity exchange addresses these issues.

2. Rationale

A Ministry of Agriculture feasibility study conducted in 2015 and 2016, concluded for the urgent need to create a national commodity exchange covering major crops.

The commodity exchange with spot and derivatives instruments, will generate major improvements in the Ivorian economy and beyond, by enabling the financial sector to invest in commodity production and allowing farmers to have efficient market access and improved price realisation.

3. Investment proposal

Objectives

The overall goal of this investment is to acquire a state of the art trading system, backing the electronic warehouse receipt system (which is under ARRE), to improve national commodity value chain financing and marketing. It will improve transparency, remove price asymmetry across regions, have a robust price discovery mechanism, and promote efficient commercialization instruments and infrastructure.

Project Component Activities

The proposed project comprises the following component activities:

1. Acquisition of the hardware and software for the trading, clearing and settlement platform
2. Capacity building support for the commodity exchange and its stakeholders.

The estimated cost for a state of the art trading, clearing and settlement platform is projected to be USD 3.7 million USD upfront expenditure, plus USD 700,000 annual maintenance expenditures for the first five years, and hardware replacement cost after three years of USD 200,000 – providing a five-year total of USD 7.4 million.

Estimated budget for capacity-building of the commodity exchange and its stakeholders is provisionally projected to be USD 400,000 in the first year, and then USD 150,000 per year thereafter for the next four years – providing a five-year total of USD 1.0 million.
### 4. Project risks and mitigation actions

<table>
<thead>
<tr>
<th>Risk description</th>
<th>Rating of risk</th>
<th>Mitigation measures</th>
<th>Rating of risk (after mitigation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very limited number of agricultural producers willing to bring their crops in the warehouses</td>
<td>H-M</td>
<td>Education and new mechanisms such as the warehouse receipt systems and the commodity exchange will attract farmers. Widespread and vigorous advertising of opportunities in the country and abroad in different media – radio, print, internet, etc.</td>
<td>L</td>
</tr>
<tr>
<td>Limited capacity of attracting private sector in trading on the exchange</td>
<td>H-M</td>
<td>The emergence of new financial opportunities will bring participants from all over the world</td>
<td>L</td>
</tr>
<tr>
<td>Financial institutions could be reluctant to participate</td>
<td>H-M</td>
<td>Training will be conducted to remove their fears and risks, such as the creation of a proper clearing house for derivatives contracts</td>
<td>M</td>
</tr>
<tr>
<td>Traders prefer to buy directly from farmers</td>
<td>H</td>
<td>Significant Education on the new mechanisms of the warehouse receipt systems and the commodity exchange. Price efficiency in this new mechanism must be there in order to succeed. Widespread and vigorous advertising of opportunities in the country and abroad in different media – radio, print, internet, etc.</td>
<td>L</td>
</tr>
<tr>
<td>Liquidity risk on contracts</td>
<td>H</td>
<td>Every contract listed on the exchange will require to have dedicated market makers and liquidity providers during the initial phases.</td>
<td>M</td>
</tr>
<tr>
<td>Political interference; mismanagement of project assets and deviations in use of funds; inequitable distribution of benefits</td>
<td>M-L</td>
<td>Ivory coast is leading in the region in terms of encouraging transparency, and already conducted efficient reforms of public financial management; already developed procurement and implementation procedures and regulations; provided training, ensured regular supervision and M&amp;E; foster stakeholder sensitisation &amp; awareness; encourage transparency</td>
<td>L</td>
</tr>
</tbody>
</table>

Note: L = low; M = medium; H = high.
Agricultural Market Access Sub-Strategy for Africa: Commodity Exchanges, Warehouse Receipt Systems, and New Standards
7. MALAWI INVESTMENTS

PROJECT (11) MALAWI RURAL WAREHOUSE INVESTMENTS

1. Identified problem

Analysis shows Malawian smallholder farmers can make minimum 20-30% incremental revenues – i.e. benefits net of costs – from the use of WRS and comex in maize and rice compared with farmgate sales.

Within the framework of this analysis, the costs of logistics in rural Malawi are approximately 1% of a smallholder farmer’s baseline income for every 10km travelled, i.e., proximity to the warehouse is important. No access to warehouses at all brings a discount of 15% off market price from selling at farmgate plus an estimated 20-30% post-harvest loss.

A pathway out of poverty is created if incremental revenue from WRS participation can be linked to productive investments that increase yield and area, diversify production or reduce risk – i.e. inputs, equipment, information, financial and extension services through a scalable rural service model. The rural warehouse, therefore acts as both an access point to storage, finance and markets, as well as a distribution point for rural services that can help translate revenue gains into productive investments.

Agribusiness would like to invest in rural warehousing but finance is a bottleneck. Some agribusinesses need rural warehousing as a hub to get closer to the farmer, to integrate value chains and secure their supply, including through outgrower schemes and input distribution models. Other agribusinesses have networks of rural shops with retail space and aggregation yards but no storage alongside them to broker WR finance and commodity exchange trading. In both cases, the warehouse is the hub infrastructure that the agribusiness needs to support transformation of their business models away from reliance on farmgate aggregation by non-value adding intermediaries.

However, at present, there is minimum commercial investment into rural warehousing in Malawi – it is not a bankable asset – and its absence exacerbates rural exclusion from storage, finance, markets and rural services. Rural warehousing to date has not been widespread or sustainable. It has tended to be donor-financed and faced poor utilization, poor maintenance and an inherent lack of scalability as rural warehouses remain unbankable assets. Utilization and maintenance challenges are grounded in a lack of capacity and bankability of farmer organizations and SMEs.

As is found when investing into other long-term assets in Malawi, existing financing options are too short term and, when priced in local currency, too expensive with interest rates in excess of 35%. Specific to rural warehousing, however, is the challenge that these assets will not be financed by banks. Unlike urban warehouses, they are not accepted as collateral against which the banks will finance. The root cause is the absence of a property market for rural warehouses. Consequently, banks cannot value the rural warehouse as collateral and have no confidence they can liquidate in the event of default. Consequently, banks will not directly fund rural warehouses in the same way they would urban warehouses. Moreover, rural warehouses concentrate risks for the promoter.

Whereas an urban warehouse sources utilization from many different locations, the rural warehouse is exposed to the production of only one locality, and consequently the volatility of production in that one location can have a significant impact on its commercial potential. In simple terms, both the costs and risks of investing in rural warehouses are high.
2. Rationale

The project seeks to:

i. Reduce costs, by making available long-term competitive USD-denominated financing for agribusiness to invest in rural warehousing, with grants in place to further buy down the cost of financing. Such grants are provided on condition that an equivalent proportion of capacity is made available for third party storage by farmers and SMEs (i.e. a 25% grant buys availability of 25% of capacity).

ii. Reduce risks around this investment through a systematic risk mitigation strategy. A risk-sharing guarantee instrument provided to the bank enables the bank for the first time to accept rural warehousing as collateral. The grant component substitutes for banks’ usual requirement for upfront project equity. Technical assistance supports the capacity-building of agribusiness, banks, farmers and SMEs alike to adapt to new commodity exchange- and WRS-centred mechanisms for conducting their business.

From the perspective of farmers and SMEs, rather than the old way of doing things – a 100% capital grant by a donor to a farmers’ organization or SME for constructing the warehouse, an approach that has proven in most cases unsustainable – the grant contribution buys the right for the farmers’ organization or SME to collocate with the agribusiness. In the same way that the anchor tenancy of a supermarket promotes the access of smaller boutique stores to take up occupancy in a shopping mall, so too the anchor tenancy of the agribusiness – providing the commercial critical mass to underpin warehouse sustainability – promotes the access of farmers’ organizations and SMEs to a professional warehouse.

In summary, then, the project vision is to facilitate rural warehousing that is both inclusive and sustainable:

**INCLUSIVE** – given the right support structures, rural warehousing is open to and can be used advantageously by all value chain actors, including as a hub for access by farmers and/or SMEs to storage, finance, markets and rural services through the WRS;

**SUSTAINABLE** – given the right initial financing terms, rural warehouses can be operated, maintained and utilized for their economic life, and rural warehousing capacity in Malawi can be continuously scaled once established as a bankable asset.

3. Investment proposal

**Objectives**

- More rural warehousing capacity;
- Sites adequately equipped and in good condition;
- Making rural warehousing a bankable asset;
- Sites linked into WRS and commodity exchange, domestically and ultimately across borders;
- Promotion of Value Chain Finance (pre-harvest) and Warehouse Receipt Finance (post-harvest);
- Sites accessible for all players, and through the sites, access to storage, finance and markets;
- Reduced post-harvest losses;
- Increase rural service provision, including inputs, equipment, information, financial and extension services;
- Stimulus for regional cross-border trade by enabling more efficient bulking, pre-export storage, financing, and exchange-enabled trading;
- Generate rural employment.
Component Activities

The proposed project comprises the following four components:

i. DFI investment as credit line to a Malawian bank for on-lending to agribusiness;
ii. Donor grants to cover up to 25% of capital investment per warehouse on condition an equivalent proportion of capacity is made available to third party depositors;
iii. A risk-sharing instrument is in place to share in losses arising from the bank’s exposure to the counterparties it lends, which enables the bank to accept rural warehouses as collateral and to finance more to counterparties with single obligor limit thresholds; and
iv. Technical assistance programmes are being designed to capacitate stakeholders, including the structuring of a warehouse management company to overcome warehouse management bottlenecks in Malawi.

At present time, six agribusinesses have expressed interest with a pipeline of over 100,000MTs of new warehousing across multiple value chains: grains, pulses, legumes, livestock and diary. Donors have been engaged and are supportive to provide grants around the project. A well-positioned local bank has been selected as the counterparty for a credit line. A risk-sharing instrument is already in place at the bank to share equally in losses. The Agricultural Commodity Exchange for Africa (ACE) is a partner for the initiative to integrate new warehouses into the WRS and comex. USAID is providing project facilitation and a comprehensive technical assistance package to support the project.

The key outstanding requirement is DFI wholesale finance to the local bank for on-lending to agribusiness.

Organisation and Management

The project has been developed by collaborating USAID institutions in partnership with the Agricultural Commodity Exchange for Africa (ACE). The USAID Southern Africa Trade and Investment Hub (SATIH) is working with the national Malawian USAID Feed the Future Programme Agricultural Diversification (‘AgDiv’), as well as USAID Malawi, the USAID Development Credit Authority, and the USAID Africa Private Capital Group.

USAID has put together the pipeline based on an integrated workplan to partner with ‘anchor agribusiness’ partners around two organising frameworks that can promote long-term agricultural transformation: on the one hand, WRS and commodity exchange integration, and on the other, value chain integration models including outgrower schemes and rural input distribution initiatives. Each of the agribusinesses is a leader in its value chain, is serving regional as well as national markets, and is committed to getting closer to the farmer, integrating the value chain, and providing value-added rural services to the communities in which it operates. A comprehensive USAID technical assistance programme – delivered primarily by USAID AgDiv, supported by USAID SATIH – has been developed to support on the one hand the participating agribusinesses and the beneficiary farmers, and on the other hand the commodity finance and marketing institutions, including the bank and the commodity exchange, as part of regional commodity finance and marketing integration strategies.

A leading Malawian commercial bank has agreed to take on a credit line for purposes of investing into rural warehousing. This bank is already the leading bank in the Warehouse Receipt financing space, and is seeking to increase the capital it deploys to finance Warehouse Receipts under post-harvest financing structures (i.e. ‘warehouse receipt finance’), as well as to finance outgrowers and other farmers under pre-harvest input financing structures (i.e., ‘value chain finance’), using the new warehouses as hub locations.

Scale and Cost

The total investment requirement for the project is estimated at USD 12 million to cover a pipeline of six agribusinesses seeking to invest into over 50 rural warehouses with combined capacity of over 100,000MT of storage.

The primary focus of the investments is to cover warehousing and equipment.
The scope also includes allied investments to support the wider value chain integration strategy of each company. This includes in some cases investments into primary production – land development, irrigation and mechanisation – for those companies seeking to establish outgrower schemes on their own land (in Malawi, known as ‘ingrowers’); and transportation and logistics infrastructure for those seeking to establish outgrower schemes on others’ land.

The project seeks a further USD 5 million to be made available as working capital to support pre- and post-harvest financing structures around the new warehouses; USD 3.0 million in grants to promote the accessibility of farmers and SMEs to the warehouses; and USD 1.0m in Technical Assistance to promote capacity-building of stakeholders for utilisation of warehouses and to build warehouse management capability among prospective storage operators.

**Benefits and Beneficiaries**

**For farmers:**
- Access to and capacitation for storage (closer, affordable, accepts small-scale deposits)
- Access to and capacitation for WR financing
- Access to and capacitation for market linkages through the comex
- Access to and capacitation for rural services (inputs, financial services, extension, etc.)

**For SMEs:**
- A pathway to bankability to construct own warehouses after building direct practical experience and sufficient track record
- Unlock aggregation finance and storage for small-scale rural processors
- Support emergence of rural brokerage by SMEs looking to link farmers to markets

**For Agribusiness:**
- A hub to integrate value chains and get closer to farmers
- Increased security of supply
- Increase rural aggregation & procurement capacity
- Improve rural logistics efficiency
- Enabling cost effective financing of own inventories through cheap always on-site collateral management.

4. **Congruence with proposed amass strategy as a sub-strategy of the bank’s ‘feed africa’ Agriculture strategy 2016-2025**

The Malawi rural warehouse investments project is fully aligned with AMASS Product (6): Market Access-Oriented Rural Warehousing and Rural Service Hub Investments. It seeks to promote a rural warehousing footprint around which the WRS and commodity exchange can engage to provide access to storage, finance and markets for value chain players including smallholder farmers, SMEs and agribusiness.
### 5. Project challenges and mitigation actions

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financing</td>
<td>Term, Rate, Equity and Collateral bottlenecks have inhibited commercial rural warehouse investment to date</td>
<td>Blended financing from DFI, local banks, guarantee providers and donors under a managed lease-purchase structure</td>
</tr>
<tr>
<td>Commerciality</td>
<td>Donor capex grants not commercially directed or sustainable: utilisation, maintenance &amp; scalability bottlenecks</td>
<td>Commercially-directed investment through agribusiness ‘anchor tenancy’ assures critical mass utilisation, scalability and sustainability</td>
</tr>
<tr>
<td>Warehouse Management Capacity and WRS integration</td>
<td>Agribusiness lack warehouse management capability; warehouse operators need financial and insurance cover, and independent control, to guarantee receipts</td>
<td>A Warehouse Management Company is being established to cover skills deficits, establish good and consistent warehousing practices, and provide the WR guarantees to give confidence for financiers to finance the WR.</td>
</tr>
<tr>
<td>FO/SME Bankability</td>
<td>MFIs unsuitable as providers of capex; banks unwilling to finance due to identity and track record bottlenecks</td>
<td>Bankability Program – FO and SMEs lease alongside agribusiness – build identity and track record, creating a path to bankability</td>
</tr>
<tr>
<td>FO/SME Capacity</td>
<td>Capacity bottlenecks to aggregate, store, finance, link to markets and use rural services</td>
<td>Capacitation programme to build FO and SME capacity, with rural service provision by agribusiness through retail space</td>
</tr>
<tr>
<td>Policy risks</td>
<td>Government interventions with export bans and domestic interventions, as well as the use and non-use of the parastatal agency warehouses (Admarc, NFRA), and the lack of willingness of private sector to lease them, pose a risk to private sector investments.</td>
<td>In Malawi, contrary to Zambia, the private sector are willing to invest in warehousing despite the policy risks. Private sector do, however, seek greater engagement with government on policy interventions and would seek greater utilisation by government of market mechanisms such as WRS and comex.</td>
</tr>
</tbody>
</table>

Five challenges are identified which are mitigated through the careful structuring of the project:
1. Identified problem

At current time, in broad terms, the two Malawian WRS and commodity exchanges have notched up four notable achievements:

1. Market acceptance by stakeholders from all sectors, including the commercial value chain;
2. Impressive and improving performance levels, as measured in terms of comex trade volumes and WRS-based financing values;
3. Offering a portfolio of innovative instruments, structures and models for facilitating access to storage, finance, market information, output markets – and most recently, and unusually for a comex – input markets through its Chithumba Model;
4. Building up a robust, if still incomplete, institutional framework including a governance framework, knowledge, personnel, capabilities, systems and processes.

However, they still have a long way to go in their development trajectory to fulfil its market potential. By way of one admittedly imperfect comparison, in most metrics it lags far behind the JSE from South Africa, a world class WRS and commodity exchange. In many ways, this is an inevitable reflection of the different operating environments between Malawi and South Africa. There is no linear development path in the comex world. Certainly, it is not to be expected that the Malawian institution will follow the same trajectory as the JSE.

On the other hand, as per AfDB 2014, “while there is no ready rule on how an exchange should start, there is, however, a rule on how it should end – with futures contracts. If an exchange wishes to start with spot contracts, this should be just a temporary phase in the exchange’s development, and exchange management needs to set out a path towards a more comprehensive product offering.”

Developing a more comprehensive product offering is exactly what has happened:

- Stepping up the procurement services offered to large buyers including the WFP and the National Food Reserve Agency, providing a market access platform not only for the small community of large traders but also SMEs and producers.
- Introducing forwards contracts as a hybrid finance, procurement and risk management instrument. This instrument has been taken up by many of Malawi’s leading financiers and agribusiness, and provides an equitable route to market for many additional farmers.
- Developing storage capabilities, including rural storage sites, and playing a strengthened infrastructure supervisory role for the facilities of several large processors.
- Engaging with market participants for industry-wide efforts to introduce a public regulatory framework for Warehouse Receipts and for Market Infrastructures, to develop new insurance products that reduces the risk of WR finance, and to improve and harmonise product quality standards.

This is a significant amount of change, and it reflects only the starting point to reach what can be achieved: a significant further scaling of financial, operational and developmental performance driven by increased penetration of both commercial and rural segments, regionalisation, and diversification of products and revenue streams.

At the same time, support for WRS as institutions needs to be complimented with a broader package of support to reflect two factors.

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WR haircut finance is where a depositor deposits commodity in the warehouse – without an offtake agreement in place – and takes a loan against the commodity. The financier imposes a collateral haircut – hence the name of the product – which it determines according to averaged historical price volatility, and actions through a defined ‘loan to value’ ratio.
Firstly, changes in the ecosystem such as the introduction of regulation, the evolving policy environment, and the ongoing efforts through SADC to regionalise Southern Africa’s commodity markets require careful multi-stakeholder coordination and management. These changes are reflected in new work priorities to develop regulatory capacity at the WRS/commodity exchanges, to better understand the political economy and mitigate risks, and to identify regional opportunities.

Secondly, key stakeholders require capacitation and assistance with particular bottlenecks. Financial institutions including banks and non-bank financial institutions alike need to mainstream within their organisations the skills, knowledge, systems and expertise for deploying WR finance. Few financiers in Malawi have the capability at present to capitalise on emerging opportunities – whether the larger banks or the smaller institutions such as microfinance institutions which could play key linking roles for WRS and commodity exchanges to the rural economy. Farmers and their organisations, small and medium-sized enterprises, agribusiness and policymakers also need to be engaged.

2. Rationale

Four interventions are proposed to support the further scaling of the WRS and commodity exchanges in Malawi, on the one hand leveraging the progress that has been made; and on the other addressing the weak links that still remain in the ecosystem.

These interventions are set out in the table below:

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Weak Link</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indemnity Fund</td>
<td>Most of the WR financing in Malawi is under forward contracts where an offtake arrangement is in place. However, WR haircut finance is the product most accessible and useful to farmers. Financiers are deterred from this product as the price risk is not mitigated.</td>
<td>The indemnity fund is structured as capital that is co-invested into WR haircut finance alongside financiers’ own capital to absorb a defined level of price risk, cushioning the exposure the financier would otherwise face. The fund is structured to have a leverage ratio of 1.5 – i.e. every USD 1 in the fund unlocks USD 5 of WR financing by commercial financiers. The overall ‘loan to value’ ratio remains set by the financier, and they take the first small loss – whose purpose is rather like an excess in an insurance policy to discourage moral hazard and reckless practices. The second loss is taken by the indemnity fund. However, the positioning of the fund is grounded in data that suggest banks are overly conservative in their risk appraisal, and the fund is envisaged to make money – and as it grows, it will unlock increasing sums of WR haircut finance into the market. Overtime, the indemnity fund is envisaged as an embryonic clearinghouse that will introduce various price and counterparty risk mitigation mechanisms, including central counterparty clearing.</td>
</tr>
<tr>
<td>Warehouse Management Company (WMC)</td>
<td>Warehousing skills in Malawi are constrained. Most agribusiness see warehousing as a cost centre, and do not focus considerable attention on the practice. At the same time, WR financing requires storage operators to put in place good practices and have the insurance and balance sheet strength to guarantee the quality and quantity of commodity on the WR. Many current storage operators – whose storage is for proprietary purposes – are unprepared to provide such guarantees, and more generally unprepared to take third party deposits. Financiers, used to expensive collateral management arrangements to support commodity finance, are generally unwilling to accept agribusiness’ guarantees as concerns its own proprietary stock. The Warehouse Management Company (WMC) is envisaged as an independent professional warehousing company whose role would be to assume control on a full-time basis over agribusiness storage. The WMC would ensure a consistently high calibre of warehousing practices, and would have the balance sheet insurance, and technical and operational wherewithal to provide guarantees of the WR quality and quantity on which banks can have complete assurance. The WMC takes away the concerns about agribusiness self-certifying and guaranteeing its own stock, with all the risks this implies to the financier. The WMC also assures that different depositions – whether the agribusiness that owns the site, or third party depositors – are treated equally and fairly. International precedent with such models in India has shown that a professional WMC can be a massive catalyst for WR finance.</td>
<td></td>
</tr>
<tr>
<td>Warehouse Insurance ProductDeployment</td>
<td>In mature commodity marketing systems, insurance firms offer fully comprehensive warehouse insurance policies that mitigate risks across the standard perils as well as the professional indemnity/fidelity risks. In Malawi only the standard perils are offered, and professional indemnity/fidelity risks cannot be mitigated through insurance. A robust insurance policy provides the bedrock for WR financiers to trust the storage operators’ guarantee of the WR, and without such assurance, financiers are to that extent deterred. The WRS are seeking to work with insurance firms to develop fully comprehensive warehouse insurance policies that cover the full set of risks and provide financiers with complete assurance of the storage operators’ guarantee of the quality and quantity on the WR.</td>
<td></td>
</tr>
<tr>
<td>Chithumba Model Development</td>
<td>ACE has pioneered a model of pre-harvest input financing for farmers based on the beneficiary farmer delivering commodity to ACE which can be stored in the WRS and either financed by banks or auctioned through the comex as a means to pay back the pre-harvest finance. This is now in its third season and has scaled progressively to over 10,000 farmers with an 85%-plus repayment rate. However, scalability requires access to finance as well as capacitation. The Chithumba model requires additional financing for scaling its offering to more beneficiaries and across a wider array of value chains. This in turn drives flow of product from smallholder producers into the WRS, and helps unlock WR finance and creates market liquidity in the comex markets.</td>
<td></td>
</tr>
<tr>
<td>Legal-Regulatory Capacitation</td>
<td>The incoming legal-regulatory framework in Malawi – through a WR bill envisaged to be passed in mid-2017, and the gazetting by the Reserve Bank of Malawi of the Commodity Exchange regulations to bring in formal regulation of the sector – creates significant new licensing and compliance obligations for WRS and commodity exchanges. Legal specialists are required to establish the internal capacity to ensure each WRS institutions’ own compliance with the evolving legal-regulatory framework and in turn capacitating their stakeholders - banks, brokers, storage operators and market participants (large and small) – to understand, take advantage of, and comply with the new frameworks.</td>
<td></td>
</tr>
</tbody>
</table>
3. Investment Proposal

Objectives

The objective is to unlock WR finance and commodity exchange trading through systematic mitigation of key structural risks in the ecosystem – price risk, warehouse management capacity, guarantees on the physical, market liquidity risk, and legal-regulatory risk.

Component Activities

The proposed project comprises the following five components:

i. Establish, capitalise and capacitate an indemnity fund;
ii. Establish, capitalise and capacitate a Warehouse Management Company;
iii. Support the emergence of fully comprehensive warehouse insurance;
iv. Scale the Chithumba model; and

Organisation and Management

The project is driven by the WRS institutions through their Chief Executive Officers, and respectively their senior management teams.

Scale and Cost

The following investments are envisaged to support each component:

- USD 3.0 million capital injection for the indemnity fund, backed by USD 0.1 million technical assistance for establishment and capacitation of the fund;
- USD 1 million equity injection for the warehouse management company, with USD 0.5 million of technical assistance to cover non-commercial start-up costs including the establishment of a Southern Africa regional warehouse management institute for training of warehouse managers and development of regional warehousing standards;
- USD 1 million risk-sharing facility to support insurers deploy warehouse insurance, with 0.2 million technical assistance to support product development at participating insurers, and capacitation for the insurance sectoral regulator, and
- USD 2 million working capital funding to support the scaling of the ACE Chithumba model, backed by a USD 1 million risk-sharing facility to cover farmer beneficiaries with higher risk;
- USD 0.4 million technical assistance for the development of the legal-regulatory function at each WRS institution in conjunction with their stakeholders.

Total: USD 6 million investment capital; USD 2 million risk-sharing facility; USD 1.2 million in technical assistance support.

Benefits and Beneficiaries

For farmers and SMEs:

- Support the scaling of sustainable pre- and post-harvest financing in rural areas;
- Access to and capacitation for market linkages through the comex.

For Agribusiness:

- Enabling the sustainable scaling of a warehousing footprint;
- Enabling cost-effective financing of own inventories through cheap always on-site collateral management;
- Support value chain integration through closer relationships with farmers and SMEs as third-party depositors in own warehouses.
For Financiers:
- Provide a fully risk-mitigated framework for scaling provision of pre- and post-harvest financing, including to perceived higher risk categories such as farmers and SMEs;
- Support expansion of targeting of financing to rural areas, improving the rural footprint;
- Expansion of pre- and post-harvest financing to a broader array of value chains.

For WRS institutions:
- Scaling of WR financing and commodity exchange trading;
- Diversification of service provision across pre- and post-harvest financing;
- Capacitation to manage legal risks arising with the introduction of the new legal-regulatory framework.

4. Congruence with proposed amass strategy as a sub-strategy of the bank’s ‘feed africa’ agriculture strategy 2016-2025

The Malawi warehouse receipt system institutional development is fully aligned with AMASS Product (13): Commodity Market Infrastructure Investment Fund. The project components provide a systematic mitigation of key risks that is holding back the uptake of WR finance and commodity exchange trading, capitalising on the introduction of new legal-regulatory frameworks into the country.

5. Project Risks and Mitigation Actions

<table>
<thead>
<tr>
<th>Risk description</th>
<th>Rating of risk</th>
<th>Mitigation measures</th>
<th>Rating of risk (after mitigation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitigation of price risk to WR finance</td>
<td>H</td>
<td>Indemnity Fund absorbs a defined portion of the financier’s price risk</td>
<td>L</td>
</tr>
<tr>
<td>Limited capacity of agribusiness to manage storage, especially of third-party depositors</td>
<td>H</td>
<td>Establishment of professional WMC provides capacity, establishes consistent standards and practices and enables fair treatment of third-party depositors</td>
<td>L</td>
</tr>
<tr>
<td>Absence of fully comprehensive warehouse insurance</td>
<td>H</td>
<td>Support for insurance companies with product development and risk-sharing to promote deployment and uptake</td>
<td>L</td>
</tr>
<tr>
<td>Pre-harvest financing is under-developed limiting the flows of commodity into structured value chains and marketing mechanisms</td>
<td>H-M</td>
<td>Chithumba Model is capitalised to structure pre-harvest finance in a way that enhances market liquidity</td>
<td>L</td>
</tr>
<tr>
<td>Stakeholders are poorly positioned to address incoming legal-regulatory-compliance requirements of the regulator</td>
<td>H-M</td>
<td>Technical assistance provides resources to promote understanding and compliance</td>
<td>L</td>
</tr>
</tbody>
</table>
8. ZAMBIA INVESTMENTS

PROJECT (13) ZAMBIA WAREHOUSE INVESTMENT AND FRA TRANSFORMATION PROJECT

1. Identified problem

An initial round of stakeholder consultations in Zambia undertaken during 2014 by the USAID Southern Africa Trade and Investment Hub, in partnership with the Zambian Commodity Exchange (ZAMACE), the Grain Traders Association of Zambia (GTAZ) and Musika, an NGO focused on finding market-based solutions to promote smallholder livelihoods, revealed a shortage of agricultural warehousing in Zambia.

Based on discussions with farmer groups, agribusiness, local financiers and government, four key constraints were identified:

1. A capacity constraint – insufficient warehousing or silo capacity to handle growing production volumes and export demand;  
2. A location constraint – a particular under-supply of storage located close to rural/production areas, in secondary cities, and close to key export gateways;  
3. A financing constraint – the lack of financing facilities that were sufficiently long-term or affordable to align with the economics of warehouse investment, in turn driven on the one hand by the high prevailing domestic interest rates, and on another by a lack of awareness and understanding by the stakeholders of each other’s interests and constraints.  
4. A policy constraint – the role of the government’s policy on food security through the imposition of export bans, and on farmer livelihood support through the interventions of the Food Reserve Agency buying and selling during the season are considered major deterrents to warehouse investment by private sector. On multiple occasions, private sector has been damaged when holding stocks after government interventions led to significant price falls, leading to significant losses on trading and financing positions.

The 2014 consultations also helped build a more detailed understanding of the crucial role of warehousing for all parties. Warehousing acts as a critical infrastructure foundation for access to finance through the WRS and access to markets through the commodity exchange. However, storage also underpins food security through reducing post-harvest losses and enabling farmers at the micro level and countries at the macro level to preserve a greater proportion of their food supply for later in the season. For the commercial value chain, warehousing is essential to support efficient commodity aggregation and timely supply to agro-processors and export markets. For financiers, the warehouse plays the critical role in financing the value chain pre-harvest (the presence of a warehouse close to the borrower helps reduce producer performance and market risk) and post-harvest (the presence of a warehouse is the key prerequisite for financing commodity collateral under warehouse receipt).

2. Rationale

The project seeks to promote investment into warehouses by agribusiness and SMEs to address the capacity and location constraints, while overcoming financing and policy bottlenecks by respectively putting in place a credit line tailored to the needs of warehousing investment and, on the other, a technical assistance and transformation programme to work with government in adapting the policy regime without detriment to the noble goals of food security and farmer livelihood promotion.
A pipeline of USD 80 million of warehouse investments had been developed from agribusiness in 2015, further to the consultations. The underlying demand for investment into warehousing—coupled with investments into agro-processing and logistics—is understood to remain, but almost all of it is contingent on a significant moderation of the policy environment which has not materialised to date. An important requirement is for value-based incentives to be in place to encourage the integration of new warehouses into the ZAMACE WRS/comex—this can be achieved through preferential terms being offered by the financier for counterparties willing to integrate the new warehouses into the WRS/comex.

Accordingly, the project tackles the long-time and thorny issue of institutional reform at the Food Reserve Agency as part of the process. It is not that in Zambia, this issue is off-limits. It has been a perennial discussion point but always seems to be overwhelmed by the dynamics of any given season, including pressures arising from the political backdrop. There is the need for heavyweight institutional actors from across the Continent to support the Zambian stakeholders achieve an alignment between government policy imperatives while promoting efficient, progressive, and inclusive private sector activity to invest in infrastructure and facilitate long-term productivity growth.

As part of the proposals, the FRA would buy, take collection and sell through the WRS:

- FRA buys a target of 400,000MT through ZAMACE by setting a premium price for farmers and cooperatives delivering through the WRS;
- The premium price, higher than FRA non-WRS price, justified by:
  » (a) quality assurance from delivery through the WRS;
  » (b) Higher costs of delivery for the farmer through the WRS.
- FRA takes collection not through the physical commodity but through the Warehouse Receipt (WR);
- I.e., the farmer or cooperative delivers to a WRS-accredited warehouse, the warehouse operator issues a WR, and then the WR is transferred to the FRA;
- FRA sells through ZAMACE via an Offer Volume Only auction open to millers and exporters;
- Selling is based on the price to collect from WRS-accredited warehouses;
- Buyers take collection through the WR, not the physical commodity.

3. Investment proposal

Objectives

To build out the Zambian warehousing footprint while creating the basis for a policy environment that is more conducive to private sector-driven investment.

Component Activities

The proposed project comprises the following three components:

i. Long-term USD- and ZMK-denominated credit lines for commercial and rural warehouse investments respectively by agribusiness and SMEs, with loan conditions offering preferential rates when new warehouses are integrated into the WRS/comex;

ii. USD-denominated funding to support the buying, selling and storage activities of the Food Reserve Agency, contingent on transformations in FRA activity onto a more private sector-friendly footing through the WRS in line with the role proposed above; and

iii. Technical assistance to support mandate change and capacity-building at the FRA, and promote alignment of understanding and new policy approaches and instruments at the Ministry of Agriculture and Livestock, the Ministry of Finance, and the Ministry of Commerce, Trade and Industry.
Organization and Management

The project is proposed to be driven by ZAMACE and the FRA. The ZAMACE role is to spearhead the strategic buildout of the warehousing footprint of the WRS through coordinating private sector investment according to location and value chain. The FRA role is to facilitate a transformation to a market-driven model through the adoption of the measures proposed above.

Scale and Cost

The total cost of the project is estimated at USD 122.5 million with individual project component costs as follows:

- USD 80 million for warehouse and agro-processing investments, based on a process to update the 2015 pipeline that was compiled under USAID auspices, and structured based on bilateral private sector lending for large-scale transactions, and based on a credit line through a well-positioned commercial bank to on-lend for smaller-scale transactions;
- USD 40 million for FRA procurement, as a loan through government, based on 400,000MT at USD 100/MT;
- USD 2.5 million technical assistance facility – USD 1.25 million each to support capacity-building at ZAMACE and the FRA.

Benefits and Beneficiaries

- Familiarisation: farmers get used to delivering to a WRS-accredited warehouse, receiving and transferring a WR
- Unlocks financing of commodities under WR: once farmers are used to delivering through the WRS, they can obtain access to finance and markets
- FRA Efficiency: Once FRA is comfortable with the system, it can potentially sell off some of its own difficult-to-manage infrastructures and allow for increased private sector investment into warehouse construction and renovation
- FRA Cost-Effectiveness: FRA can manage its stocks through the WRs to which it has title through an electronic system, rather than through expensive preservation of the physical commodity
- Price discovery: Sales through the WRS creates public price references useful to all value chain players
- Improved price realization: competitive OVO auctions generate a positive price for FRA compared with bilateral sale, creating benefits that can be passed on to farmers
- Builds volumes for ZAMACE: creates a revenue stream to increase sustainability.

4. Congruence with proposed amass strategy as a sub-strategy of the bank’s ‘feed africa’ agriculture strategy 2016-2025

The Zambia Warehouse Investments and FRA Transformation Project is fully aligned with AMASS Products (4) – Food Reserve Agency Market Enhancement (FRAME) Programme; (5) – Market Access-Oriented Commercial Warehousing Investments; and (6) – Market Access-Oriented Rural Warehousing and Rural Service Hub Investments. It seeks to promote a commercial and rural warehousing footprint around which the WRS and commodity exchange can engage to provide access to storage, finance and markets for value chain players including smallholder farmers, SMEs and agribusiness, while transforming the FRA into a more private sector-friendly actor whose role is facilitative of market efficiency, liquidity, transparency and inclusiveness.
## 5. Project risks and mitigation actions

<table>
<thead>
<tr>
<th>Risk description</th>
<th>Rating of risk</th>
<th>Mitigation measures</th>
<th>Rating of risk (after mitigation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of suitable financing for warehouse investments</td>
<td>M</td>
<td>Dedicated credit line for commercial and rural warehousing</td>
<td>L</td>
</tr>
<tr>
<td>Policy interventions deter private sector investment</td>
<td>H</td>
<td>FRA transformation integrated as a core part of project strategy</td>
<td>M</td>
</tr>
<tr>
<td>Capacity at ZAMACE and FRA to achieve institutional development and transformations</td>
<td>H</td>
<td>Technical assistance programme to support ZAMACE and FRA</td>
<td>M</td>
</tr>
<tr>
<td>WRS / comex liquidity and capacity constraints to attract market participants</td>
<td>M-H</td>
<td>Storage operators and FRA incentivised through financing conditions to play facilitative role with respect to WRS and comex</td>
<td>L</td>
</tr>
</tbody>
</table>
ANNEXURE V: WORKPLAN AND BUDGET

A. Workplan

AMASS implementation is proposed to be carried out through two workstreams around which the twenty AMASS products will be organised – CORE and ADDED:

- **CORE** – Comex Reinforcement Programme, with the objectives to support EPIs to grow, innovate, learn, measure and improve to unlock for stakeholders increased transactional value and transformative investment (AMASS Objective One); and to promote the creation of price discovery benchmarks and market liquidity (AMASS Objective Two).

- **ADDED** – Africa Derivatives Development Strategy, with the objective to create space for the emergence of viable African derivatives exchanges based on regional and multi-asset market integration (AMASS Objective Three).

For both workstreams, the approach is based on an incremental, phased country buildout – in the case of CORE, structured around providing support to CAIs at a national or regional level; in the case of ADDED structured around creating an initially small but steadily growing integrated African space comprising RMC and REC jurisdictions willing to participate that have sufficient readiness to support the introduction of derivatives comex.

The overall implementation timeline is depicted in the chart overleaf.

B. Workstream Implementation Narrative – CORE

Vision: to further the emergence of the existing and pipeline comex/WRS initiatives at national and regional levels through the deployment of a structured package of policies, investments and capacity-building initiatives based on identification of appropriate frameworks of assessment and delivery, with three objectives – to nurture market liquidity, price discovery and smallholder market linkages.

CORE implementation takes place over three phases:

1. **CAI Framework Creation:**

The CORE workstream is structured at a national or regional level around EPIs. EPIs are invited to apply to become Credible Anchor Institutions (CAIs), around which AMASS Products can be deployed. As such, the starting point is to institutionalise the CAI eligibility criteria identified under Principle Three above and accredit Africa’s current EPIs as CAIs – likely the eight established institutions identified above in this paper. This will involve creating concrete eligibility considerations under each criterion, and CAI Application Documentation for capturing the relevant information.

Application Documentation should be reviewed and – if satisfactory – signed off by the technical committee of independent sectoral experts. The experts will be entitled to request further information to facilitate this process. As other African comex/WRS institutions are launched over time, they can apply to become CAIs based on their submission of CAI Application Documentation and the review and sign-off by the technical committee of independent sectoral experts.
Agricultural Market Access Sub-Strategy for Africa: Commodity Exchanges, Warehouse Receipt Systems, and New Standards

Timeframe: 3 months for established institutions, and ongoing for future CAI applicants

1) INCEPTION
- CIU Set-Up and Resourcing
- AMASS Alliance Structure Resourcing
- Partner Interface Establishment

2) CORE WORKSTREAM
- CAI Framework Creation
  - Specify CAI Eligibility Criteria for ERPs
  - Create CAI Application Documentation
  - Submission, review and approval of CAIs
- CAIP Formulation
  - Create CAIP Formulation Guidelines
  - Create CAIP Guidelines and Formulation
  - Submission, review and approval of CAIPs
- AMASS Product Deployment
  - Deliver AMASS Product
  - Deploy AMASS Products
  - Initial Monitoring & Evaluation
  - AMASS Review

3) ADDED WORKSTREAM
- Readiness Assessment and Capacity
  - Create Regulatory Assessment Template
  - Perform Regulatory Assessment
  - Capacity-building
- Regulatory Framework Development / VALERE Meetings
- PAE License tendering
  - Prepare Tender Framework
  - Tender EOI and Short-listing
  - Tender RFP and PAE License Awards
- PAE and AMASS Product Deployment (as per CORE)
2. CAIP Formulation:

As the next step, it is recommended that each CAI will be invited to formulate a five-year CAI Investment Plan (CAIP), in coordination with their designated regulatory, central bank and policymaking stakeholders. The CAIP is envisaged to be functionally equivalent in scope, structure and purpose to the CAADP National and Regional Agriculture Investment Programmes (NAIPs, RAIPs). As with the NAIPs and RAIPs, the CAIP may be national or regional in scope in line with the jurisdictional coverage of the CAI.

The CAIP is intended as an instrument for a comex or WRS to comprehensively drive the development of its enabling ecosystem in collaboration with its stakeholders. Each CAIP constitutes a selection from the AMASS Product suite chosen by the CAI in consultation with stakeholders. CAIP formulation would thereby create a comprehensive pipeline of linked investment, policy and capacitation measures designed to achieve institutional development and agricultural transformation. To ensure alignment with Bank strategy, CAIPs are intended to incentivise the focus of comex/WRS activity around the Bank’s priority value chains, ensure the agricultural ‘Feed Africa’ imperative is realised in consonance with the other High Fives, and ensure a gender-inclusive approach to ecosystem development.

To formulate the CAIP:

- The CAI will be provided CAIP Formulation Guidelines devised by the CIU in consultation with stakeholders within the Bank and at partner organisations;
- The CAIP formulation process will be structured around segmented stakeholder consultations to elicit stakeholder needs round the twenty AMASS products in the context of the overall development of the CAI, its products, services and markets;
- The CAI will also incorporate its own investment needs under products structured to directly support the comex/WRS institutions;
- At minimum, consultations should incorporate producer organisations, agro-SME organisations, agribusiness and industry bodies, policymakers, regulators, and financial institutions (commercial banks, non-bank financial institutions, institutional investors);
- Provision may be made for two or more CAIs – for example, operating within the same country or across borders in neighbouring countries or regions – to collaborate in CAIP development where interests overlap, but without detriment to the competitive dynamic between them;
- Stakeholders will be given a window to assess and submit their AMASS Product needs to the CAI which will compile the Plan, in coordination with and signed off by their designated regulatory and policymaking stakeholders;
- During the CAIP formulation process, the CAI should ensure alignment and where possible synergy with CAADP NAIP and/or RAIPs;
- CAIPs should include specific components around Bank-identified priority value chains, address all the Bank ‘High Five’ priorities, and embody a gender- and youth-inclusive approach;
- The two ultimate outcomes of the CAIP would be to provide:
  » a narrative of the CAI’s projected market development trajectory, its goals and dependencies, including specific statements on steps taken on a value chain basis to nurture market liquidity, price discovery and smallholder market linkages, and also steps taken to promote the gender- and youth-inclusiveness of the envisaged outcomes;
  » a validated pipeline of confirmed interest for AMASS Products comprising policies, investments, and capacity-building measures – required by the CAI, the public sector, the private sector, the civil society – to support the realisation of the market development trajectory.

Timeframe: 12 months for established institutions, and ongoing for future CAI applicants.
3. AMASS Product Deployment:

Coordination: The CIU will coordinate engagement by the Bank and its partners with the CAI around AMASS product deployment so as to realise the CAIP market development trajectory and fulfil the CAIP pipelines. A five-year AMASS Product Deployment Schedule (APDS) will be created corresponding to each CAIP which taps into the three AMASS Special Funds (MAI-F, MAW-F and MAE-F, detailed in Section Five), as well as grant, concessional, guarantee and technical assistance resources deployed by the Bank and its partners.

The CIU will play an important role to ensure the APDS of different CAIs are synergised wherever possible. CAIPs and APDS will be reviewed and – if satisfactory – signed off by the technical committee of independent sectoral experts. The experts will be entitled to request further information to facilitate this process.

As an important part of the AMASS Product Deployment process, the CIU will perform two key roles: firstly, providing input into product pricing so as to create incentives for market participation through the required transformation of the value equation to generate higher average returns on market participation through comex/WRS than through other channels; and secondly to compile market information and institutional performance data on CAIs over time, while tracking and measuring the impact of AMASS product deployments.

However, the finalisation of the term sheet for pricing, scoping and structuring of investment products will be the remit of the responsible sectoral department within the Bank, and the appraisal, approval, disbursement and monitoring processes will be in line with the Bank’s normal procedures.

Monitoring and Evaluation: The CIU will have a responsibility to coordinate with a CAIP point-person at each CAI, the regulator, the central bank and the policymaking overseer on the implementation, impact tracking and measuring of AMASS Product Deployments under the CORE Workstream. With respect to approvals for disbursements, investment monitoring, and repayments, the CIU will work in alignment with the Bank’s ordinary procedures.

Key Performance Indicators (KPIs): The performance of the CAIs – as well as the PAEs (below) – is proposed to be tracked by the CIU incorporating a range of KPIs, as set out in the table below:

<table>
<thead>
<tr>
<th>No</th>
<th>Type</th>
<th>Indicator</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Liquidity</td>
<td>Volume performance</td>
<td>MTs traded, financed and/or delivered per period per commodity</td>
</tr>
<tr>
<td>2</td>
<td>Liquidity</td>
<td>Value Performance</td>
<td>USD value traded, financed and/or delivered per period per commodity</td>
</tr>
<tr>
<td>3</td>
<td>Liquidity</td>
<td>Market participation</td>
<td>Number of discrete end users trading, financing and/or delivering per period per commodity</td>
</tr>
<tr>
<td>4</td>
<td>Liquidity</td>
<td>Open interest (derivatives)</td>
<td>Number of outstanding contracts that have not been settled at a given moment during the lifetime of a given contract</td>
</tr>
<tr>
<td>5</td>
<td>Liquidity</td>
<td>Market depth</td>
<td>Number of open orders awaiting matching at a given moment during the lifetime of a given contract</td>
</tr>
<tr>
<td>6</td>
<td>Inclusivity</td>
<td>Delivery Locations</td>
<td>Number of locations in which delivery infrastructure – warehouses, etc. – is located</td>
</tr>
<tr>
<td>7</td>
<td>Inclusivity</td>
<td>Stakeholder participation</td>
<td>Number of discrete end users per category – including smallholder producers and SMEs – trading, financing and/or delivering per period per commodity</td>
</tr>
<tr>
<td>8</td>
<td>Inclusivity</td>
<td>Transaction costs</td>
<td>Cost of trade, finance or delivery as a proportion of the value of the position</td>
</tr>
<tr>
<td>9</td>
<td>Commerciality</td>
<td>Ownership</td>
<td>Proportion of ownership held by commercial entities</td>
</tr>
<tr>
<td>10</td>
<td>Commerciality</td>
<td>Funding</td>
<td>Proportion of funding sourced through commercial sources</td>
</tr>
</tbody>
</table>
AMASS Reviews: In the first year of AMASS, there will be a quarterly review of CORE product deployments by the AMASS Oversight Committee, including investments, donor contribution, policy and capacity-building measures, and monitoring of overall progress in tracking transactional value realisation and transformation-inducing productive investments by stakeholders around each CAI. Over time this will migrate to a half-yearly review.

An annual AMASS Progress Event – a seminar or conference, for example – may also be considered. For purposes of the CORE Workstream, the Progress Event involves stakeholders representing the Bank, its partners, CAIs and designated regulators and policymakers, and other interested parties. The purpose of the Event is firstly to share information, diffuse success stories, and learn lessons and secondly to foster collaborative approaches which harness the synergies of CAIPs and AMASS product deployments within country and across borders.

Timeframe: 9 months for established institutions, and ongoing for future CAI applicants

C. Workstream Implementation Narrative – ADDED

Vision: To create an initially small but steadily growing integrated African space within which a new class of PAEs can emerge – continental, commercial, multi-asset commodity and derivative exchanges – that compete to develop the African commodity and financial derivatives sector, creating investment and transactional gateways to the Continent that are competitive with those offered in other global regions. This aligns with the vision expressed in the Financial Sector Development Strategy 2014-19 for a “regional approach ... which will allow for greater cross-border access to investors and issuers, help broaden the investor base and product range [with] greater liquidity, scale, and capacity [putting] Africa in a position to integrate with the global market”.

It is envisaged that some EPIs may become PAEs – or participate in consortiums to promote a PAE. It is also envisaged that PAEs will interface with national and regional EPIs to create market access entry points to the PTE at national level, to synergise between contracts launched at national, regional and continental level (for example in different currencies, or to facilitate cross-border flows), to link and create arbitrage opportunities between spot, forward and futures contracts, to create synergies around quality standards, warehousing, clearing and settlement, market information dissemination and to nurture sustainable cross-border physical and financial flows.

PAEs are envisaged to be multi-asset across commodity financial asset classes, leveraging a versatile infrastructure to help realise transformation with respect to all five of the Bank’s ‘High Five’ priority areas.

ADDED implementation takes place over four phases:

1. Readiness Assessment and Capacitation: The ADDED workstream is structured at national or regional level around participating RMC and REC jurisdictions, based on assessments and declarations of readiness, and at continental level around the PAEs.
The starting point is an objective assessment of African jurisdictions’ readiness (‘Readiness Assessment’) to support derivative exchanges, overseen by the CIU and performed by appointed regulatory experts. To facilitate this assessment, a regulatory template linked to the IOSCO international standards will be developed by the regulatory experts.

The Readiness Assessment is intended to lead to a categorisation of RMC and REC jurisdictions into four readiness tiers – Tier One (ready), Tier Two (near readiness), Tier Three (medium-term readiness), and Tier Four (long-term readiness).

All interested jurisdictions are eligible to receive capacity-building with the objective of promoting readiness, irrespective of their starting point.

Timeframe: 6 months for initial Tier One Jurisdictions, and ongoing for Jurisdictions in other tiers.

2. Regulatory Framework Development: Representatives from the designated regulatory, central bank and policymaking stakeholders in each Tier One jurisdiction meet frequently in the context of a PAE Regulatory Council (PAERC). PAERC as a structure is modelled on the Euronext College of Regulators that supervises the pan-European exchange, Euronext, and comprises the financial market regulators of Belgium, France, the Netherlands, Portugal and the United Kingdom.

PAERC creates a framework for licensing and oversight of PAEs to operate across participating Tier One jurisdictions. This involves:

- leveraging the IOSCO MMOU for cross-border information sharing and enforcement relating to securities markets regulation;
- leveraging the established regulatory principle of passporting in which the PAE license is issued by the Tier One regulator of the jurisdiction in which the PAE chooses to be domiciled, but with entitlement for the licensee to participate in all other Tier One jurisdictions;
- interfacing with central banks and ministries of trade concerning cross-border flows;
- determining how many PAE licenses to allocate (it is proposed a minimum of three be considered to promote a sufficiently competitive dynamic).

Using these mechanisms, the principal regulator of each PAE is the regulator in the jurisdiction in which it chooses to domicile. That regulator uses IOSCO MMOU information-sharing and enforcement mechanisms to coordinate with regulators in other jurisdictions into which the PAE has reach – for example, the home jurisdictions of licensed brokers, clearing banks and their clients, and the location in which commodity derivative locations are situated.

All commodity and financial derivatives are eligible to be traded on the PAEs unless specifically ruled out by the PAERC, subject to usual regulatory prerequisites, including the presentation of a credible contract specification with relevant delivery infrastructure in place as required.

Over time, as more jurisdictions obtain Tier One Readiness, buy into the PAE vision and sign up to PAERC they adopt the same principles, thereby extending the single African space in which all PAEs could participate. PAERC meets for the first two years on a quarterly basis, before extending to half-yearly meetings as the regulatory framework matures in the third year of PAE operations.

Timeframe: 12 months to develop framework, followed by periodic ongoing PAERC meetings.

3. PAE License Tendering: The third phase involves a tendering process for the fixed number of PAE licenses made available by PAERC. Consortia are invited to compete for licenses under the tender. They have the right to domicile in any Tier One jurisdiction, to source end users and brokers and to establish delivery points and clearing bank arrangements across all Tier One jurisdictions.

The tender would be open to private sector-led consortia, with consortia participation open to any public or private sector entity from Africa or beyond, including existing African WRS, comex and stock exchanges.

As a preliminary proposal, bidding consortia would be required to meet the following criteria:

vi. **Standard Regulatory Requirements** (fitness and propriety, capital adequacy, technical and operational wherewithal), and

vii. **Consortium Eligibility Requirements** (e.g., minimum proportion of African participation, maximum proportion of public sector participation, defined maximum shareholding level per consortium member);

viii. **CAI Eligibility Requirements** – as defined under Principle Three above.
Submission documentation would include the CAI Application Documentation, plus a detailed business plan and supporting documents, including governance arrangements; rules and bylaws; systems manuals; risk management policy; clearinghouse capital structure; contract specifications; contractual/agreement templates; training and capacity-building manuals; and expressions of interest from stakeholders including end users, brokers, clearing banks, technology and other service providers.

Submission documentation is assessed by the CIU technical committee of independent sectoral experts against appraisal criteria including:

- vii. Priority alignment: the level of focus and prioritisation on agriculture, Bank-identified priority value chains and other high priority areas for the Bank;
- viii. Business model criteria: appropriateness, scope, sustainability, scalability, robustness, inclusivity and impact;
- ix. Resource deployment: capital, expertise, technical capability, stakeholder buy-in, investment and capacity-building commitment mobilised under the consortium.

A two-stage evaluation process is recommended:

- **Stage One – Shortlisting of Credible Applicants**: this is based on a technical evaluation of an initial Expression of Interest against the Standard Regulatory Requirements and the Consortium Requirements defined above, allowing six weeks for bidders to submit, and two weeks for evaluation;
- **Stage Two – Final Award**: allowing a further five months for shortlisted bidders to develop the submission documentation, with one month for evaluation. This lengthy timeframe is envisaged for two reasons: firstly, to allow for development of detailed business plans, including allowance for performing significant research and consultations; and secondly, to fast-track implementation by performing many of the implementation tasks – product development, business development, technology selection and scoping – as part of the tendering process.

Shortlisted consortia would be invited to formulate as part of their submission documentation a Continental CAIP (C-CAIP), as described above. In so doing, they would be encouraged to collaborate with EPIs and African public and private sectors in the Tier One jurisdictions. The C-CAIP, just as the national and regional CAIPs described above, would define a market development trajectory and pipelines for AMASS Products to support PAE implementation and development of the ecosystem elements. The CAIPs would be subject to negotiation with the Bank as a part of the tender process, around which an APDS would be developed for those consortia which are awarded a license.

Timeframe: 9 months (with an option to open up additional PAE licenses in the future).

4. **Deployment of the PAEs and the AMASS Products**. AMASS Product Deployment and Monitoring and Evaluation under the ADDED Workstream would follow a similar implementation framework for the PAEs as for the EPIs, coordinated by the CIU, as described under the CORE Workstream above. The reviews performed by the AMASS Oversight Committee, described above, will incorporate the review of ADDED product deployment alongside those of the CORE Workstream. ADDED Workstream activities will also feature in the annual AMASS Progress Event alongside those of CORE.

Timeframe: Ongoing

**D. Budget**

The core structure for implementation of AMASS is recommended to be the Comex/WRS Information Unit (CIU). The CIU is envisaged as a cross-cutting unit which interfaces with departments and complexes across the Bank as well as with the Bank’s partners, AGRA, FAO, ITC and UNECA.
Structurally, the CIU is envisaged to comprise three functional components:

- **Management function**: a small team envisaged to comprise eight full-time staff under an AMASS CIU Coordinator to perform executive and implementation roles;
- **Advisory function**: A technical committee of independent sectoral experts to provide inputs and guidance on technical matters, include CAI eligibility, PAE appraisal, AMASS product deployment and technical troubleshooting;
- **Oversight function**: A committee of representatives from the Bank and its partners to periodically review performance and shape organisational priorities over time.

Other expenditure items would include supporting travel costs to fund participation by jurisdictional stakeholders in the PAERC, plus supporting an annual AMASS Progress Event.

The budget is projected as follows:

<table>
<thead>
<tr>
<th>Expense Item</th>
<th>Annual Expenditure</th>
<th>3-Yr Expenditure</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIU Management Function</td>
<td>USD 0.65m</td>
<td>USD 1.95m</td>
<td>8 staff with projected annual cost-to-company as per the footnote below, for three years</td>
</tr>
<tr>
<td>CIU Advisory Function</td>
<td>USD 0.20m</td>
<td>USD 0.60m</td>
<td>8 advisors with projected annual advisory fee of USD 25,000, for three years</td>
</tr>
<tr>
<td>CIU Oversight Function</td>
<td>USD 0.08m</td>
<td>USD 0.24m</td>
<td>Sitting fees of USD 10,000/year for 8 representatives, for three years</td>
</tr>
<tr>
<td>AMASS Progress Event</td>
<td>USD 0.50m</td>
<td>USD 1.50m</td>
<td>Costs of conference centre, catering and travel for select delegates</td>
</tr>
<tr>
<td>Travel</td>
<td>USD 1.02m</td>
<td>USD 3.07m</td>
<td>Estimated 12 trips/year per manager; 4 trips each per advisor and overseer, 4 trips per each of 24 PAERC participants = 956 trips/ year; at average cost per trip of USD 4,000</td>
</tr>
<tr>
<td>Overhead</td>
<td>USD 0.16m</td>
<td>USD 0.48m</td>
<td>Assume USD 15,000 annual overhead – IT &amp; communications, furnishing, utilities, stationary, catering, entertainments – per manager, plus USD 2,500 per advisor and overseer</td>
</tr>
</tbody>
</table>

USD 2.61m USD 7.84m
ANNEXURE VI: SIMULATION OF RETURNS TO MALAWIAN MAIZE SMALLHOLDERS FROM PARTICIPATION IN THE ACE WRS 2013-2015 (USAID SOUTHERN AFRICA TRADE HUB)

INTRODUCTION

The simulation analyses the net returns to farmers – or livelihood gains – from various forms of participation in the ACE WRS, based on the production profile of a typical maize farmer across the three seasons 2013 and 2015. (Each season runs from June to May – so the 2013 season runs from June 2013 to May 2014.)

As part of the modelling, we examine not only the profitability of different instruments but also of different ‘carries’ – i.e. different lengths of duration, measured in months, for which the maize crop is kept in storage.

Maize is Malawi’s largest food staple, the bedrock of household consumption and therefore food security, and the most commonly produced crop. As such, the performance of the typical maize producer under WRS can offer a broad reflection of the utility of the WRS to the country at large.

1. Baseline scenario

The model assumes an average maize smallholder produces 500kg of surplus maize per season (or 10 bags of 50kg each).

The baseline assumption is that the farmer sells their maize surplus at farmgate shortly after harvest to a ‘vendor’ – i.e., a primary assembler or small trader – for a farmgate price that is understood on average to be 15% lower than the market price.

The model uses Lilongwe maize prices, as captured on a weekly basis by ACE rural enumerators using a price polling methodology.

The baseline scenario, as applied, sees the farmer making the following Malawian Kwacha (MWK)-denominated revenue based on 500kg maize sold at farmgate:

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The returns on WRS participation – or livelihood gains – is expressed in terms of the net returns to farmers, i.e., incremental revenues net of incremental costs, arising from the farmer’s use of the various WRS-delivered instruments for various carries.

The USD amount is shown only above, reflecting the prevailing exchange rate of MWK: USD 720. This makes clear to a non-Malawian audience the small quantum involved, and thus, the critical importance of every additional unit of income – i.e., every unit of return – to the farmer from participation in the WRS. (Even allowing for secondary income streams, maize is typically a farmers’ primary income stream.)
2. Modelling the instruments, incremental costs and incremental gains associated with WRS

Instruments

The two WRS-backed instruments offered by ACE are:

- uncovered (or 70%) WR finance (WRF) in which a smallholder depositor is financed without having locked in a sale in the future - i.e. the smallholder remains exposed to price risk, for the better or the worse, and the bank currently finances only 70% of the value of the commodity. The residual 30% represents a ‘collateral haircut’ in place to allow for the price risk. A depositor may also choose to sell through the comex using a WR without deferring sale. A depositor may also opt to wait for higher prices later in the season but not take finance (e.g. if they already have sufficient funds to tide over the period). Therefore, the model simulates three variants:
  » Scenario 1: Immediate Sale based on WR
  » Scenario 2: Deferred Sale based on WR, without WR Finance
  » Scenario 3: Deferred Sale based on WR, with WR Finance

- Covered (or Forward Contract) finance (FCF) in which a smallholder depositor is financed with a forward sale agreed based on a fixed price, and therefore the price risk is removed – thus the bank finances 100% of the value of the commodity. Under the structure, the farmer can take the cash at the time of the deposit, or can defer receiving cash until any time up to the forward contract exercise date and receive interest on the value of the commodity deposit payable at the time of sale (this is because the interest that would otherwise have been paid by the offtaker to the bank for financing the immediate payout is paid instead to the farmer depositor). Therefore, the model simulates two variants:
  » Scenario 4: Immediate Sale under FC;
  » Scenario 5: Deferred Sale under FC.

Incremental Costs

The incremental costs of participation in the WRS are understood to be as follows:

a. **Aggregation**: At farmgate level, participation in the WRS typically involves an aggregation fee payable to a cooperative for performing aggregation services. It is assumed that a farmer pays a MWK 500 fee for membership of a cooperative (while this fee may unlock a range of services, not just aggregation, the whole fee is accounted against WRS participation because, without it, the farmer’s scale of deposit may not otherwise be sufficient to access the warehouse.)

b. **Transportation**: The market rate for transportation in Malawi is understood and therefore assumed for purposes of modelling to be 65MWK/km/MT. The model allows for four distance assumptions – 10km, 25km, 50km, and 100km – to make transparent the effect of distance on returns from the WRS.

c. **Storage**: ACE publishes standard tariffs with which its accredited sites must comply. These include one-off fees for handling (MWK 1,400/MT), bags (MWK 2,800/MT) and bagging (MWK 2,475/MT), and then daily storage fees (MWK51.5/MT/day).

d. **Finance**: At present time, WRF is priced with a 2% arrangement fee (i.e., 2% of value) and a 38% annual interest rate.

e. **Receipting**: ACE levies a receipting charge at 1% of the value of the commodity at the time of sale.

Incremental Gains

The incremental gains of participation in the WRS are as follows:

a. **Market price premium**: As mentioned above, by selling through the market rather than at farmgate, the farmer sells at a market price, not at the farmgate price which is understood to carry a 15% discount to market.

b. **Bulking premium**: Malawian processors pay a higher price per unit – a bulking premium, understood to be approximately 10% - for bulk buys compared with smaller quantities. The bulking premium is received for sales through the WRS.

c. **Seasonal price gains** (i.e. temporal arbitrage): The logic behind uncovered WR finance is that by waiting until later in the season, the market price rises with the increasing scarcity of commodity in the market. The model uses actual pricing, reflecting pricing behaviour of maize across the three seasons. The percentage change in prices compared to harvest for each month out to nine months is reflected in the table below:
To confirm the interpretation, from the 2013 season, the prices one month after harvest were 24% higher than at harvest; the prices two months after harvest were 35% higher, etc.

It is pertinent to note that 2013 and 2015 are considered to have been ‘normal’ seasons with prices more or less increasing as the months progress. 2014 is considered to have been an ‘abnormal’ season, in so far that it coincided with an election. Elections typically bring heightened distortions to the price curve as government intervenes more extensively through buying and – in particular – selling (or dumping) in the market. As such, there is a noticeable dip in prices mid-season coinciding with the government activity. (It is noted that in all three seasons, it is understood an export ban was in place, which inter alia also depresses the rise in the price curve as more commodity stays in the country reducing the extent of scarcity as the season progresses).

d. Forward Contract (FC) Interest: assumed to be 33.5% based on current pricing. The contrast between FCF which brings an interest rate of 33.5% with WRF which brings a rate of 38% reflects firstly that the client for the forward contract – the counterparty against which the bank takes exposure – is the agribusiness bringing a lower perceived risk to the bank, as opposed to the farmer or trader which carries a higher perceived risk; and secondly reflecting a broader array of banks participating in the FC space, and thus making it more competitive.

In mapping the net returns to the farmer in each scenario, the four distance assumptions are separately displayed, so as to show the sensitivity of the returns to distance.

### 3. Scenario 1

**Immediate Sales through WRS**

- Incremental Gains to the Farmer: Market Price Premium, Bulking Premium.
- Incremental Costs to the Farmer: Aggregation, Transportation, Receipting.

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4. Scenario 2

Deferred Sale based on WR, without WR Finance
- Incremental Gains to the Farmer: Market Price Premium, Bulking Premium, Seasonal Price Rise.
- Incremental Costs to the Farmer: Aggregation, Transportation, Receipting, Storage.

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5. Scenario 3

Deferred Sale based on WR, with WR Finance
- Incremental Gains to the Farmer: Market Price Premium, Bulking Premium, Seasonal Price Rise.
- Incremental Costs to the Farmer: Aggregation, Transportation, Receipting, Storage, Finance.

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6. Scenario 4

Immediate Sale under FC.

This is the same as Scenario 1 – immediate sale under WR.
7. Scenario 5

Deferred Sale under FC.
- Incremental Gains to the Farmer: Market Price Premium, Bulking Premium, FC Interest.
- Incremental Costs to the Farmer: Aggregation, Transportation, Receipting, Storage.

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8. Conclusions

1. If the data and assumptions used in this model are accurate, important benefits from the WRS may be achieved through selling into an organised market to achieve a market price and a bulking premium, even before one considers deferring a sale. Even a farmer over 100km from the nearest warehouse could make a 15%-20% net return (or livelihood gain) by selling through a WRS rather than at farmgate.

2. The profitability ‘sweet spot’ for WRF may be defined as carries for which returns would be the most positive, even in ‘worst case’ scenarios involving heavy government intervention.
   a. On this basis, the sweet spot for WRF appears to be relatively short-term -- 1-2 month carries.
   b. Carries of this duration would have delivered 90%-plus net returns on WRF, even in 2014, for all distances under 50km.

3. Bearing in mind comments (1) and (2), is it more advantageous for farmers to sell immediately through the WRS or to defer sale under WRF for 1-2 months (or longer)? In all seasons, the answer is that deferring sale by one or preferably two months would have delivered even higher net returns than by immediate selling.
   a. In 2014, a farmer would have gained an incremental 2-3% of net returns by deferring one month, and a further 2-3% – or a total 5% – of higher net returns by deferring two months (or in absolute terms the net returns over immediate sales would be 25%-33%).
   b. The results for 2013 and 2015 were more dramatic – an incremental 10-90% of net returns by deferring two months (or in absolute terms, the net returns would increase by 60-200%).

In other words, even though there are significant benefits from selling immediately through WRS rather than at farmgate, it pays even more, to defer for one to two months.

4. WRF also offers the possibility for some spectacular net returns, as was seen to be the case with 50%-plus net returns for longer carries in the 2013 season, and 100%-plus returns in the 2015 season.
   a. However, the longer carries are also risky – in 2014, a carry longer than 3-4 months would have been unprofitable over distances greater than 95km.
   b. It may be the case that the risks are predictable and that guidance is simple to communicate – for example, that in seasons when an election is expected, or when the price at harvest is already high relative to norms (another typical deterrent to deferral of sales), then it is advisable to sell immediately at harvest.
   c. However, further investigation is required before such advice can be definitively provided.
   d. Based on experience in other global jurisdictions, the research department of the WRS/comex would be the appropriate generator of such messages, distributing this information through brokers and media.

5. FCF gives a reasonable but steady return. Importantly, FCF provides for returns that are insulated from price risk. However, when compared with the returns from immediate sale through the WRS (whether an immediate sale under a forward contract, or through the WRS in an open market), FCF does not look attractive for maize – the net returns for farmers are lower for all but the longest of carries.

6. For banks, the price performance of maize across the season – especially 2014 when price development was subject to heavy extraneous factors – should give more than enough comfort to support lending against the commodity.
   a. Even in the 2014 context, prices did not fall – i.e., price rises more than offset the price-deflating impact of government interventions;
   b. In other words, the bank would not have lost capital in the event of a borrower default under any circumstance in the three seasons that were modelled.
   c. The LTV of 70% may be considered conservative – i.e., more than adequate – in this context.

7. Importantly, WRF and FCF are profitable despite Malawi’s extremely high rates of interest – rates which in many jurisdictions and contexts would be considered debilitating.
   - a) Moreover, WRF is profitable even for relatively long tenors – i.e., the rate of price increase tends to more than offset the accumulated interest.
   - b) While lower interest rates would certainly feed into higher returns (or livelihood gains) for the farmer, the profitability of WRF and FCF for farmers in Malawi does not depend on this.
8. The analysis also reveals the sensitivity of farmer returns to distance:
   a. The table below shows that on average, every 10 kilometres of distance represents 1% of the farmer’s baseline revenue. Thus, a farmer located 100km from the nearest warehouse stands to lose an average of 10% of baseline revenues from transportation. In this scenario, putting a warehouse even halfway between the farmer’s location and the existing warehouse would save the farmer 5% of their revenues.

<table>
<thead>
<tr>
<th>Distance (km)</th>
<th>10KM</th>
<th>25KM</th>
<th>50KM</th>
<th>100KM</th>
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<tr>
<td>Average</td>
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<td>2.5%</td>
<td>5.0%</td>
<td>10.1%</td>
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</tbody>
</table>

   b. The simulation shows that the returns to the farmer can be affected materially by distance. In certain circumstances, it can make the difference between profitability and loss-making.
   c. In particular, in the 2014 season, a farmer situated within 10km of a warehouse would have been largely protected from loss-making on most carries.
   d. It is also important to note that an assessment of the cost implication of transportation only reveals one dimension of the impact of distance on returns from WRS participation. The other factors include availability and reliability of transportation. The further from a warehouse a farmer is located, in practice the more challenges that farmer faces to arrange for reliable transportation due to logistics sector inefficiencies.

   These factors support the need to locate more warehousing closer to farmers in the rural areas, outside of the existing wholesale centres of Lilongwe and Blantyre.

9. Finally, reflecting on the outputs of this simulation, does the WRS then represent a pathway out of poverty for the Malawian maize farmer?
   a. On the one hand, with the potential to increase farmer net revenues by 20-30% (and potentially higher), the WRS can certainly make an important livelihood impact.
   b. The additional revenues in the context of below-the-poverty-line incomes may be used to support critical health and education expenditures, improved nutrition, and improved household resilience through the accumulation of small-scale savings.
   c. On the other hand, if the impact of the WRS was ‘only’ to contribute 20-30% higher incomes, the typical Malawian maize farmer would still remain deeply mired in poverty.
   d. It is important, therefore, to identify that this simulation does not incorporate secondary impacts of the WRS on farmer livelihoods, above and beyond the primary direct impact on maize income.
   e. In particular, it is important to emphasise that the WRS offers access to finance for smallholder farmers who would otherwise be constrained from access to other sources of finance, except on occasion those that tend to be the most expensive (e.g., microfinance institutions and village moneylenders with rates typically in excess of 60% and 100%, respectively).
   f. If the finance made available under the WRS is used productively by the farmer – for example, to fund productivity-enhancing inputs or equipment, expansion of area under cultivation, and/or to fund diversification into secondary crops, livestock, non- or off-farm activities – the WRS can be understood as a mechanism that can fund pathways out of poverty.
   g. In this respect, it is important that WRS is not seen as a standalone intervention, but one whose potential is best unlocked when integrated with rural service provision, for example, distribution of inputs and equipment, access to financial services, and provision of technical assistance including extension services and financial literacy.
   h. This indicates another important benefit that can arise from a rural warehouse – as a hub for rural service provision, integrating the range of services identified above alongside access to storage and finance through the WRS.
Agricultural Market Access Sub-Strategy for Africa: Commodity Exchanges, Warehouse Receipt Systems, and New Standards