



Crop Receipts

A NEW FINANCING INSTRUMENT FOR AFRICA

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Food and Agriculture
Organization of the
United Nations



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ACRONYMS

ACF	Agricultural Credit Facility
APFF	African
AR	Agrarian Receipt
B3	Brasil, Bolsa, Balcão
BOZ	Bank of Zambia
CAADP	Comprehensive Africa Agriculture Development Programme
CDCA	Certificado de direitos creditórios do agronegócio (Certificates of Agribusiness Credit Rights)
CDO	Cotton Development
CETIP	Central de Custódia e Liquidação de Títulos
CMA	Capital Markets Authority (Uganda)
COMESA	Common Market for East and Southern Africa
CPR	Cédula de Produto Rural
CR	Crop Receipt
CRA	Certificado de recebíveis do agronegócio
DFA	District Farmer Associations under the ZNFU (Zambia)



DFI	Development Finance Institution	PACRA	Patients and Companies Registration Agency
EAC	East African Community	PIA	Pensions and Insurance Authority (Zambia)
EBRD	European Bank for Reconstruction and Development	PN	Promissory Note
EPA	Export prepayment agreement	PRONAF	Programa Nacional de Fortalecimento da Agricultura Familiar (Brazil)
ETG	Export Trading Group	REC	Regional Economic Commission
FA	Financing Agreement	SADC	Southern Africa Development Community
FAO	Food and Agriculture	SEC	Securities and Exchanges Commission (Zambia)
FtMA	Farm to Market Alliance	SME	Small and Medium Sized Enterprise
FIDC	Fundo de investimentos em direitos creditórios	UAIS	Uganda Agricultural Insurance Scheme
FISP	Farm Input Subsidy Program (UCX	Uganda Commodity Exchange
FSD-Z	Financial Sector Deepening	UGX	Ugandan Shilling
FO	Farmers	UIA	Uganda Insurers Association
FRA	Food Reserve Agency (Zambia)	URBRA	Uganda Retirement Benefits Regulatory Authority
GADC	Gulu Agricultural Development Company (Uganda)	US\$	US Dollar
GAP	Good Agricultural Practices	USE	Uganda Securities Exchange
GDP	Gross Domestic Product	UTCL	Uganda Tea Company Limited
GTAZ	Grain Traders Association of Zambia	UTDA	Uganda Tea Development Agency
GWF	Global Warehouse Financ	WA	Warrant Agropecuário
Ha	Hectare	WFP	World Food Programme
IFAD	International Fund for Agricultural Development	WR	Warehouse Receipt
IFC	International Finance Corporation	WRS	Warehouse Receipt System
IGAD	Intergovernmental Authority on Development	ZACA	Zambia Agricultural Commodity Agency
IRA	Insurance Regulatory Agency of Uganda	ZAMACE	Zambian Agricultural Commodity Exchange
ITC	International Trade Centre	ZANACO	Zambia National Commercial Bank
JSE	Johannesburg Securities Exchange	ZEFP	Zambia Emergent Farmers Programme
Km	Kilometres	ZMW	Zambian Kwacha
LCA	Letra de Crédito do Agronegócio	ZNFU	Zambia National Farmers Union
LuSE	Lusaka Stock Exchange		
MFI	Microfinance Institution		
MT	Metric Tonne		
NAADS	National Agricultural Advisory Service		
NAIP	National Agriculture Investment Plan		
NAP	National Agricultural Policy (Zambia)		
NFIS	National Financial Inclusion Strategy (Zambia)		
NGO	Non-Governmental		
NSSF	National Social Security Fund		
OTC	Over the Counter		

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Foreword

In Africa, more than any other sector, agriculture has the potential to drive economic growth and reduce poverty. Agriculture accounts for nearly half of the continent's GDP, and employs 60 percent of the labor force. The World Bank estimates that by 2030, agriculture and agribusiness together could develop into a \$1 trillion market in Sub-Saharan Africa, up from \$313 billion in 2010. In sub-Saharan Africa ("SSA" or "Africa"), the population remains predominantly rural, and agriculture continues to be the main source of employment and income. However, access to finance remains a key bottleneck for most African farmers and agribusiness. Agricultural finance in SSA is therefore a high priority for the International Finance Corporation (IFC), the member of the World Bank Group focused on private sector development. Building on the successful track record of its post-harvest finance under the Global Warehouse Finance Program (GWFP), which was launched in 2010 and has made over \$700 million of investment, IFC intends to look for ways to expand pre-harvest finance in Africa by introducing Crop Receipts (CRs), an innovative financing instrument developed in Brazil during the 1990s.

The aim of the proposed African Crop Receipts Initiative (ACRI) is to create a new mechanism that enables smallholder farmers to mobilize necessary funding from the market to finance their crop production. CRs have the potential to channel additional capital into agriculture by allowing agricultural input suppliers, traders, and banks to re-finance their advances to farmers. It also facilitates the entry of new financiers, including the capital market. Under ACRI, IFC intends to introduce crop receipt-based financial instruments on a pilot basis in selected countries in Sub-Saharan Africa. If successful, ACRI could be scaled up and could catalyze other funding sources. Improved access to pre-harvest finance will enable African farmers to secure quality inputs such as seeds, crop protection products,

and fertilizers, which could in turn lead to increased productivity and incomes. FAO recognizes the importance of agricultural productivity for food security as well as the role of public-private partnerships and finance to unleash the sector's production potential, and supports its member states to ensure that investments in the agricultural sector improve the inclusiveness and efficiency of agri-food systems.

IFC and FAO have partnered to assess the scope for introducing CR-based pre-harvest finance in Africa and identify concrete opportunities and entry points in two African countries. While the primary objective is to guide IFC in developing ACRI, the study's findings and recommendations could be of interest to a broader set of stakeholders in agricultural finance and development. The study includes six chapters:

- **Chapter 1** provides details on the background and purpose of the study
- **Chapter 2** analyzes the international experiences with CRs
- **Chapter 3** discusses generic entry points for CRs in Africa
- **Chapters 4 and 5** present specific opportunities for CRs in Zambia and Uganda
- **Chapter 6** presents the study's main findings and offers recommendations

More detailed annexes on the country environment in Zambia and Uganda have also been produced as part of the study and will be made available on FAO's and IFC's websites. These include legal assessments conducted by Norton Rose Fulbright in collaboration with Corpus Legal Practitioners and Shonubi Musoke & Co.



Executive Summary

BACKGROUND

Crop receipts (CRs) are a promising innovation in agricultural finance developed in Brazil about 20 years ago, replicated recently in Eastern Europe. Through the Africa Crop Receipts Initiative (ACRI), the International Finance Corporation (IFC) aims to pilot the introduction of CRs in selected countries and value chains in Sub-Saharan Africa as an alternative way for smallholder farmers to access pre-harvest finance to purchase inputs and, potentially, equipment. IFC has partnered with FAO to assess the feasibility and scope for introducing CRs in Africa and to identify concrete opportunities in two countries. The present study contains the main results of this assessment based on an in-depth analysis of the use of CRs in Brazil and pre-feasibility assessments in Uganda and Zambia. This study aims to enhance knowledge about CRs and provide guidance to IFC and other stakeholders engaged in agricultural finance in Africa on how CRs might be adapted for and introduced in Africa.

In Brazil, a CR is a promissory note (PN) issued by a farmer or farmer organization to deliver a certain amount of farm produce—crops or livestock—or the cash equivalent thereof at a future date. Against this promise, the financier advances a certain amount of money or inputs to be settled upon maturity of the note. The note can be issued to a processor, an input or equipment supplier, a financier, or a financial investor who will be providing pre-harvest finance against it. CRs mainly exist in two forms: one similar to a prepaid forward delivery contract (physical CR), and the other similar to a collateralized loan (financial CR). They can extend the concept of collateralized commodity financing from the post- to the pre-harvest space. Whereas warehouse receipts (WRs) create collateral from crops stored in a warehouse, CRs allow farmers to obtain finance secured by agricultural products they will grow in the field.

In addition to basic CRs with physical or financial settlement, several secondary instruments have been introduced in Brazil's financial system: (i) Certificates of Agribusiness Credit Rights (CDCAs) for agribusinesses and cooperatives; (ii) Agribusiness Credit Bills (LCAs) for financial institutions; and (iii) Agribusiness Receivables Certificates (CRAs) for securitization companies. These instruments allow bundling and securitization of primary CRs and other agricultural receivables. CRs and secondary instruments that are registered in either one of Brazil's two registries—BM&FBOVESPA and CETIP (which were merged in 2017)—can be traded electronically through their trading networks.

The value proposition of CRs rests on three key features:

- **Additional Collateral:** CRs create an additional type of collateral by allowing farmers to pledge their future agricultural production, thereby addressing a key 'access to finance' challenge. CRs offer superior creditor protection compared with unsecured forms of pre-harvest finance, such as prepaid forward contracts, by providing recourse against "side buyers" of contracted crops². In addition, CRs can reduce or eliminate the demand from regulated financial institutions for other tangible collateral, thereby unlocking access to additional finance for otherwise creditworthy farmers.
- **Strong Legal Standing:** Rooted in PNs, CRs have a stronger legal basis compared to loans or prepaid forward contracts. The use of CRs enables fast-track enforceability and disapplication of force majeure. They also ensure a preferred position for the lender in the event of borrower insolvency, thereby addressing key risks financiers encounter when they lend to farmers. As such, CRs encourage agricultural financiers and agribusinesses, including input suppliers and off-takers that want to extend credit to

producers as a core part of their business strategy, to engage in or expand pre-harvest finance, and to provide financing under improved conditions.

- **Liquidity:** CRs are endorsable and tradable, which increases liquidity for the initial buyer or financier. They also enable improved sharing of risks in the agricultural finance system. CRs can also be aggregated through bundling into secondary instruments to create portfolios that are of a size that is attractive to financial investors. Frontline lenders such as input suppliers, offtakers, and banks with good financing technologies and strong-performing portfolios can either discount or sell parts of their exposure to other banks and investors, or package CRs into secondary instruments. This would enhance liquidity and avoid portfolio concentration risks in the books of primary lenders, thus allowing them to originate additional pre-harvest finance while enabling the flow of additional funding from a broader range of investors into the sector. For banks, such market liquidity could potentially decrease the use of economic capital and the loss given default and hence contribute to price reduction. CRs would also offer alternative investment opportunities for domestic financial investors by creating a new asset class that is relatively uncorrelated to conventional asset classes such as government bonds and real estate.

In Brazil, the exemption of the buyer of CRs and secondary instruments from financial transaction and income taxes has been instrumental in developing a secondary market for CRs, once the concept was proven successful.

USE OF CRs IN BRAZIL

In Brazil, CRs are used in various ways: Physical CRs have become very popular with input suppliers and offtakers who use them to expand their sales or to secure raw material supply. Often, physical CRs are used in barter transactions, whereby farmers issue CRs to purchase a basket of products and services required for crop production that is paid by farmers through issuance of

a CR. Likewise, offtakers frequently use physical CRs to secure supply from farmers with whom they have an established commercial relationship. CRs can also be auctioned off to the highest bidder through the electronic network of the commodity exchange to buyers who are registered in the approved financial registry. This modality is advantageous for the farmer because he can sell to the buyer with the most competitive terms and does not need to be tied to one offtaker. In practice, the trading of CRs generally require the farmer to enhance the instrument by taking on an aval or third-party guarantee from a reputable bank, or cover from an insurance company.

Banks often use CRs in addition to loans to strengthen the repayment obligations under the loan. CRs can also be rolled over into WRs which would extend their maturity and eliminate the requirement for the farmer to sell at harvest time, when prices tend to be the lowest. There is an active secondary market for CRs and associated instruments where primary buyers and financiers can endorse CRs and sell them to banks, commodity buyers or investors at face value discounted at the prevalent interest rates, using the LCA instrument³. Banks can keep CRs to maturity, or pledge them to another bank as part of a security package. It can also, after endorsement, sell or discount it to another bank. International banks are often the buyer in the second case. The secondary market in CRs and related bonds is also strengthened by the presence of investors that are keen to package sets of such instruments. Agribusiness Securitization Companies have created several types of investment funds. The assets of some of the funds can only be invested in CRs and related instruments for aggregators (CDCAs⁴) through Certificates of Agribusiness Receivables (CRAs), while assets of other funds can be invested in any asset class through Credit Rights Investment Funds (FIDCs). Because of the significant potential of agriculture in Brazil, financial institutions and portfolio managers have structured dozens such FIDCs specifically for agribusiness instruments and receivables, had CR-backed bond issuances rated by international rating agencies, and leveraged them to source significant amount of funding.

One other important feature of the CRs and secondary instruments is their eligibility as initial margin collateral for positions on the country's futures exchange, namely B3 (*Brasil, Bolsa, Balcão*, formerly BM&FBOVESPA). In this context, the CR also plays the role of collateral substitute, enabling value chain players to mitigate price risk or pursue a range of derivatives-enabled sales and trading strategies.

The analysis of the evolution, size, and performance of the CR market is severely constrained by the lack of comprehensive data in an accessible format. This lack of data is linked to one of the major weaknesses in the Brazilian CR environment: the co-existence of many scattered registries for different assets—some of which cannot easily be electronically consulted—combined with high transaction costs for registration under complicated procedures. As a result, only a fraction of CRs and related instruments are registered centrally (the ones to be traded on secondary markets), and only one of the registries—CETIP—provides user-friendly data⁵. A large proportion of CR transactions is only recorded locally, or may even remain unrecorded, thus undermining the legal strength of the instrument.

Based on the evidence available—including literature, CETIP data and interviews with key stakeholders in Brazil during this study—a few broad trends emerged.

- The total size of the CR market is estimated to be 10 times larger than the part registered at CETIP and BM&FBOVESPA, which was approximately \$2 billion at the end of 2015. Industry sources consulted during the study point to a strong increase in barter transactions in recent years, which was driven by large input suppliers using this instrument to promote their sales in a highly competitive and transparent input market.
- The majority of centrally-registered CRs are financial. This is likely attributable to the fact that financial CRs are more suitable to be traded or wrapped into secondary instruments given that their face value is stated on the receipt.

- The bulk of the CRs are issued by medium and large farms, with some smaller farmers using CRs mainly through cooperatives as barter transactions or via CDCAs in the coffee subsector.
- Over 70 percent of all registered CR transactions have been concentrated in four value chains: soybean, sugar cane, cattle, and coffee. In addition to the overall economic importance of these value chains which account for almost 60 percent of the total value added in the agricultural sector, a key common feature of these value chains is the existence of liquid futures markets, which allows a better valuation of the CR at the time of issuance. It also facilitates producer hedging as the CR can be used as initial margin on a futures position.
- There has been a strong growth of secondary instruments. This has been fuelled by their exemption from the financial transaction tax and from income tax of individual investors. Further, investors look favourably on agriculture because of limited correlation of investment risks in the sector with those of other assets classes, and because investment opportunities in other sectors are limited.
- The average size of centrally-registered CRs has increased from US\$29,000 in 2004 to US\$137,058 in 2015, reflecting the overall increase of securitized instruments based on CRs and the high transaction costs for central registration and trading.
- Despite the absence of aggregate data, evidence suggests very few wilful defaults with CRs. And in cases of default, recovery rates have been high (in other words, the Loss Given Default has been low). In case of default due to unfavourable external events, including climate-, pest-, and disease-related events, obligations under CRs tend to be rolled over into the next season, especially when farmers and financiers have a long-standing relationship.

On aggregate, CRs still represent a minor share of total agricultural finance in Brazil. This is partially due to an increase in agricultural credit from public sources

(also called “official credit”) since 2002. Notably, official credit accounted for 58 percent of all agricultural credit in 2012. The National Programme for Strengthening Family Agriculture (PRONAF) grew to a total of R\$30 billion (approximately US\$8 billion) by the end of the 2015/2016 growing season, accounting for 58 percent of all agricultural credit during that time period. Interest rates through PRONAF—which were between 2.5 percent and 5.5 percent per year—were well below commercial rates, and made the use of CRs largely unattractive for this market segment. Many medium- and larger-scale farmers can also access public (“official”) credit below market rates. These farmers often use CRs as complementary instruments to meet additional financing gaps.

In Brazil, the success of CRs finance has been due to an enabling ecosystem composed of the following elements:

- CRs are built on existing financing instruments in agriculture such as PNs and prepaid forward contracts, and on secondary instruments used in other sectors.
- A dedicated legal framework that was introduced to customize PNs and secondary instruments for the agricultural sector, resulting in greater clarity and certainty among players.
- Banco do Brazil has acted as a strong champion driving the introduction of the instrument and the creation of a market through avals and an electronic trading platform.
- A large commercial farming sector integrated into several globally competitive value chains has provided sufficient scale for the instrument.
- Commercial farmers and cooperatives with established track record with banks and agribusiness have been able to issue CRs of sufficient size.
- The existence of a commodity derivatives exchange offering futures markets for key value chains has helped to discover future prices. Hence, the value of the delivery obligation and main collateral has also allowed players to hedge price risk.

- A well-developed financial market and more sophisticated banks and financial investors have facilitated the introduction of secondary instruments, which have been key for mobilizing additional finance into the agricultural sector.
- Monitoring companies have facilitated the early detection of production failure, fraud, and side selling.

Despite the overall success of CRs in Brazil, there are also some weaknesses in the institutional and market environment that need to be taken into account when considering the introduction of CRs elsewhere. In addition to the problems related to the registry system, there is the challenge of inconsistencies in interpretations and rulings by local courts across Brazil’s vast territory, which is due in part to the fact that it has taken some time for courts to fully understand the legal provisions governing CRs. Hence, the introduction of CRs needs to be accompanied by a broad awareness campaign for courts and other public stakeholders. Moreover, while enforcement of CRs is much faster than that of credit contracts and related collateral—for instance, foreclosure and sale of rural mortgage can take seven to 10 years—it may still be too slow, depending on the speediness of local courts. Lastly, CRs are still largely untested as a financing instrument for smaller farmers.

INTRODUCING CRs IN AFRICA

The agricultural and financial systems in Africa are quite different from those in Brazil. In Africa, most markets are smaller by comparison and producers, with few exceptions, tend to operate at a smaller scale and are less sophisticated. Most value chains in Africa are also less integrated as compared with those in Brazil. Although there are higher levels of policy, legal, production, market, price, and credit risks, there are fewer instruments to manage these risks. Overall conditions for agricultural finance in Africa are more challenging, which renders a large-scale introduction of Brazilian-style CRs and secondary instruments unlikely soon. Nevertheless, several entry points for CRs have been identified during the present study. They can be further explored through CR pilots, and eventually integrated into a larger CR portfolio.

- **Established commercial producers** such as the medium- and large-sized farmers, estates, and plantations would provide lower risks. They would be able to issue CRs that are large enough to satisfy banks and investors, and can be good entry points for CRs. As in Brazil, CRs would enable these producers to access additional finance, if their “hard collateral” is already pledged, or to negotiate better terms on the premise that CRs provide additional collateral and improved enforceability to the financier. Producers at the upper end of the commercial farming spectrum might be able to issue CRs directly to investors while those at the lower end of the spectrum may need to bundle CRs into secondary instruments such as CDCAs, or sell them directly to banks.
- **Medium and ‘emerging’ farmers**, defined as producers having a land holding of up to 20 hectares, have a slightly higher risk profile, but present an interesting opportunity for market growth. Due to the smaller size of their credit requirements, they can be financed either through bilateral transactions between banks or agribusiness and farmers, or through tripartite arrangements whereby banks provide financing to farmers, and farmers repay their loans through offtakers. Given that emerging farmers are less able to meet banks’ lending conditions, CRs could play an important role in unlocking additional finance to this segment.
- **Organized smallholder farmers** which are well integrated into structured markets or value chains through contract farming would present a more challenging market segment but could be a critical one in the medium to longer term. Scheme operators usually maintain historical records of farmers’ productivity, delivery, and repayment performance, which can facilitate farmer selection. Moreover, farmers who supply to large offtakers are often organized in groups—sometimes in formal cooperatives, in other cases through informal groups around agents or lead farmers—and can assume aggregation and monitoring functions and act as co-guarantors.
- **Agribusinesses**, including input suppliers and offtakers, can both accept CRs issued by farmers as a financing instrument and issue secondary instruments as aggregators backed by their future CR receivables from farmers. The main entry points would be established contract farming or outgrower schemes, which could be enhanced through CRs to strengthen the pre-harvest financing arrangements with farmers and to obtain additional liquidity for the agribusiness through secondary instruments. Value over the existing financing mechanisms would be added through: (i) the creation and perfection of security interests in future crop or livestock production; (ii) the increased enforceability through out-of-court settlement; (iii) the appointment of a receiver arrangements; or (iv) the possibility to package future receivables into secondary debt instruments to access finance from banks and capital markets.
- **Commodity Exchanges** can act as a clearinghouse, allowing producers to sell their crops to buyers by using CRs through auction instead of being tied to one buyer through a contract. In this case, third-party guarantees, the potential joint liability within a farmer organization (FO), or cash deposits could be mechanisms to manage risks.
- **Banks** can enhance their current lending products through CRs, either by substituting loans with PNs or by using the latter as additional collateral. The stronger legal standing and enforceability through CR enhancements would enable them to provide more finance to existing and new clients, reduce or eliminate requirements for other tangible collateral, reduce interest rates, or extend tenors. Banks with good financing technologies can package their CR portfolio into secondary debt instruments to access additional finance. Alternatively, they can sell their CR portfolio to other banks or financial investors, to avoid portfolio concentration risks and remain within sectoral lending targets. Both approaches would enable banks to expand their agricultural lending.

- **Financial investors** can use CRs and related secondary instruments as new avenues to fund agriculture, including: (i) directly funding large producers; (ii) funding bonds issued by agribusiness or banks backed by primary CRs; and (iii) setting up specific investment vehicles by bundling CRs. For example, the growing number of impact investors and investment funds specialized in agriculture may see CRs as an additional investment option, either as standalone investors or within blended finance structures. In the medium to long term, commercial investors such as insurance companies may also look for opportunities to diversify their investments, which are typically concentrated in urban real estate and government securities. This would require support from regulators for the structuring of CR-backed securities through organized capital markets.

Given that bond markets and commodity exchanges are still in their infancy in most African countries, CRs will mainly be issued directly to input suppliers and financiers

in the short term. However, in the medium to long term, establishing CRs as capital market instruments can help broaden the sources of funds for pre-harvest financing beyond the direct market partners of farmers, such as banks and agribusiness. It can also enhance competitive pressure and stimulate financial innovation. Likewise, financial investors would have the opportunity to diversify portfolio risks by investing in different asset classes.

INCREMENTAL APPROACH

CRs have been developed in Brazil within a specific context, and are limited in use in other countries so far. Therefore, knowledge about how CRs can best be adapted to and introduced in other country contexts is limited. Though CRs have been used recently in Ukraine and Serbia, the country contexts are significantly different from those in Africa. Both countries started by developing a dedicated legal framework for CRs. However, commercial uptake and interest from the financial sector have been more moderate than expected. One might consider a different



approach for Africa. Rather than creating the complete ecosystem for a full Brazilian-style CR replication at once, an incremental approach that incorporates the following steps could be more effective:

- Structure CRs based on financing and security instruments under existing law;
- Identify commercial entry points to test the instrument on a pilot basis;
- Identify a champion, similar to Banco do Brazil, that can provide thought leadership and operational support for the introduction of CRs. The champion can help give credibility to, and provide initial co-financing and underwriting risks for CRs.

The commercial entry points could first build on existing pre-harvest financing structures, which could be in the form of outgrower schemes or existing agricultural finance products of local banks. One or several CR features could be introduced to enhance existing agri-finance structures within the boundaries of the current legal, institutional, and market environments. Whether the added value from the use of CRs would be achieved through improved enforceability, additional collateral, enhanced liquidity, or new funding sources (or any combination of these) will depend on specific country and value chain conditions.

In the absence of a dedicated legal framework, and in view of the newness of the instrument, a phased approach is preferable. A phased approach would allow for the adaptation and customization of the CR instrument to the unique conditions in a country. It would also make it possible to test the viability of the chosen approach and to evaluate its added value. A phased approach would also provide sufficient time to raise awareness among public and private stakeholders about the potential of a CR instrument; identify weaknesses and gaps in the current legal and institutional environment, and build the support needed to address such gaps.

In Zambia and Uganda, several commercial entry points have been identified. In Zambia, these could include: CR enhancements of existing lending products of banks to

commercial farmers engaged in grains and oilseeds; the Lima and Loan a Cow Credit Schemes targeting organized smallholder farmers in the maize and dairy value chains; and cotton outgrower schemes. In Uganda, the main entry point would be in the tea subsector, including smallholder-owned tea factories and tea estates. A second entry point could include large sugarcane outgrower schemes. Both primary and secondary instruments could be introduced to enhance liquidity of farmers and aggregators simultaneously. The secondary instruments can be sold to banks, development finance institutions (DFIs), and impact investors.

LEGAL ENTRY POINTS

In order to create CR-inspired products and structures through existing financing and security instruments, current legislation should support the following: (i) creation of a pledge over future agricultural produce and other movable farm assets such as trees and livestock; (ii) perfection of such security interests, preferably through low-cost electronic registries; (iii) fast-track court procedures or out-of-court settlement in case of default; (iv) endorsement of financing and security instruments; (v) creation of secondary instruments; and (vi) trading of the financing and security instruments over the counter, and preferably, also on capital markets.

While tradability on organized capital markets might not be a binding constraint at pilot stage, it would become an important element in building a liquid and diversified CR market in the longer term.

Fiscal incentives backed by public policy may also be an important push-factor. In Brazil, financial transaction tax and individual income tax exemptions have facilitated the participation of local and international investors in the CR market. A similar outcome in the African context may result in a pool of well-priced capital accessible to financiers, which can, in turn, stimulate them to finance CRs and secondary instruments.

The legal assessment in Zambia and Uganda found sufficient legal conditions for piloting CRs in both countries. Under Zambian law, physical and financial CRs can be based on PNs secured by a floating agricultural charge over future crops and other farm assets. PNs and attached security instruments can be endorsed and traded, and can also be wrapped into secondary debt instruments such as bonds. The agricultural charge can be registered at the newly created electronic registry for movable collateral but unfortunately would still need to be registered at the agricultural charge registry which is currently a manual system and leads to additional costs and potential delays.

In Uganda, PNs are uncommon and there are legal limitations to their prospective use for physical settlement. CR pilots would therefore need to be based on contract law using loans or prepaid forward contracts as financing instruments. Such financing instruments can be enhanced by securing them with a charge taken over future crops or, possibly, other farm assets. An important legal impediment is the prohibition in Uganda to turn a security interest into a transfer to the financier, which is historically a provision to prevent abuses. Hence, an agribusiness cannot create a charge over future crops it intends to buy. This provision undermines the creation of a physical CR. However, this impediment can be circumvented in a pilot by structuring financial CRs as tripartite arrangements, which is typically between a bank, an offtaker, and farmers or farmer organizations, whereby security interests would be created in favor of banks. In the event of default, banks can then sell farm produces to interested agribusinesses.

Both countries allow for the use of out-of-court settlement through the appointment of a receiver as a condition that may be specified with the issuance of security instruments. The latter would circumvent the notoriously slow court systems and allow the financier to appoint a person or entity, such as a farmer organization, to take over the productive assets pledged by the defaulting farmers until the obligation under the CR has been settled. While the feasibility of such arrangements in practice would need to be tested, they might provide improved prospects for enforceability, especially if

enhanced by other collateral substitutes such as joint liability.

While the above legal foundations would allow the introduction of CR-enhancements and CR-inspired structures, dedicated CR laws would greatly facilitate the introduction and mainstreaming of CRs as well as their customization to suit the local context. Such laws would ensure coherence among existing legislation, define operational issues, and address critical gaps and impediments, thus create greater confidence among private sector actors and provide guidance to courts and other public actors.

In line with an incremental approach, a legislative process should not precede but complement or follow the introduction of CR pilots based on existing law for several reasons. First, it would be difficult to mobilize sufficient political and commercial support for developing new laws for an unknown instrument that has, to date, seen limited practical application outside of Brazil. Second, the experiences and lessons generated through pilot operations can greatly facilitate the development of legal and regulatory frameworks that suit domestic legal, institutional, and market conditions. Third, unless the instrument has been tested, it is unlikely that the introduction of a legal framework alone would be sufficient to create confidence of private financiers. Finally, legislative and regulatory processes, which are often protracted, may dampen the private sector's interest in using the instrument, as has, arguably, been the case with the introduction of WR-related legislation in Zambia and elsewhere.

PORTFOLIO APPROACH

Given the relatively small size of CR entry points, at least in the short to medium term, a portfolio approach is needed to create the necessary scale for investors such as DFIs and investment funds, and to diversify risks. A CR portfolio may be composed of investments in: (i) farms of different sizes, including large producers, estates and plantations, medium-sized and emerging producers, and

organized smallholder farmers, (ii) different types value chains; and (iii) primary CRs from large producers and secondary instruments issued by agribusinesses and banks. A diversified CR portfolio would not only allow financiers to balance risks with scale and development impact on the asset side, it would also allow a blended funding structure through investment vehicles that combine fully commercial sources with development and impact funding sources.

CLUSTERING AND AGGREGATION

In line with the above, aggregation of CRs is critical for achieving the economies of scale that are necessary to create larger CRs that are more attractive and viable for financiers. First-level aggregators, such as FOs, lead farmers, traders, and off-takers, can create CRs that are backed by future receivables from associated farmers and enhanced through joint liability and other risk mitigation measures discussed before. Second-level aggregators, such as agribusiness companies or banks, can create secondary debt instruments based on primary future receivables

and associated collateral from farmers and first-level aggregators. These secondary instruments would be over-collateralized and can be further enhanced through third-party guarantees or other collateral provided by the originator. Large off-takers may be able to assemble future receivables of sufficient size that would allow them to issue secondary instruments to DFIs and investment funds.

Banks could build CR portfolios by combining CRs from different value chains and issuers—including farmers of different sizes—with secondary instruments issued by agribusiness. This portfolio could be packaged into larger secondary instruments offered over the counter (OTC) to DFIs and impact investors, or on capital markets. In addition, investors and DFIs may consider building sub-regional CR portfolios that cover several countries.

MULTI-YEAR FRAMEWORKS

To facilitate the creation of secondary instruments and reduce transaction costs, CRs can be structured through multi-year frameworks between relevant parties to



support recurrent working capital requirements that are renewable based on performance. This is particularly relevant for livestock, tree crops, or other value chains such as sugar, where annual costs of production may vary significantly over a multi-year cycle because of the need for maintenance and replacement costs of the productive asset. Under such circumstances, CRs could also be used to finance the longer-term investments such as the trees, animals, and farm assets that require longer maturities of the payment stream.

SEQUENCING

In Brazil, secondary instruments were introduced 10 years after the introduction of physical CRs, which is only three years after the introduction of financial CRs. Given smaller market sizes and the preponderance of small producers in Africa, a different approach is needed. To build scale and diversify risks, several CR instruments could be introduced concurrently. Specifically, physical and financial CRs could be introduced along with secondary instruments that are the equivalent of Brazil's CDCAs, LCAs, and CRAs. In some cases, secondary instruments might even be the first entry point to allow aggregators such as agribusinesses to bundle and securitize their future agricultural receivables, including in their current form as agricultural loans or prepaid forward contracts, and to access additional or cheaper sources of funds from banks and capital markets. These primary agricultural receivables could then be strengthened gradually by introducing CR features to enhance their enforceability and facilitate endorsements. Doing so would provide a stronger basis for secondary instruments and make them more attractive to investors.

MOVING DOWN MARKET

Most African farmers are smallholder farmers, and this will remain so for the foreseeable future. Even though medium- and large-scale farmers provide easier entry points, these market segments are niches that alone are too small to support the growth of CR markets to commercial scale. Therefore, to gain traction and catalyze

the transformation of agriculture in Africa, CRs would need to move beyond the confines of established commercial farmers. Adapting CRs to smallholder contexts is the main challenge for introducing the instrument in Africa. To what extent this can be done remains to be tested. Like for any other financial instrument, there are economies of scale rooted in transaction costs that make CRs to smaller farmers more expensive. Risks are also higher given the typical lack of written records or established track records that farmers have with commercial and financial partners. To that end, this report identifies ways to structure "micro CRs" and provides concrete examples of suitable pilots. The suggested mechanisms to mitigate risks and reduce transaction costs are built on general good practices in agricultural and microfinance. They include:

- Facilitating farmer screening and selection to reduce production and market risks, focusing initially on established value chains, outgrower schemes, and FOs with strong production and delivery records;
- Working with agents and aggregators such as cooperatives, lead farmers, or traders, to: (i) support farmer selection, monitoring, and enforcement, (ii) issue CRs of a larger size, and (iii) co-guarantee delivery and payments;
- Using joint-liability mechanisms and cash collateral at the primary farmer group level, in addition to more formal secondary structures such as cooperatives to serve as a first line of defense against willful default;
- Targeting value chains that have: (i) some access to agricultural insurance to mitigate key production risks, and (ii) some form of local or international price discovery mechanism;
- Using out-of-court enforcement as primary mechanisms to enable the lender to seize the defaulting farmer's crops or appoint a receiver to take over his productive assets as a second line of defense;
- Disbursing a small amount of pre-financing in initially. The amount of financing can be increased gradually based on past performance;

- Setting low loan-to-value ratio⁶ of around 30 to 50 percent in the beginning so that the future delivery obligation of pledged crops is overcollateralized compared to the amount pre-financed plus interest payments—once a track record has been established, the loan-to-value ratio could be raised to 60 to 70 percent;
- Using additional collateral such as trees, livestock, and other farm assets combined with the appointment of a receiver arrangement.
- Providing advisory services to build capacity of farmer groups and aggregators and to monitor the transaction flow between stakeholders.

Tapping the market of smallholder farmers seems most feasible within a portfolio approach that is composed of established commercial farmers, estates and plantations, emerging farmers, and organized smallholder farmers.

REGIONAL MARKETS

Given the relatively small scale and inherent liquidity constraints in national markets, regional approaches to commodity exchange and capital market development should be encouraged for CR instruments. Engagement with Regional Economic Commissions (RECs) and relevant regional industry bodies can help ensure a level of instrument and market standardization that is needed to facilitate cross-border approaches. This is especially important in common currency zones such as West and Central Africa.

FISCAL INCENTIVES

Fiscal incentives can be an important push-factor. For instance, tax exemption in Brazil has facilitated the participation of local and international investors. A similar outcome in the African context may result in a pool of well-priced capital accessible to financiers, which can stimulate financiers to proactively market their readiness to finance CRs and secondary instruments.

WAY FORWARD

a) In the short term

Country pilots. IFC and other Development Finance Institutions (DFIs) could consider supporting CR pilots in select countries through investment and advisory services. Several commercial entry points have been identified in Zambia and Uganda. Though small, these pilots could serve as proof of concept and eventually become building blocks for a CR portfolio.

The commercial interests of the identified stakeholders need to be confirmed before starting a pilot. This is especially true in case of Zambia, given the recent development since the country assessment was conducted. Details, including pricing, risk-sharing percentage, and portfolio size of the proposed structures and products will be developed during the pilot. Advisory services, including training and capacity building programs, will be needed to define the respective roles and responsibilities of stakeholders of the pilot, including financial institutions, agribusiness and farmers and their organizations, and improve various operational aspects of the pilot. Other private actors might be identified later in the pilot. Because the use of CRs is still new in Africa, there will be a need to create additional awareness among a broad range of actors. The analysis undertaken in this report and the legal impediments review can facilitate this process.

Policy and regulatory support. In tandem, policy makers and regulators should be sensitized to the potential of CRs in their respective jurisdictions, the fit of CRs under the existing legal and regulatory environment, and the potential bottlenecks and constraints during implementation. Lessons learned from pilots can be used to share knowledge and to identify reform needs. Such reforms could include speeding up ongoing initiatives such as the enactment of the Chattels Security Act and the establishment of an electronic movable collateral registry in Uganda, and addressing operational issues such as streamlining the registration for agricultural charges in Zambia. In addition, initiatives that strengthen

risk management instruments such as crop insurance, government guarantees, and commodity derivatives should be supported as they are critical for expanding CR financing and agricultural finance in general. A further topic for discussion with competent regulators concerns the link of CRs to capital markets and the possibility to trade CR-enabled structures on capital markets.

Subject to the results from the pilots and interest from domestic stakeholders, the development of dedicated CR laws could be supported to mainstream the instrument.

Broadening the market assessment. The present study was limited to two African countries, but opportunities and entry points are likely to exist in other countries as well. An initial continental screening suggests that such entry points may exist in Ghana, Tanzania, Rwanda, and Senegal. Such studies could facilitate the building of a cross-country portfolio.

b) In the medium term

To support the introduction of CRs in Africa, IFC and other DFIs could establish an African Pre-harvest Finance Facility (APFF). The APFF could be modelled similar to IFC's Global Warehouse Finance Program (GWFP). In line with the incremental approach recommended in this report, the Facility would support pre-harvest financing structures and products which would include at least one of the key features of CRs:

- Collateralization of future production and related productive assets that can serve as the main collateral;
- Use of PNs as the main financing instrument; and
- Creation of secondary instruments based on future agricultural receivables.

These eligibility criteria would enable banks and agribusiness to expand and improve their existing pre-



harvest finance portfolios by building in CR features. This approach would allow DFIs and other investors to generate investments of commercially viable scale while pushing the frontier towards more ambitious structures and, eventually, fully fledged CR finance and related markets.

The Facility would have a financing and a capacity development window.

Under the financing window, a range of financing instruments could be offered depending on the type and size of transactions, and the risks involved. Examples include:

- Guarantees to primary buyers of CRs, including banks and agribusinesses;
- Guarantees to support the issuance of secondary instruments such as bonds;
- Loans to banks and agribusinesses to refinance primary CR portfolio instruments;
- Purchase of secondary instruments such as bonds;
- Support for the structuring of domestic and regional capital market instruments, including bonds, special purpose vehicles, and funds; and
- Co-investments to mobilize domestic and regional investments.

Under the capacity development window, the activities in the following areas could be financed:

- Policy and legal regulatory support;
- Stakeholder capacity building (e.g. financial institutions and farmer cooperatives); and
- Thought leadership on innovations and best practices.

Important thematic areas under this window include:

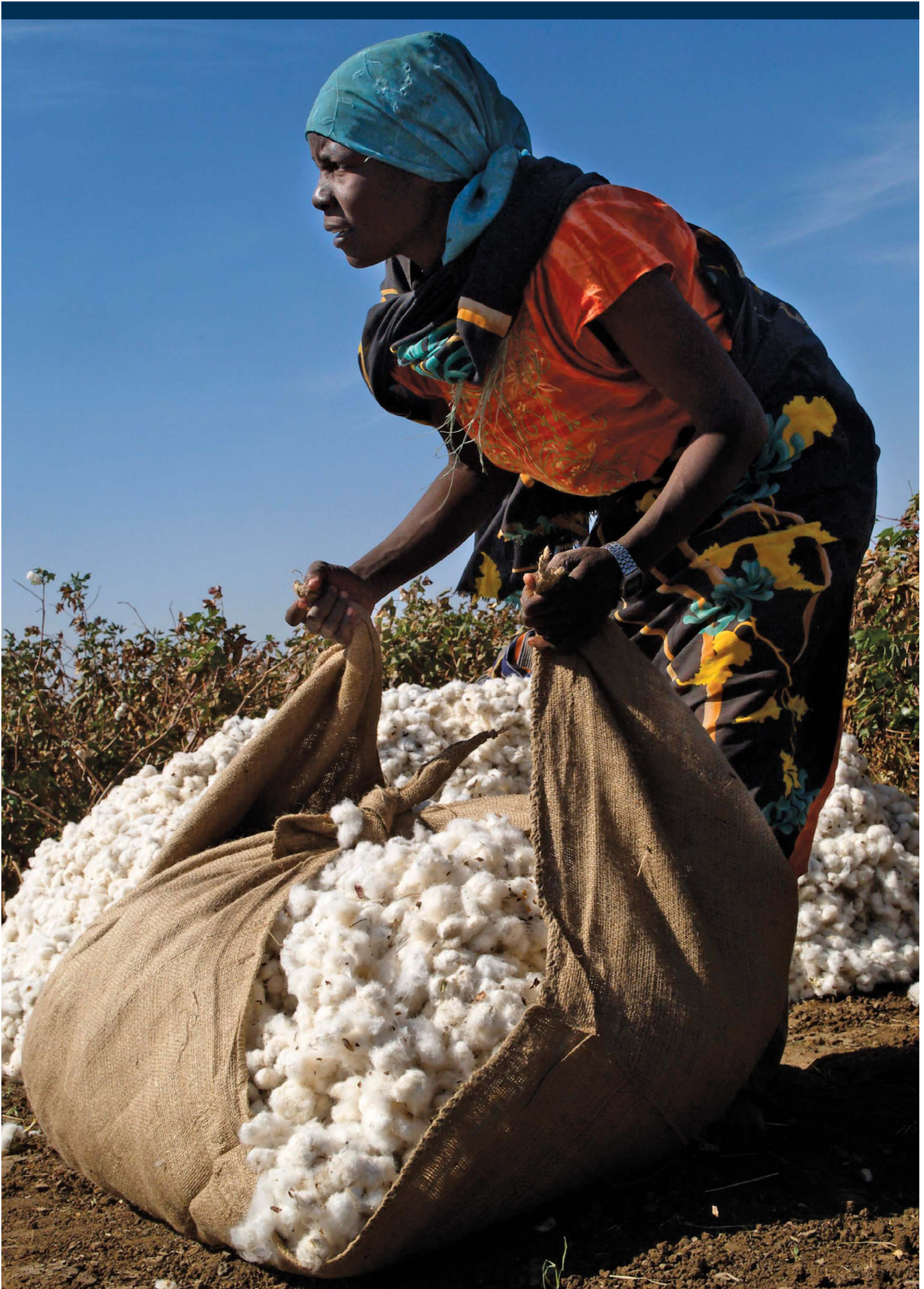
(i) the development of templates to serve as model CRs with physical and financial settlement along with practical guidelines to foster clarity and transparency on key parameters such as price determination, and (ii) the calculation of financing costs, and adaptation of the instrument to different value chains and farmer categories.

More work is needed to: (i) capacitate FOs, and (ii) create minimum requirements in terms of legal status, governance, financial and operational track records, criteria and processes for accreditation of FOs, and operational guidance for their roles as aggregators, co-guarantors, and co-enforcers.

In the medium term, the development of sub-regional CR portfolios could commence once CRs pilots have been implemented successfully in several countries. A pan-African crop receipts association could be formed to facilitate this process by defining minimum standards for CRs to become part of a secondary instrument. It would be a voluntary self-regulatory body that would facilitate market development and accredit members.

Approaching institutional investors. A program for the introduction of CRs in Africa should be accompanied by an awareness-raising and promotional campaign targeting Africa's institutional investors. Such a campaign should target both key financial sector decision-makers and mid-level staff who will have to engage in actual CR operations.

Given that Africa's financial market is still emerging, DFIs may invest in national and sub-regional investment funds that specialize in originating CRs. Similar to the Brazilian mechanisms for linking CRs and CRAs, DFIs can act as aggregators of small CRs to issue larger notes, and can help provide insurance companies with the deal sizes that are commercially viable.



1. Introduction

1.1 THE AGRICULTURAL FINANCE CHALLENGE

Access to finance remains a critical bottleneck for farmers and agribusinesses in Africa. Farmers, processors, and other agricultural value chain actors need better access to a broad suite of financial services for working and investment capital and for managing risks if they are to become more productive and contribute to global food security. While access to financial services is a frequent constraint at all segments of agricultural value chains, pre-harvest financing at the farm level is perhaps the biggest gap, as evidenced by the low usage of agricultural inputs and equipment in Africa. Improved access to pre-harvest financing is critical for farmers to use high quality inputs and equipment more quickly and on a larger scale. To date, only a small percentage of farmers in Africa have access to properly structured and priced pre-harvest finance. Most farmers often resort to self-financing or using other personal income. Such strategies have proven insufficient to foster broad-based agricultural growth and multipliers for poverty reduction, food and nutrition security, and overall economic growth.

Despite some progress, current available options for pre-harvest finance are insufficient. Because of the high risks and costs involved, providing such finance in a cost-effective and sustainable way is one of the most challenging areas of rural financial market development in Africa. This is especially true for the smallholder-dominated agricultural systems in Sub-Saharan Africa, where financial service providers need to overcome numerous challenges related to low population densities, small transaction sizes, high levels of informality, unmitigated exposure to climatic and other production risks, and poorly integrated value chains. These challenges add to the various risks related to agricultural production and marketing, as well as the broader market and policy environment.

Lack of tangible collateral and weak contract enforceability are two major hurdles for expanding pre-harvest finance. Farmers, cooperatives, and agri-based small- and medium-sized enterprises (SMEs) are often unable to provide conventional collateral of sufficient value that can be seized and liquidated at reasonable costs in case of default. While some progress has been made by several microfinance institutions (MFIs) and banks in using collateral substitutes, the size and scope of these operations in agriculture have remained limited. Moreover, banks are facing increased regulatory constraints to expand their unsecured lending because of increasingly stringent capital and loss provisioning requirements. Difficulties in valuing, seizing, and liquidating collateral lead to high levels of over-collateralization, further reducing financial access. Input suppliers and offtakers have stepped in through contract farming and supplier credits, and have become important sources of pre-harvest finance in some value chains. However, these input providers and offtakers often still grapple with weak contract enforceability and side selling. Even if tangible collateral is in place, bank and non-bank financiers alike continue to struggle with weak enforceability of both loans and prepaid forward contracts.

Banks and agribusiness that have managed to establish viable pre-harvest financing models frequently face challenges on the liability side of their balance sheets due to limited access to reasonably-priced funds to expand their portfolios. At the same time, capital market investors in African countries typically have limited investment opportunities outside of government bonds and real estate. Therefore, financial innovations are needed to address collateral constraints, enlarge options for risk and liquidity management, and tap into capital markets for additional sources of funding agricultural production.

1.2 CROP RECEIPTS—AN ADDITIONAL INSTRUMENT FOR PRE-HARVEST FINANCE FOR AFRICA?

One promising innovation in pre-harvest finance is Brazil's Cedula de Produto Rural, which is commonly referred to as 'crop receipt' (CR?). A CR is a bond issued by a farmer or farmer organization (FO) to deliver a certain amount of farm produce (crop or livestock) or the cash equivalent thereof at a future date. Against this promise, the buyer or financier advances a certain amount of cash or inputs to be settled at maturity of the bond. The bond can be issued to a processor, an offtaker, an input supplier, a bank, or a financial investor that provides pre-harvest finance against it. CRs mainly exist in two forms. One is similar to a prepaid forward delivery contract, while the other is more similar to a collateralized loan. They are used in several different ways: (i) to strengthen value chain finance by making it easier for input providers to supply inputs on credit, and easier for cooperatives and processors to fund their value-adding activities; (ii) to create a mechanism for banks to raise attractive funding which they can on-lend to the agricultural sector; and (iii) to facilitate investors to directly finance agriculture working capital needs.

CRs address two key bottlenecks in pre-harvest finance: the lack of tangible collateral by farmers and their value chain partners, and risks related to weak contract enforceability. Lack of suitable collateral—combined with the uncertainties, delays, and costs of enforcing contract—is a strong deterrent for financiers and agribusiness to engage in pre-harvest finance, and leads to high-risk premiums being loaded on to the borrower. By allowing farmers to pledge future crop and livestock production, CRs create a new type of collateral that extends collateralized commodity financing normally applied to post-harvest operations to the pre-harvest segment. Whereas WRs create security interests (collateral) in crops stored in a warehouse, CRs allow farmers to obtain finance secured by agricultural products that are growing, or are to be grown in the future.

In Brazil, CRs tend to be more enforceable than other financing contracts as they are structured as an adapted

form of promissory note (PN) instrument. PNs were internationally codified under the 1930 Geneva Convention, which provided a uniform law for bills of exchange and PNs. A PN is a written unconditional promise by the issuer to pay a stated amount of money at a specified maturity date. While loans or commercial contracts are signed by both parties, PNs are only signed by the issuer. In most jurisdictions, this gives the holder of the note, which is the financier, a stronger position to recover the amount advanced in case of default. Given the unconditional nature of the promise, the borrower has limited ability to challenge his payment obligation in court⁸. In many jurisdictions, fast-track settlement procedures with little or no court involvement can be used for financing based on PNs. The prospects of better and faster enforceability of PNs compared to loans or prepaid forward contracts increases the willingness of banks and agribusinesses to provide finance to farmers and can help reduce financing costs.

Given their unilateral character, obligations under PNs can be transferred without the issuer's permission. This makes them negotiable instruments which can be endorsed to third parties or sold on secondary markets. Selling or endorsing receivables under a PN allows the financier (an input or equipment provider, a trader, or a bank) to access funds immediately, thereby enhancing its ability to provide pre-harvest finance, and sell on its exposures to third parties. This in turn allows the financier to better manage its liquidity, and to adopt a more positive posture in fulfilling the demand from producers for pre-harvest financing. It further allows financial investors to finance agriculture by purchasing PNs.

The key innovation in Brazil was the customization of PNs for the agricultural sector—deliverable in cash or in kind, and secured by future agricultural produce—to create a new type of collateral in the form of CRs. A dedicated law was introduced in 1994 with support from Banco do Brasil, the country's largest agricultural financier, to strengthen the credibility of the new instrument. The strong legal standing of CRs has enabled farmers over the years to raise significant amounts of pre-harvest financing from input suppliers, offtakers, and financial investors. Since

CRs are tradable, a vibrant secondary market developed, generating liquidity and mobilizing sources of competitive funding from the capital market into agriculture.

Inspired by the success in Brazil, CR legislation has been drafted in Ukraine and Serbia during the past five years with support from the European Bank for Reconstruction and Development (EBRD), the Food and Agriculture Organization of the United Nations (FAO), and IFC. Both countries have introduced CRs through the creation of dedicated laws. These were enacted in Ukraine in 2013 and in Serbia in 2015. The use of CRs is still in its infancy, and practical experiences are now largely confined to Brazil. Nevertheless, the Ukrainian and Serbian examples show how CRs can be adjusted to specific country conditions, including specific legal environments.

1.3 THE AFRICA CROP RECEIPTS INITIATIVE

Through the “Africa Crop Receipts Initiative,” IFC aims to pilot the introduction of CRs in selected countries and value chains in Sub-Saharan Africa. The objective is to test CRs as an alternative way for farmers to access pre-harvest finance for the purchase of inputs such as seeds, fertilizers, crop protectants, and equipment. To achieve this objective, IFC partnered with the FAO to assess the feasibility and scope for introducing CRs in Africa and identify concrete opportunities in two countries.

The assessment was conducted in two phases. During the first phase, the conceptual foundations of CRs were analyzed through a review of the international experiences with CRs and the dedicated legal frameworks in Brazil, Ukraine, and Serbia. Given that CRs have so far only been used at scale in Brazil, an in-depth review of the evolution of the instrument in Brazil and the main drivers for its introduction and growth was conducted. It was deemed important to identify the key enabling conditions that may be needed to replicate the use of CRs in Africa, as well as to assess the implications for designing CRs for the continent, taking into account the distinct features of its agricultural sector. Available literature and evidence on

more recent experiences with CRs in Ukraine and Serbia were also reviewed to understand how the instrument could be adapted to different country settings.

During the second phase, in-depth feasibility assessments were carried out in two countries—Zambia and Uganda. The objectives were to assess whether CR-inspired financing instruments could be introduced in the short-to-medium term and to identify concrete entry points. These two countries were based on presence of key enabling conditions, expert consultations, as well as practical aspects such as the availability of a local partner to facilitate stakeholder consultations. Following a literature review, country feasibility assessments were conducted through roundtable discussions and bilateral meetings with key stakeholders. These assessments were followed by a legal impediment review that was conducted in collaboration with Norton Rose Fulbright South Africa, Corpus Legal Practitioners in Zambia, and Shonubi Musoke & Co in Uganda.

This report provides the main findings of this work. While primarily undertaken to contribute to IFC’s efforts to promote agricultural development, this report may also be of interest to other public and private actors engaged in agricultural finance in Africa. Others may gain ways to adopt the use of CRs, or certain features thereof, to enhance their existing commodity finance and marketing instruments. Development finance institutions (DFIs) such as IFC, as well as technical and donor agencies, could use the report to guide how they support CR introduction. Policy-makers and regulators may find the report useful in helping them better understand CRs and decide how and whether they could be used and customized to their respective countries, including requirements for the creation of an enabling environment.



2. International Experiences with Crop Receipts

This chapter provides an overview on the international experiences with CRs so far. The focus of this chapter is on the evolution and use of CRs in Brazil. The chapter lays out the historic context and motivation for the introduction of CR, the critical factors driving their growth, the various ways in which they have been used, as well as the limitations of the model in the Brazilian context. It is based on a detailed background study drawing on existing literature and secondary data, and on interviews with CR practitioners in Brazil.⁹ The chapter then briefly highlights the key features of the CR legislation recently introduced in Ukraine and Serbia.

2.1 BRAZIL

Context:

In 1957, Brazil introduced the concept of enhancing an agricultural loan by adding a clause for “unconditional promise to pay” (a promissory note) in its legislation. The concept became central to the rural credit system in the mid-1960s, when the country adopted several comprehensive measures to boost agricultural finance. Initially, PNs were mainly used to reinforce repayment obligations of banks that borrowed subsidized funds from the government for on-lending to farmers. Up to the early 1990s, Brazil’s agricultural sector relied largely on finance mobilised by the government. Sizeable public resources were channelled through state-owned banks at subsidized interest rates to the agricultural sector (so-called “official credit”). However, following the debt crisis in the late 1980s, the government had to reduce its involvement in agricultural finance and decided to concentrate its subsidized lending programs more on smaller farmers, commonly referred to as family farmers in Brazil. At the

same time, the agricultural sector continued growing, and new funding sources had to be mobilised to meet the credit needs of medium- and large-scale producers.

Private agribusiness companies such as large national and international traders responded to the decline of government funding by increasing the use of prepaid forward contracts as a financing tool to secure sufficient raw material and create a liquid market for inputs. These forward contracts, termed “green soy” were often barter transactions whereby farmers received a certain input package against the commitment to deliver a certain volume of product to be financier. However, these contracts were essentially uncollateralized and were often difficult to enforce. As a result, farmers could easily forward sell their future production to more than one buyer to obtain finance from various sources. Rising prices during the course of the season often led to defaults as farmers could sell to buyers offering better terms compared to those of the forward contract counterparty. Therefore, agribusiness companies often built in high-risk premiums, often over 20 percent, making prepaid forward contracts very expensive for farmers. Furthermore, these contracts were also often complex and lacked standardisation. A period of large-scale producer defaults due to sharply rising international soy bean prices, under the so-called ‘green soy’ structure, further triggered the search for more secure forms of lending.

The government, through Banco do Brazil, explored alternatives for mobilizing private finance for agriculture.¹⁰ While large farmers were able to open lines of credit with national and international banks, the medium-scale farmer—who, in Brazil, can still own hundreds or even a few thousand hectares—faced far greater challenges to meeting their financing requirements. The new instrument,

the *Cédula de Produto Rural* (CPR), literally translated as “rural product note” but commonly referred to as “CPRs” in the literature, was written into law in 1994.¹¹ This law considerably improved the regulatory framework for private sector-led agricultural finance.

Key features of crop receipts

CRs were designed as a simple and flexible instrument that combines key features of prepaid forward contracts, in other words, the ability to advance inputs and allow for settlement in kind, with the legal strength of PNs, which have been used in the financial sector since the 1950s. The instrument was also inspired by experiences with innovative capital market instruments in the real estate financing market, where reforms had started a few years earlier.

CRs are standardized PNs through which farmers and FOs commit to produce an agreed quantity of crops, including in semi-processed forms, such as ethanol, or cattle, to be delivered at a specified date and location. In 1994, only one form of CR was introduced: the physical CR, which needs to be settled through physical delivery of a defined volume and quality of agricultural commodity at a specific location and a specified future date. Against this delivery promise, the buyer of the receipt provides a certain amount of finance, usually for inputs, in cash or kind. In other words, the farmer pays for inputs by issuing a CR. The value of the receipt is based on the estimated future price at the time of crop delivery. The buyer of the CR advances a part of the expected future value, typically 50 percent, minus the financing charges (interest costs). The remainder is settled at delivery against the predetermined price (de Lima Ramos, 2015).

In addition to the delivery obligation under the CR, a security interest over the future production is usually created through a lien. CRs tend to be over-collateralized, which means that the volume of future crops attached as security under the lien is larger than the delivery obligations under the CR. Depending on the risk profile of the farmer, other collateral—such as real estate, movable

assets, personal guarantees, or bank avals—can be added.¹² While additional collateral is not mandatory, it has become standard, especially if CRs are traded or used as bases for secondary instruments. The over-collateralization through crops and other collateral, combined with the strong creditor position and streamlined enforcement procedures, mitigates risks for the financier.

The link of the physical CRs to settlement in kind made them less attractive to the financial sector. If an issuer defaults, financial institutions such as banks, non-bank financial institutions, and capital market investors could not easily take control of the underlying crop, or sell or endorse CRs to a third party. To bring more financial sector players into the market—including investment funds that were not permitted to take physical control of commodities—the government introduced two new categories of CRs in 2001 through amendments of the 1994 Law, namely financial CRs and CRs indexed to the futures market or another price reference system. The financial CR is very similar to the physical CR. Like the physical CR, the face value of a financial CR is stated on the CR and settlement is in cash. The value of the financial CR and the amount advanced are also based on the farmer’s production capacity and the expected future price of the commodity, and is calculated based on the amount pre-financed plus interest costs and other charges until maturity. As in the case of a physical CR, it can be (over)collateralized through the pledge of agricultural commodities as well as through secondary collateral. On expiry, the farmer pays off the bondholder. The final payment could be on the basis of floating interest rates or fixed interest rates; the latter has become the most popular.

Variety of uses

Physical CRs have become very popular with input providers and off-takers who use them to expand their sales or to secure raw material supply. Often, physical CRs are used in barter transactions whereby large (often multinational) input suppliers provide a basket of products and services required for crop production and are paid

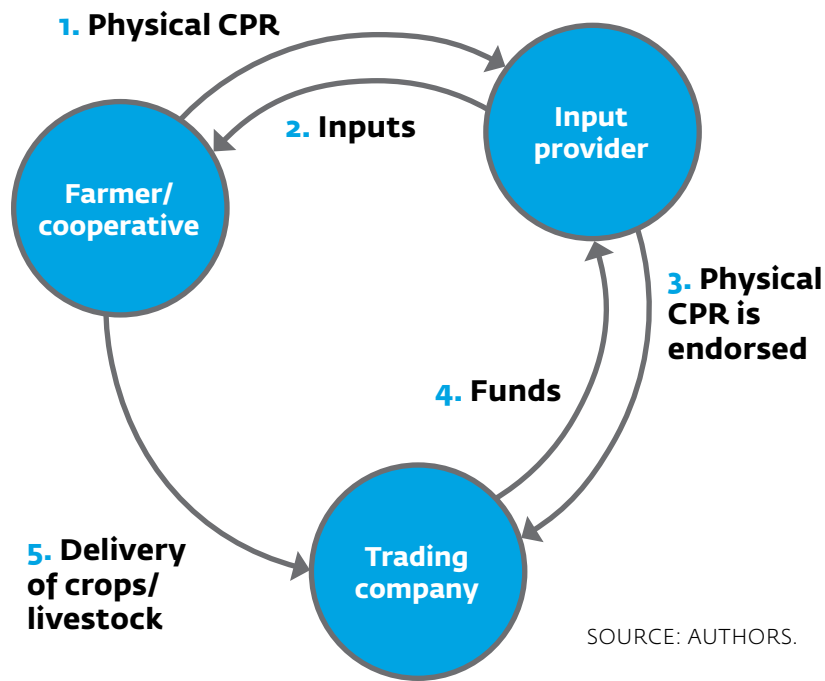
by farmers through issuance of a CR.¹³ The provision of technical assistance and extension services by input providers facilitates crop monitoring during the production cycle and allows them to intervene in a timely manner if needed. Likewise, off-takers frequently use physical CRs to secure supply from farmers with whom they have an established commercial relationship.

Given the legal strength and tradability of CRs, input providers can endorse or sell them to traders or agribusiness wanting to assure raw material supply, usually at a discount. Moreover, the first buyer of CRs—typically input suppliers or off-takers—can endorse them to banks or investors to obtain working capital finance, either for their own requirements or to expand pre-harvest financing. If the borrower goes bankrupt, the creditor still has recourse to the delivery obligation under the CR and other attached collateral. Thus, CRs provide creditors additional comfort over conventional loans secured by assets of the borrowing agribusiness company.

By providing finance against a defined volume of future production, physical CRs effectively lock in the future price and therefore help manage price risks. In practice, farmers usually finance only a part of their working capital requirements through CRs, in order not to commit their entire harvest at a fixed price at the beginning of the season. Typically, CRs are used to complement other sources of funds, including subsidized government credit. They are also sometimes used if conventional collateral is already tied up with other loans.

Banks often use CRs in addition to loans to strengthen loan repayment. CRs can also be rolled over into WRs, which would extend loan maturity and avert the requirement for the farmer to sell immediately at harvest when prices

FIGURE 1: THE “BARTER” TRANSACTION



SOURCE: AUTHORS.

tend to be the lowest. Lastly, CRs have been used in government procurement programs where organized smallholder farmers are contracted to supply crops for school feeding programs and for public food stocks.

CRs can be issued to a named financier, such as a bank or other credit provider, who has already promised to finance the farmer. Alternatively, they can be auctioned off to the highest bidder through an electronic network of a commodity exchange to buyers who are registered in one of the approved financial registries. This modality favours the farmer because he is not to be tied to one off-taker. In practice, trading of CRs generally requires the farmer to have received an aval or guarantee from a reputable bank or cover from an insurance company. Banco do Brazil has been the main provider of such avals.¹⁴ The bank has provided important support to the growth of the CR market in Brazil by providing an aval for CRs¹⁵ and by establishing an electronic trading platform through which CRs could be offered to accredited traders.

The legal and regulatory status of CRs

CRs have strong legal status under Brazilian law. Law 8.929 of 22 August 1994 defines a CR as a promise of delivery of rural products issued by rural producers or their organizations, including cooperatives. Article 3 defines essential requirements that are to be mentioned in the body of the CR document. These include: (i) the name "Certificate of Rural Product"; (ii) the delivery date; (iii) the name of the creditor and clause to the order; (iv) the unconditional promise to deliver the product with indications and specifications of quality and quantity; (v) the location and condition of delivery; (vi) the description of goods given as security; (vii) the date and place of issuance; and (viii) the signature of the issuer. The CR may contain other clauses in its body and certain aspects, including the description of the assets that constitute the guarantee. This may also be provided in a separate document, signed by the issuer. Article 4 defines the CR as a certain and liquid instrument, enforceable for the quantity and quality of the indicated product. In case of financial settlement, the face value needs to be stated in the body of the CR, together with the price index or reference price used for the valuation.

As PNs, CRs have several advantages over bilateral contracts, such as loans or prepaid forward contracts. As a unilateral promise to pay or deliver a certain amount by a certain time, the issuer (borrower) cannot challenge the repayment obligations in court, for example, making recourse to force majeure or other reasons that would make the contract unenforceable.¹⁶ Moreover, as in many other countries, rights under PNs can be enforced more easily and rapidly than rights under loans. Brazilian law makes a distinction between enforcement through ordinary action or through execution proceedings. In the first case, the creditor must first prove his case in court. Only after having won the case—the process for which could take years—can he proceed with executing the court award. Enforcement against guarantees or collateral included in the loan contract is only possible after the court award.

Under Brazil's Code of Civil Procedure, certain documents, including promissory notes, establish, by their very nature, the fact that the debtor owes a certain amount. Hence, the creditor does not have to prove the existence of the debt but can directly request a court order to proceed with execution. This process tends to be much faster. With the court order, the creditor can demand the debtor to pay his debt within 24 hours or proceed with the seizure and sale of the crop and other collateral mentioned on the CR if the debtor does not fulfil his payment obligation. The act of seizing and selling still requires the collaboration of a bailiff, a court-appointed enforcement agent, who may not in practice act immediately. Nonetheless, enforcement is a matter of weeks, not months, as would be the case with loans.

To protect against third-party claims, CRs and the attached collateral need to be registered in the local title deeds registries at the issuer's domicile.¹⁷ If no prior security interests on the crop or attached collateral have been filed, the CR benefits from priority rights. The underlying commodities cannot be seized by third party creditors, even in the case of bankruptcy of the issuer. To have effect against third-party claims, endorsements of CRs and the attached collateral must be registered (de Lima Ramos, 2015).

In Brazil, CRs may be traded on the exchange and over-the-counter (OTC) markets (art. 19). As such, CRs are considered as financial assets and must also be registered in a registry and financial settlement system, and be managed by entities authorized by the Central Bank of Brazil. They are then exempted from taxes on financial transactions. Until March 2017, there were two registries approved by the Central Bank: BM&FBOVESPA and CETIP. The two have now merged under the new name b3.¹⁸ However, this report will use the original names as data are based on information of the two registries. Once issued, CRs must be held in custody in one of the 50 or more financial institutions authorized by the regulatory authority for capital markets to provide custody services for securities.

The secondary instruments

After the initial rapid growth of CRs in the early 2000s, the government sought to expand their use to other actors in the agri-finance space. Given that only farmers and their associations can issue CRs, a series of new pre-harvest financing instruments were introduced in December 2004¹⁹ to address the needs of other actors in the agricultural and financial sectors such as cooperatives, agribusinesses, banks, and financial investors. The main ones are:

- Certificates of Agribusiness Credit Rights (CDCAs)
- Agribusiness Credit Letter (LCAs)
- Agribusiness Receivables Certificates (CRAs)

Two types of post-harvest bonds were also introduced at that time: (i) the Agricultural Deposit Certificate (CDA) and (ii) the Agricultural Warrant (WA). Figure 2 and table 1 provide an overview.

The secondary instruments can be issued against any kind of current or future agriculture-related receivables such as CRs, which play a prominent role given their aforementioned advantages, but also commercial contracts such as warehouse receipts (CDAs and WAs) and other formal credit rights.²⁰ Like CRs, secondary instruments are enforceable through execution proceedings and they benefit from priority rights. The commodities mentioned in the bonds cannot be seized by third-party creditors, even in the case of bankruptcy of the issuer, unless other security interests had already been filed prior to those attached to the CRs. They can be transferred by endorsement or can be traded OTC or on exchange. For CRs to be tradable, they have to be registered in registries for financial assets.

FIGURE 2: CRS AND SECONDARY INSTRUMENTS

Production	Distribution	Financing
<p>CPR (Product Note)</p> <p>Issuer: Producers Associations Credit Cooperatives</p>	<p>CDA/WA (Product CD)</p> <p>Issuer: Warehouses</p> <hr/> <p>CDCA (Credit-backed Certs.)</p> <p>Issuer: Cooperatives Agroindustry</p>	<p>LCA (Agricultural Financial Notes)</p> <p>Issuer: Financial Institutions</p> <hr/> <p>CRA (Receivables-backed Certs.)</p> <p>Issuer: SPCs</p> <hr/> <p>EPA (Export Pre-payment Agreement)</p> <p>Issuer: Producers Associations Credit Cooperatives</p>

SOURCE: MINISTRY OF AGRICULTURE, LIVESTOCK AND FOOD SUPPLY (2010)

TABLE 1: AGRICULTURAL BONDS IN BRAZIL

Acronym	Name	Underlying collateral	Issuers
Pre-harvest			
CPR	Cédula de Produto Rural	Crops, cattle, to be produced in future	Farmers, cooperatives
LCA	Letra de Crédito do Agronegócio	Loans backed by agribusiness credit rights	Banks
CDCA	Certificado de Direitos Creditórios do Agronegócio	CPRs	Agri-businesses
CRA	Certificado de Recebíveis do Agronegócio	Receivables (linked to CPRs and CDCAs)	Securitization companies
EPA	Export prepayment agreement	Commodities (agri or non-agri)	Commodity producers
Post-harvest			
CDA	Certificado do Depósito Agropecuário	Goods in warehouse	Warehouses
WA	Warrant Agropecuário	Goods in warehouse	Warehouse

SOURCE: JUNIOR, 2008.

The main secondary instruments are briefly described below:

- **Certificates of Agribusiness Credit Rights (CDCAs)** were established to enable agri-businesses, such as marketing cooperatives, processors, traders, agricultural equipment and input providers, to access finance based on receivables, such as CRs, and warehouse receipts. They allow agribusinesses to raise additional funds beyond their current borrowing capacity limited by hard collateral, for their own working capital requirements or to re-finance pre-harvest finance extended to farmers through CRs. CDCAs can be issued to a bank or other financier in a structured transaction, or (since 2012) offered to the public as a limited offering to qualified investors.
- **Agribusiness Credit Letters (LCAs)** are a similar instrument to be issued by banks and agricultural credit cooperatives, based on their agricultural receivables such as CRs, warehouse receipts and commercial contracts. LCAs can be sold to other banks or financial investors and allow issuing financial institutions to refinance their portfolios backed by CRs and manage their liquidity.

- **Agribusiness Receivables Certificates (CRAs)** permit the creation of specialized vehicles for financing agriculture. The issuer sets up a Special Purpose Vehicle (an Agribusiness Securitization Company) which acquires agribusiness receivables such as CRs or CDCAs, and securitizes them through issuing and selling CRAs into financial and capital markets. CRAs are collateralized by the collateral attached to the primary securities (CRs or CDCAs). CRAs are generally over-collateralized. For example, for \$120 of receivables, a CRA of only \$100 may be issued. For this reason, it is possible to issue CRAs with different risk-reward profiles and to tailor them to suit different categories of investors. Furthermore, since CRAs can be secured by a floating pool of agricultural receivables, it is possible to issue longer-term CRAs. Agribusiness securitization companies can be more or less specialized, financing only a small number of pre-determined farmers involved in one crop, or giving its managers flexibility to invest in a range of CRs and CDCAs across a range of crops.

The credit rights underlying CDCAs, LCAs, and CRAs must be entered in an asset registration and financial settlement system authorized by the Central Bank of Brazil. They must also be held in custody by financial institutions or other entities authorized by the Brazilian Securities Commission to provide custodial services for securities. The custodian is responsible for the safekeeping of the documents, maintaining evidence of the existence of credit rights underlying the secondary instrument, and ensuring the physical delivery and financial settlement of the credit rights under custody. To that end, the custodian institution shall be vested with sufficient powers to collect and receive the respective sums for the account and at the order of the CDCA issuer (Art 25).

The secondary market. There is an active secondary market for CRs and associated instruments. An investor can endorse a CR and sell it to a bank at face value discounted at the prevalent interest rates. The bank can warehouse the CR, or pledge it to another bank as part of a security package, or, after endorsement, sell or discount it to another bank. International banks are often the buyer in the second case.

CRs and other instruments that are registered can be traded electronically through the trading network provided by these two organizations. Repo transactions, which is sale with promise to buyback or buy with promise of resale, are possible for financial CRs (but not for CRs specifying physical settlement), as well as for CDCAs, LRAs, and CRAs, with trade taking place both bilaterally—as long as one of the two parties is a financial institution—and through CETIP's electronic trading network.

The secondary market in CRs and related bonds is also strengthened by the presence of investors keen to package sets of such instruments. Agribusiness Securitization Companies have already been mentioned, but they are restricted to investing in CRs and CDCAs through the CRA instrument. More important are the so-called Credit Rights Investment Funds (FIDCs). FIDCs can be closed-end or open-ended investment funds that can invest in any asset class. However, because of the significant potential of agriculture in Brazil, financial institutions and portfolio managers have structured such FIDCs specifically for

agribusiness instruments and receivables, and have used them to invest significant amounts in FIDCs.

Evolution of CR use in Brazil

The analysis of the evolution, size, and performance of the CR market is severely constrained by the lack of comprehensive data in an accessible format. Only a fraction of CRs and related instruments are registered centrally, namely the ones to be traded on secondary markets. Of those, only one—CETIP—provides data in an aggregate user-friendly way, while most CR transactions in Brazil are registered on the BM&FBOVESPA platform used by Banco do Brazil for its aval program. Without user-friendly data from BM&FBOVESPA and local registries, figures quotes in studies about the size and growth of the CR market are often grossly underestimated.

Other factors further complicate the analyses of CR markets. For instance, the size of physical CRs are expressed in volume while that of financial CRs are expressed in monetary value. Furthermore, the values of financial CRs and related titles do not necessarily equal the amounts advanced given that loans backed by CRs are often over-collateralized. The largest share of CRs are only registered locally at the title deeds offices, and a significant number are not registered at all.

Based on the evidence available, including literature, CETIP data and interviews with key stakeholders in Brazil during the course of this study, the following broad trends emerged:

Overall growth of the CR market has been uneven: an analysis of the number of CRs registered at CETIP and BM&FBOVESPA at the last day of each year reveals the following (view table 2):

- A slow growth of physical CRs from 1995 to 2000, followed by an accelerated growth until 2004;
- A rapid growth of financial CRs from their introduction from 2001 to mid-2005, followed by a decline between 2005 and 2012; and
- A modest increase since 2013

As shown in table 2, the overall size of the centrally registered CR market, in terms of value, hit a bottom in 2011 (as per BM&FBOVESPA data), but has since recovered. While the number of registered CRs has grown by 50 percent, the overall market size in value terms has grown eight-fold.

TABLE 2: STOCK OF REGISTERED CPRS AS PER THE LAST WORKING DAY OF EACH YEAR (NUMBERS)

Year	CETIP Financial CPRs	CETIP Physical CPRs	BM&F CPRs
2003	412	308	17,437
2004	222	64	40,927
2005	244	411	34,068
2006	939	619	14,493
2007	1,235	863	9,577
2008	1,510	942	7,780
2009	1,654	629	6,675
2010	1,691	551	5,757
2011	1,864	665	4,829
2012	2,345	562	4,161
2013	2,121	658	4,657
2014	1,371	560	5,553
2015	988	157	6,330

SOURCE: CALCULATED FROM THE DATABASES OF CETIP AND BM&F

Several factors have contributed to the initial decline and uneven growth of the centrally registered CR market. First, during the mid-2000s, there were ambiguities in the interpretation of certain legal features of CRs by courts in addition to a few high-profile fraud cases (view p 18).²¹ Second, a large proportion of the CRs issued has been used to reinforce bilateral commercial and credit transactions between farmers and their financiers. Since these CRs were not meant to be traded on exchanges or wrapped into secondary instruments, they need not be registered centrally at CETIP or BM&FBOVESPA. Hence, the majority of such CRs are either only registered locally or not registered at all.²² The latter could be attributed to the high

transaction costs and bureaucratic delays for registration that result from the existence of multiple registries for CRs and different types of collateral, in addition to the general perception of CRs being safe instruments.²³

Due to the fragmented registry system, there is no comprehensive and aggregate source of information to capture the size and evolution of the CR market that is not centrally registered. Earlier studies estimate the total CR market at 30 billion Brazilian reais per year (approximately US\$12.7 billion), of which only one tenth was officially registered (Andima, 2008). In June 2009, another estimate presents a similar number of 28.8 billion Brazilian reais per year. This represents around 12,000 registered CRs (of which 3,000 were physical CRs), with an average size of 150,000 Brazilian reais, totaling 1.8 billion Brazilian reais. The volume of unregistered CRs was around 15 times higher (Marzo, 2010). The data displayed in table 2 only captures a smaller part of the overall CR market.

Between two thirds and three quarters of all centrally-registered CRs are financial. This can be in part attributed to the fact that the face values of financial CRs are stated on the receipt,²⁴ and are thus more suitable to be traded or wrapped into secondary instruments given that their face value is stated on the receipt.²⁵ No data is available about the unregistered portion of the market. Industry sources consulted during the study point to a strong increase in barter transactions in recent years. Large input suppliers, in particular, are using CRs to promote their sales in a highly competitive and transparent market.

The average size of CRs has increased. An earlier analysis of the size distribution of CRs (De Souza, Pimentel, 2005) showed that 45 percent of all contracts registered during the period from 1994 to 2004 had a value between US\$3,000 and US\$10,000, followed by approximately 40 percent with values between US\$10,000 and US\$35,000. This shows that CRs were mainly used by medium-sized farmers.²⁶ By the end of 2004, the total stock of 40,927 CRs registered at BM&FBOVESPA had a value of 3,182 million Brazilian reais (US\$1.2 billion). Ten years later, a stock of 5,553 contracts had a value of 2,937 million Brazilian reais (US\$1.1 billion). Hence, the average CR value

TABLE 3: REGISTRATIONS WITH CETIP AND BMFBOVESPA (IN R\$, MILLIONS)

Year	CDCA		LCA		CRA	
	CETIP	BM&F	CETIP	CETIP+	Registered on CETIP	Total issued
2005	28	0		168	-	-
2006	473	186		23	-	-
2007	2,246	191		3,569	-	-
2008	1,549	299		35,553	1	1
2009	1,427	114		63,287	22	22
2010	757	39		171,967	140	152
2011	1,122				212	174
2012	1,628				164	283
2013	1,498				925	1,218
2014	947		98,254		1,739	2,394
2015	880		72,708		3,898	

SOURCE: CETIP, MINISTRY OF AGRICULTURE, BM&F BOVESPA³²

increased from US\$29,233 to US\$137,058 during the same period.²⁷ The growth in average size of registered CR is also correlated to the increase of securitized instruments based on CRs, especially CRAs, over the past few years (view table 3).²⁸ According to ECOAGRIS, the largest agricultural securitization firm, only large CRs are used for securitization in order to keep monitoring costs within reasonable limits.

Smaller farmers use CRs mainly through cooperatives, sometimes as part of barter transactions or via CDCAs. In the coffee sector, CRs have been used by smaller farmers organized in cooperatives.

The bulk of the CRs are concentrated in four value chains.

While CRs for about 60 agricultural products are registered at CETIP and BMFBOVESPA, the bulk of the registered transactions have been concentrated in five value chains: (i) soybean, (ii) maize,²⁹ (iii) sugar cane, (iv) cattle, and (v) coffee. These products represent more than 70 percent of all registered transactions. They also account for almost 60 percent of the total value added of the agricultural sector.³⁰ This distribution pattern has been consistent over time, as evidenced in earlier reports (de Souza and Pimentel, 2005). In addition to their overall economic importance, a key

common feature of these products is their link to liquid futures markets which allow a better valuation of the CR at time of issuance.³¹ It is also common for agribusinesses use physical CRs with producers of these products to hedge price risks. The presence of a liquid futures market has facilitated the electronic trading of CRs via the Banco do Brazil platform, and the acceptance by the BM&FBOVESPA of CRs and secondary instruments to satisfy initial margin on its futures contracts has further facilitated a liquid, dynamic, and inclusive market for trading, investing, and hedging in the respective value chains. By contrast, CRs are less frequently used in value chains with high levels of vertical integration such as poultry and pork. These chains are governed by large downstream players, and producers are bound by very detailed contracts to ensure product quality and safety requirements.

There has been a strong growth of secondary instruments.

The two following tables provide an indication of the size the market for registered CRs. While only a small fraction of farmers (less than a quarter of a percent) benefit from negotiable CPRs—in terms of the credit provided through such CRs and the capital market instruments based on them—CRs can still provide significant benefits.

TABLE 4: OPEN POSITIONS (STOCKS) OF AGRIBUSINESS TITLES IN THE CETIP AND BM&FBOVESPA REGISTRIES

(IN R\$, MILLIONS)

Date	CPR (BM&F only)	CDCA	LCA	CRA
31/12/2003	1,047	-	-	-
31/12/2004	3,182	-	-	-
31/12/2005	2,457	29	30	-
31/12/2006	1,257	637	19	-
31/12/2007	1,076	2,266	2,401	-
31/12/2008	1,349	1,734	10,317	1
31/12/2009	1,026	1,663	9,516	23
31/12/2010	836	1,428	13,419	156
31/12/2011	844	1,588	26,689	345
31/12/2012	1,332	3,005	58,660	370
31/12/2013	1,899	3,202	118,898	969
31/12/2014	2,937	3,266	148,681	2,045
31/12/2015	6,797	3,224	193,122	6,387

SOURCE: MINISTRY OF AGRICULTURE, BM&F BOVESPA AND CETIP³³

It may be noted that the market for CDCA has stagnated, whereas that for LCAs has boomed, and the CRA market is newly emerging. Issuers of LCA and CRA target wealthy private investors with the means to invest at least US\$250,000 in agribusiness titles. Only private persons investing in such securities are exempted from income tax.

CDCA, LCAs, and CRAs all need to be collateralized, and sometimes overcollateralized, by PNs that reflect other agricultural financing transactions. Hence, stocks of secondary instruments represent and even larger amount of primary instrument issued against pre- and post-harvest finance. The growth of these tradable instruments was fuelled by their exemption from financial transaction taxes and from income taxes of individual investors. Moreover, investment opportunities for financial investors are limited and agriculture's risk profile is uncorrelated to other asset classes.

On the aggregate, CRs still represent a minor share of total agricultural finance. This is partially due to an increase in agricultural credit from public sources since 2002, which accounts for 58 percent of all agricultural credit in 2012. In particular, the National Programme for Strengthening Family Agriculture (PRONAF³⁴) has been growing, with a total of R\$30 billion (approximately \$8 billion) allocated for the 2015/16 season. Interest rates are between 2.5 percent and 5.5 percent per annum, well below commercial rates. This makes the use of CRs largely unattractive for this market segment. The transaction costs of registering CRs in the central registries and trading them on stock and commodity exchanges are the further deterrents. Medium and larger farmers can access public ("official") agricultural credit at slightly higher interest rates—which were around eight percent in 2016—but still below market rates. These farmers often use CRs as complementary instruments to meet additional financing gaps.

Defaults on CRs

Given the lack of centralized reporting, there is no data publicly available on the default rates on CRs. Hence, evidence presented is mainly anecdotal. According to market sources, in case of default due to unfavourable external events, including climate-, pest-, and disease-related events, obligations under CRs tend to be rolled over into the next season. This occurs especially in the cases where farmers and financiers have a long-standing relationship. The general sentiment is that there have been very few wilful defaults with CRs, and cases of default, recovery rates have been high. In other words, the Loss-Given-Default rate has been low.

In court cases following defaults, generally, it was found that there was no legitimate excuse for farmers to default on their obligations (unlike the case of loan contracts). But it took time to establish this firmly in the minds of courts, and at times cases wound their way for years from local courts to higher ones before legal interpretations became clear.

The first challenge to CRs came in 2005, when many farmers defaulted. World market prices for soybeans had increased sharply, and some farmers did not want to deliver for the prices at which they had committed to in physical CRs. The defaulting farmers argued in court that they had the right to sell their product at market prices, and in some cases, courts sanctioned their contract defaults. But by 2008, a higher court had decided that a trader who had bought CRs from a large soy producer had made a prepayment, not a loan, and had the right to delivery of the pledged soybeans. This made CRs on which advances were made safe under Brazilian law.

The last major issue to be resolved was the legal status of physical CRs for which those receiving the CRs had paid no advances. In such cases, CRs were used only as forward contracts, not as credit instruments. For years, some local courts in parts of Brazil annulled farmers' obligations under such CRs because droughts, excessive rains, or pests had severely damaged these farmers' production. However, in May 2011, Brazil's High Court unequivocally ruled that such events do not invalidate a farmer's obligations under a CR, even those where no advances were paid.

Overall, where there were defaults, it was possible for buyers of CRs to claim their rights quickly and obtain priority over other creditors.

Overall assessment

In short, CRs and CR-related instruments have contributed to the growth and diversity of agricultural finance in Brazil. Though they have become an important instrument in some value chains, they have not become the dominant instrument. A range of other credit instruments are also available to commercial farmers and agribusiness, and subsidized lending still plays a dominant role, especially in the family farming sector. The CR market is segmented and only a smaller part is centrally registered. Transaction sizes on this market segment have increased and has formed the basis for a rapidly growing secondary market. The growth of secondary instruments in recent years has been fueled by tax exemptions. Securitization is mainly

used for receivables from very large, corporate producers. Banco do Brazil and private agribusiness have played an important role in financing CRs for medium-sized farmers and there is a strong increase in barter transactions based on physical CRs.

Enablers: The following key enablers have supported the success of CR-based financing in Brazil:

- A customized legal framework built on promissory notes that gave CRs a strong legal standing, coupled with fast track enforceability.
- An incremental approach that built on existing pre-harvest financing instruments such as prepaid forward contracts and barter transactions, a tradition of using PNs in agriculture, and financing structures, including securitization, used in other sectors such as real estate and energy.
- A large commercial farming segment that is part of well-structured value chains.
- Existence of liquid commodity exchanges and the possibility to hedge price risk for major commodities.
- Availability of bank guarantees and, to a lesser extent, insurance to underwrite the performance risks of individual farmers.
- Leading role of Banco do Brazil in designing the instrument, providing credibility, and supporting its widespread use through avals and an electronic trading platform.
- Availability of inspection companies for on-site monitoring.
- Ability of the financial sector to use CRs as building blocks for more complex instruments, which contributed significantly to the market's liquidity.
- Regulatory freedom that allowed large institutional investors to buy the instruments.³⁵
- Tax-exempt treatment provided by the government, namely exemption from financial transaction taxes and individual income tax on revenue from trading CRs.

Weaknesses and limitations: Despite the overall success of CRs in Brazil, there are also limitations undermining their further growth:

- There are too many registries for different assets, some of which cannot easily be accessed electronically. These registries are also not electronically linked. Registration costs are also quite high, both at the local deeds and real estate offices and at the centralized financial registries, where registration can only be made by accredited custodians (*Adima 2008*). Lack of training continues to be a problem—there are still knowledge gaps on CRs and many structures, when submitted to one of the registries, do not meet the criteria for acceptance.³⁶ As a result, a large number of transactions remain unrecorded, thus undermining the instrument's legal strength.
- While enforcement of CRs is much faster than that of credit contracts and related collateral—for instance, foreclosure and sale of rural mortgage can take seven to 10 years—it is not always as fast as desired. Depending on the speediness of local courts, enforcement can take place in as little as two days after a notice has been filed in court, or as long as a few weeks.
- There are inconsistencies in interpretations and rulings by local courts across Brazil's vast territory, which is due in part to the fact that it has taken some time until courts fully understood the legal provisions governing CRs.
- The availability of subsidized credit provided by the government for the family farming sector has limited the incentives, apart from a few exceptions, for financiers to “down-scale” CRs to this market segment. Hence, CRs are largely untested as a financing instrument for smaller farmers.

2.2 REPLICATIONS IN EASTERN EUROPE

The success of CRs and Brazilian agriculture at large, has sparked interest in the instrument in other countries. With support from EBRD, FAO, and IFC, delegations of public and private actors from Russia, Ukraine, and Serbia visited Brazil to gain first-hand insights into CR financing. In Ukraine and Serbia, these initiatives culminated in the passing of dedicated legislation in 2012 and 2015, respectively. The laws adapted the CR instrument to the respective country's environments and addressed some of the weaknesses of the Brazilian system. The main features and differences with Brazil are highlighted below.³⁷

Ukraine

Background: As in Brazil, the agricultural sector in Ukraine is of strategic importance. Like Brazil, Ukraine also has a strong commercial farming sector. Nevertheless, access to sufficient and affordable credit has remained a key constraint, especially for smaller farmers. In view of the difficulties to create, perfect, and enforce security interests in land and other rural assets, banks have taken a conservative stance towards the agricultural sector. As a result, much of the finance has been made available by agribusinesses. Because Ukraine lacks clear and easily enforceable mechanisms for debt recovery after harvest, financial institutions, grain traders, and processors providing pre-harvest financing to farmers suffer high default rates. Since early the 2000s, Ukraine has embarked on legislative reforms to strengthen the legal environment for agricultural lending. In 2002, the Law on Grain which introduced a warehouse receipt system was enacted. This was followed in 2012 by the Law on Agrarian Receipts, which is what CRs are known as in Ukraine.

The instrument: Legislators chose the term Agrarian Receipt (AR) to clarify that the instrument can be used for any type of agricultural products, including livestock. Like the Brazilian CR, the AR is defined as a commodity-related instrument that reflects an unconditional secured obligation of the producer to deliver agricultural products or to pay money according to the terms thereof. Hence,

the AR automatically includes a pledge over the future agricultural production. Receipts can only be issued by individuals with ownership titles or legal use rights to the land on which the commodity will be, or is being, produced.

ARs have specific form requirements and need to be notarized. Details on the receipt and the additional pledged assets need to be entered in the State Register of Agrarian Receipts and State Register of Pledged Movable Assets, respectively. Hence, to be valid, ARs need to be entered into centralized electronic registries. ARs can be assigned through endorsement and such transactions must also be notarized. These provisions also increase the safety of the instrument, albeit at higher transaction costs. Notary costs can be as much as one percent of the value of the receipt.³⁸

The law grants AR holders a strong creditor status and provides for fast enforceability. Force majeure is excluded as a legitimate cause for default. However, the law allows the parties to agree, based on mutual consent, that the

date of fulfilment of obligations under an AR might be postponed until the next marketing year in case of force majeure events. In case of default, holders of ARs can request an executive inscription through notary action, which allows for immediate execution through the State Executive Officer to foreclose the pledged assets within 48 hours. If the pledged asset is absent, the creditor can satisfy his claims with other assets of the borrower. This right extends to third persons, if the issuer has sold the crops or other pledged assets before settling his obligations under the AR. The holders of ARs enjoy preferential creditor status against other creditors in case of bankruptcy. Several existing acts had to be amended to integrate the new AR law into the existing legal framework, notably the Law on Notary Services, the Law on Executed Proceedings, the Criminal Code, and the Criminal Procedure Code.

Experience so far: Despite the strong and comprehensive legal framework and the creation of an electronic registries system, the use of the instrument has started only in 2015 with the support of IFC's advisory services. By mid-March



INTERNATIONAL EXPERIENCES WITH CROP RECEIPTS *CONTINUED*

2017, 85 ARs had been issued with a total value of US\$6.5 million. The average transaction value of approximately US\$105,000 suggests that the instrument has mostly been used by larger farms so far. According to information from IFC, most ARs have been purchased by agribusiness companies, whereas the financial sector has remained cautious so far. The effectiveness of the enforcement mechanism is yet to be tested, as there have been no defaults yet.

Serbia

Background: Serbia differs from Brazil and Ukraine in several regards. First, Serbia is much smaller, and most Serbian farms, including commercial farms, are much smaller than those in Ukraine or Brazil. While agriculture accounts for approximately 10 percent of Gross Domestic Product (GDP), only 3 percent of overall bank lending goes into the sector, with the bulk of it going to larger firms and agribusinesses. While agribusinesses are an important

source of additional finance, there remains a large financing gap in the sector. Against this background, the Ministry of Agriculture, with support from the FAO and the EBRD, introduced a warehouse receipt law in 2009, which was followed by the Law on Financing and Provision of Financing for Agricultural Production,³⁹ which entered into force in June 2015.

Key features of the instrument: The analysis of Serbia's legal context concluded that PNs would not be a suitable instrument to create a CR equivalent. Hence, instead of a crop or agrarian receipt, Serbian Law creates a Financing Agreement (FA) that was to be complemented by a lien on future agricultural products.⁴⁰ The FA incorporates most of the key elements of the Brazilian CR and contains some additional elements to address some of the perceived weaknesses in the Brazilian CR. It cannot, therefore, be considered a CR law in the narrow sense but as an example of the flexible adaptation of core principles to a different national context.



The FA is a credit instrument, representing an obligation to deliver an amount of agricultural product or to pay an amount of money at a given time in exchange for obtaining an amount of input or an amount of money to buy inputs before the start of, or during, the growing season. All products of plant or animal origin, processed or industrialized, can be considered as an agricultural product. The FA can be secured by a lien on future agricultural products, but also over other movable property, mortgage, or other assets. The lien can be concluded as a separate agreement or as part of the FA.

As in Brazil and Ukraine, the law provides a strong creditor position. The debtor does not have the right to terminate or amend the FA due to changed circumstances, or to invoke circumstances that he was not able to prevent, eliminate, or avoid (*force majeure*), or circumstances he is not answerable for (inability to fulfill, art. 6). The law also provides for out-of-court settlement for the lien on future agricultural products in case of default. Out-of-court public sale of the underlying agricultural products is possible if agreed upon in the lien agreement. The initiation of settlement through out-of-court public sale needs to be registered with the Lien Register, and can be effected 24 hours after such registration. The financier can request the authority responsible for internal affairs to provide necessary assistance for seizing and selling the collateral.⁴¹

If the future agricultural products secured by lien do not exist on the production site at the maturity date of the FA, the holder of the lien acquires a statutory security interest towards all agricultural products of the debtor, in the quantity and value sufficient for settlement of the creditors' mature claim. Statutory lien shall exist until the settlement of the delivery obligation under the FA (art. 26). With the registration of this statutory lien at the Lien Register, the financier acquires the right to priority settlement of claims against other creditors, except for rights that had been registered prior to the lien agreement.

The law does not contain specific provisions for trading or endorsement of the FA and lien agreements. Rather, the agreements can be assigned according to the provisions of the Serbian Law on Obligations.

The law also establishes a register for FAs through a central, public electronic database managed by the Business Registers Agency. Registration costs are comparatively low, with maximum fee for a mortgage of €90.

The Serbian Law has several important advantages over the Brazilian law. The most important ones are:⁴²

- The creation of a more standardized Financing Agreement (equivalent of a CR) that gives less room for ambiguity and different interpretations, including by courts.
- The establishment of a low-cost unified online registry system where all CRs and other collaterals are centrally registered.
- The provision of extra-judicial contract enforcement that starts 24 hours after default, allowing the financier to seize any crop or other asset included as collateral in the FA.

Experience so far: Despite the convincing features of the new law, private sector participants remain somewhat hesitant to implement the new instrument, partially due to doubts about its effectiveness in practice. So far, only a small number of CRs have been issued, mainly by farmer cooperatives on behalf of their members. The engagement of the EBRD to support willing first movers to prove the new instrument's viability is under discussion.



3 Introducing CRs in Africa

3.1 THE CASE FOR CRS IN AFRICA

The current agricultural finance landscape in Africa

There is an urgent need to improve access to pre-harvest finance in Africa. Despite some progress, many African farmers still suffer from inadequate access to credit and other financial services. This challenge is not unique to the vast majority of smallholder farmers. Emerging farmers and agri-SMEs also struggle to obtain access to finance that responds to their needs. Even many larger domestic producers and companies in the agri-food sector face credit constraints as their credit lines are often determined by the amount of tangible collateral they can provide. This, in turn, limits their ability to provide pre-harvest financing to farmers or even to pay farmers on time upon crop delivery. In addition to such constraints, the costs of domestic credit tend to be high, even for larger players. This places domestic food system actors at a disadvantage compared to their international competitors, including multinational companies and domestic conglomerates with access to lower cost offshore finance.⁴³

As a result, inputs and productive investments are mainly self-financed, through savings, retained profits, and informal borrowings. While some progressive banks have developed retail products for small farmers, which are often embedded in structured value chain finance arrangements, bank finance has been concentrated on medium and large producers and agribusiness companies with strong balance sheets, established track record and ability to provide tangible loan collateral. Banks have taken a highly risk averse stance towards agricultural lending, in view of the challenging operating environment and the limited risk management tools at their disposal. To manage risks, banks rely strongly on tangible hard collateral

(mainly urban real estate), apply high risk premiums reflected in their interest rates, and limit their exposure to the sector.⁴⁴ The adoption of the Basel II and III banking supervision frameworks across the continent further exacerbate the risk-averse stance of most banks. Some microfinance institutions (MFIs) have developed effective risk management instruments based on the use of joint-liability mechanisms and other collateral substitutes combined with cash flow-based lending techniques. However, rural outreach has remained limited in most countries, and costs tend to be high. Only a few MFIs have managed to adjust their products to suit the seasonal cash flows of farming households. By and large, the role of financial institutions in pre-harvest finance has remained limited.

As in Brazil, value chain actors have stepped in and have provided unsecured pre-harvest finance through contract farming and out-grower arrangements. Although no statistics are available, value chain actors such as large processors and, in some cases, exporters and input providers, are likely the second most important source of pre-harvest finance after self-finance. In some export subsectors, private agribusiness has replicated the interlinked transactions of former parastatals and marketing boards, providing inputs and advisory services in kind recovered through deductions from sales proceeds of the crops. More recently, there has been growing use of tri- or multi-tripartite arrangements, whereby banks provide finance to preselected input suppliers and recover loans through stop order arrangements with offtakers. Sometimes, the offtakers provide a partial guarantee but more often the offtake contract and related stop order agreement are taken as a collateral substitute. Finance is provided against the strength of the value chain relationship and transaction history, rather than based on tangible collateral.⁴⁵ In-kind transactions reduce the

risks of the diversion of funds, while bundling of financial and non-financial services (such as extension, harvesting or transport) mitigates production risks. Finally, offtake contacts reduce market and, to some extent, price risks.

The expansion of value chain finance arrangements, and especially of structured, tri- or multipartite schemes is a positive trend. Some banks are moving beyond their comfort zone and testing new financing arrangements. However, value chain finance faces several constraints. Due to weak contract enforceability, value chain finance works best in value chains with limited competition among buyers or with a constriction point downstream that can act as a clearinghouse for advances.⁴⁶ Limited competition among buyers can be due to:

- Product characteristics—perishable and bulky commodities that require immediate processing and/or cannot be transported over longer distances,⁴⁷ or
- Market characteristics, e.g., niche market crops⁴⁸ and other subsectors with limited number of buyers.

Hence, most value chain finance is concentrated in a limited number of value chains in which side-selling can be better controlled through non-judicial means. The downside of limited competition is a risk of unfair distribution of benefits, e.g. through excessive deductions for inputs, services and financing costs. Lack of transparency and fairness—perceived or real—increases the incentives for side selling or diversion of inputs. Most outgrower schemes suffer from some level of default which is usually priced in. However, if defaults occur too frequently, the viability of the financing arrangement is undermined, as excessive deductions (covering losses from defaulters) would even discourage loyal farmers from meeting their obligations.

Crop receipts could help address some of the key challenges for agricultural finance

CRs could enhance existing financing and security arrangements in the agricultural sector by alleviating three major constraints to the expansion of agricultural credit:

- **Limited availability of suitable collateral.** The preferred collateral for rural lending—mortgages based on freehold titles of land—plays a minor role in Africa since most rural land which is under customary tenure cannot be used as collateral. The use of movable assets as collateral is slowly developing, and is opening up new ways to access credit. However, despite recent progress in the creation of movable property registries, movable assets in rural areas are often of low value and their registration as collateral, or their foreclosure and sale in case of default, face many practical challenges, including the lack of local markets to sell collateral in case of default. Crop-based collateral such as WRs, where existent, tend to be used mainly for post-harvest financing given the timing mismatches within the agricultural cycle and the limited mechanisms for saving.
- **Limited enforceability of contracts.** Contract enforcement is generally weak, costly, and time-consuming. This relates to loan contracts and attached collateral but also to alternative financing instruments such as prepaid forward contracts. Courts are overburdened leading to slow processes, and court rulings sometimes have unpredictable outcomes. In some countries, courts are perceived to have a tendency of ruling in favor of borrowers.⁴⁹ Limited enforceability of contracts contributes to weaken the credit culture, especially in rural areas and for agricultural purposes.
- **High levels of informality in the agricultural sector.** Most small and medium farmers and small rural SMEs, such as traders, input suppliers, and processors, do not keep financial records. This limits the application of traditional lending techniques that are based on balance sheet and financial ratio analysis.

CRs can help to address these and other constraints to agricultural lending in several ways:

By allowing financiers to create security interests in future agricultural production and protect them against

third parties, CRs create an additional type of collateral which could complement and, in some cases, substitute other types of collateral. Perfecting such security interests through registration—preferably in a low-cost, electronic registry for movable collateral—would strengthen their protection against other claims.

Based on international experiences, security interests in future crops could be enhanced in various ways:

- They can be designed to “follow the crop” after harvest in case of default, making it easier to enforce them against other buyers. Hence, CRs would provide a stronger protection not only against side-selling but also against side-buying, which is a frequent challenge in African value chains.
- To enhance enforceability, security interests under CRs could be extended beyond future crop and livestock products to include the productive assets such as land, trees, and livestock. This would give the financier the right to temporarily take over the borrower’s productive assets to fulfil his obligation under the CR, or to appoint a third party to do so; and
- Following the Serbian example, a statutory pledge can be created to give the creditor the right to seize other crops or farm assets in case of default.

In a smallholder context, these formal security instruments could be enhanced through joint liability mechanisms which creates peer pressure against side-selling and allows recourse against, and recovery from, a group rather than an individual.

A CR rooted in a unilateral financing instrument such as PNs would grant the creditor a stronger legal status in case of default, as force majeure and other reasons for frustration of contracts could be waived more easily than in ordinary loan contracts and enforcement through courts would be faster, for reasons discussed in chapter 2.

As other value chain finance approaches and different from conventional bank lending, CRs allow farmers and other value chain actors to obtain finance based on their

production capacity and the strength of the value chain they are embedded in, rather than on the strength of their balance sheet. This approach allows even smaller farmers or companies without a strong balance sheet or audited financial statements to obtain finance, if they have a strong track record in production and marketing.

In addition, CRs offer two advantages over conventional value chain finance based on contract farming. First, they create and perfect security interests in future crops and other assets, which enables enforcements through judicial and non-judicial means. This is normally not done under contract farming and makes contracts difficult to enforce, not only against defaulting farmers but also against buyers of crops pledged under CRs. Second, as unilateral instruments, CRs are easier to endorse to a third party because only the obligations of the debtor need to be transferred.⁵⁰ This makes it easier for value chain actors such as input suppliers and agro processors to sell or discount some of their receivables under CRs to financiers and obtain additional liquidity to expand their outgrower or supplier credit operations.

Banks can use CRs instead of loans or attach them as securities to strengthen their loans. Similar to agribusinesses, banks could sell CRs or package them into other instruments to manage liquidity and portfolio risks.

Finally, due to their legal strength and because they can be endorsed, CRs can expand the range of financiers for agriculture. So far, the main sources of finance are agribusinesses and banks. But these funds are limited and expensive. CRs can mobilize finance from capital markets and non-bank private investors into the agriculture sector through secondary instruments issued by banks and agribusinesses.

Through the above features, CRs can unlock additional finance into agricultural production and related value chains, allowing farmers and agribusinesses to access funds beyond their borrowing limits determined by conventional collateral. In addition, improved enforceability would reduce the risk premium charged by financiers, thus reducing the cost of finance.

However, these advantages are theoretical. For CRs to add value in practice, key stakeholders need to develop an understanding and sufficient trust in the instrument. In particular, it is essential for:

- The court system to respect and uphold the legal protections designed to strengthen the enforceability of CRs;
- Financiers, investors, and regulators to acknowledge that CR-backed obligations carry lower risks than loans or unsecured forward contracts, and translate that knowledge into offering more competitively priced financing and larger loan sizes per borrower, as well as expanding finance to a wider range of borrowers; and
- Regulators to accept loans backed by CRs as secured and to allow institutional investors to buy CRs and CR-related secondary instruments.

Key enabling conditions for CRs

The previous chapter showed that CRs in Brazil developed in a very specific context that has shaped the way in which they have been used.

Many of the structural conditions for agricultural finance in Africa are quite different from those in Brazil. CRs in Africa must be adapted to the structural conditions of the agri-food system and financial sector there. This is also true with respect to Africa's specific legal, market, and policy environment, which can show great diversity even at the country level. The examples of Ukraine and Serbia proves that CRs can be adjusted to the respective country's situation and legal framework while maintaining the core elements of CRs

Based on the international experiences with CRs so far, a number of key enabling conditions can be identified. These include enabling legal and policy conditions, as well as conducive value chain and market conditions.

Enabling legal and policy conditions:

1. A legal and institutional framework which permits to replicate the main legal features of CRs:
 - a. a financing instrument (preferably built on PNs) providing a strong creditor position including through fast-track enforceability, disapplication of force majeure, and creditor preferences in the event of insolvency;
 - b. ability to create security interests in future agricultural production and related productive assets;
 - c. ability to perfect such security interest—preferably through an electronic registry—in order to protect against other creditors in case of default and bankruptcy;
 - d. possibility to endorse and trade the financing and the security instruments, over the counter or on capital markets, and to wrap them into secondary instruments.
2. An enabling policy environment in terms of governance—especially concerning rule of law and contract enforceability—and predictability of government interventions in financial, input and product markets;
3. A champion spearheading the introduction and piloting of CRs;
4. A supportive government willing to embark on reforms to remove legal impediments and address ambiguities and gaps in the legal, regulatory and institutional framework needed to create the conditions listed under (1) and (2), possibly enhanced through tax incentives.

Enabling value chain and market conditions:

5. Well-structured value chains with clear grades and standards to define the delivery obligation in terms of quality and other product specifications;
6. Existence of a price detection mechanism. Clear and transparent reference prices through spot or futures

markets. Predictable seasonal price pattern with low risk of ad-hoc government interventions;

7. Sufficient volumes of commercial production in the above value chains and sufficient number of commercial producers across different subsectors to compensate the costs for setting up crop-receipt enabled financing structures, attract new investors/financiers, and allow them to spread the risks across several value chains;
8. Sufficiently well-developed post-harvest and logistics infrastructure for crop collection and delivery;
9. Existence of other risk management instruments, such as hedging and crop insurance; and
10. Capacity and willingness of the private sector—financial institutions and agribusiness—to provide and expand pre-harvest financing.

Not all of these conditions need to be fully in place from in order to introduce CR on a pilot basis. However, a minimum set of essential conditions are required whereas others can gradually be created or added. Conditions 1,3, 5, 6 and 10 are essential even for a pilot. The other conditions are more important for scaling up and mainstreaming of CR as an additional financing instrument. For example, while fast track enforceability through the court system is important to generate interest and trust among financiers, it may not be not essential at the beginning, as long as the contract law is flexible enough to allow out of court settlement. In general, the more of these conditions are in place or can be created, the more features of CRs and related added value can be harnessed and the more trust will stakeholders develop in the instrument.

Adapting CRs to Africa—key issues

Some of the key features of African agriculture pose serious challenges to the introduction of a fully-fledged Brazilian style CR at scale, at least in the short to medium term. Agricultural production in Africa is dominated by smallholder farmers. Many traders, processors and input suppliers also operate informally at a small scale. Many value chains are poorly-integrated and are composed

of multiple channels and layers of small and informal actors. Such structures make transmission of prices and establishment of grades and standards challenging. Even in better integrated value chains where larger off-takers buy from organized smallholder farmers, small transaction sizes lead to high transaction costs and render effective monitoring difficult. The informality of farmers and aggregators, including FOs, traders, and rural agents, makes the enforcement of contracts more difficult. Addressing production risks related to climate, pests, and diseases are often large and effective risk management and mitigation measures are scarce. Timely access to quality inputs at reasonable prices can also be challenging due to poorly developed inputs markets. Output markets are often small, thinly traded, and opaque, leading to increased price volatility. The latter is exacerbated by policy volatility, in the form of unpredictable interventions in input and output markets.

Except for South Africa, the sophistication of the financial system in Africa is far below those in Brazil or Eastern Europe. In addition, capital markets are still underdeveloped in Africa. There are few functional commodity exchanges, and opportunities to hedge price risk are limited. There are also no comprehensive legal frameworks supporting CR financing.

Many of these challenges are structural and can only be addressed gradually. But progress has been made on various fronts, and there is firm commitment by African leaders to promote agriculture-led growth. There is also an increased recognition of the importance of addressing key policy and infrastructure bottlenecks, along with institutional reforms and better coordination between the public and private sectors. Efforts are being made towards developing inclusive business models to link smallholder farmers to off-takers and integrate them into value chains. FOs, together with rural SMEs, can serve as aggregators and issue CRs that are sufficiently large. Since private sector actors in the agriculture sector, including farmers, usually list poor access to finance as the key constraint in surveys regarding business environment for agriculture, there has been growing support to improve the legal and

regulatory environment for agricultural and SME finance. Support for the introduction of new financing and risk management instruments have also been growing.

Introducing CRs as financing and risk management instrument in Africa is challenging. A large-scale introduction of CRs seems unlikely, at least in the short term. Nevertheless, several entry points for introducing CR financing on a pilot basis can be identified based on the existence of a critical number of key enabling factors in select countries and value chains. The most likely scenario is a gradual introduction of CRs built on existing financing and security instruments, followed by continuous enhancements of their features. Some generic entry points are discussed in the following section. Chapters 4 and 5 then provide specific examples for such entry points in Zambia and Uganda.

Legal entry points

Much of the value proposition of CRs stems from their strong and coherent legal foundations based on dedicated CR laws. Such laws would also greatly facilitate the introduction of CRs in Africa as it would allow customization of CRs to the respective country conditions, removal of legal impediments, and building the awareness and trust of key public and private actors in the instrument. However, creating a new law is time-consuming and requires substantial political support and commercial interest. Mobilizing the latter for an instrument that is virtually unknown on the continent and has not really been tested outside of Brazil and Ukraine would be challenging. Indeed, the existence of dedicated laws does not necessarily create sufficient confidence by the private sector to use the instrument. This is especially so in countries with a poor track record in governance, court-based dispute resolution, and law enforcement. Ukraine and Serbia have started with dedicated CR laws, but the private sector response has been slow so far. Experiences with WR legislation in Africa has often shown similar results. Dedicated CR laws would need to be complemented by an awareness-raising campaigns, and the capacity development of courts, regulators, and private users of CRs. The Brazilian experience shows that

dedicated champions and risk-sharing arrangements are essential to drive the uptake of CRs.

An alternative approach would involve the gradual introduction of CR-enhanced financing instruments and structures in select countries and value chains. Pilots for CR-enhanced instruments could be developed subject to commercial interests and the existence of minimum legal conditions. These pilots could be used to test the concept, raise awareness and interests, and identify gaps in the legal and institutional frameworks that have to be addressed by legislative reforms.

Prior to designing a pilot, an assessment is needed to determine whether the current legal, regulatory and institutional frameworks would support the key features of CRs and allow for enough flexibility to structure CR equivalents based on existing financing and security instruments. The key legal preconditions and building blocks are mentioned in section 3.1.3 and assessed in more detail in chapter 4 and 5.

Commercial entry points

In Brazil, the CR market has mostly been used by large and mid-sized farmers that are well integrated into established value chains. This is partially due to lower risks and transaction costs involved in dealing with larger farmers, but also to the fact that the government provides large amounts of highly subsidized credit to smallholder farmers. Hence, the Brazilian experience does not allow us to conclude if CRs can be downscaled to finance smallholder farmers as well. The agricultural system in Sub-Saharan Africa is rather different from that of Brazil. This means that the issuance of CRs in Africa probably cannot follow the same pattern as that of Brazil. Instead, one should consider targeting three different market segments:

- Commercial farms
- Agribusinesses
- Organized smallholder farmers

Commercial farms are natural entry points for CRs. They are large enough to issue CRs on their own, have an established track record as producers, and tend to be well

integrated into value chains. In Africa, this category is quite diverse and includes:

- Plantations and estates owned by domestic or foreign corporations (often in tree and plantation crops, or flowers).
- Large vertically integrated livestock producers.
- Medium- to large-scale family farms in settler economies, such as grain farmers in Eastern and Southern Africa.
- Emerging farmers, who belong to a growing category of medium sized farms operating between five and 50 hectares depending on the country and commodity, which either grew out of smaller farms or are owned by urban-based investors (for example, civil servants or pensioners).

Plantations and estates could issue CRs to access finance from capital markets, for example from specialized agricultural investment funds. In case of repeat transactions, CRs could be structured as revolving credit

facility secured by a floating charge on future production over several years, as was commonly practiced in the Brazilian sugar industry. Such arrangements reduce transaction costs and may substitute or complement hard collateral. Larger commercial farms could use CRs in a similar way. As in the case of Brazil, CRs could either be used as additional security if hard collateral has already been tied up with other loans. CRs complementing other collateral would lead to a better credit rating, thus allowing farmers to either borrow more funds or negotiate better terms and conditions for current loan volumes.

Some plantations, estates and large commercial firms also run outgrower schemes. CRs would help them to expand such finance given their strong legal standing and tradability, similar to the way in which CRs has helped agribusinesses (see below).

While some emerging farmers can provide real estate or other tangible collateral, most are collateral constrained. The main benefit of CRs would therefore be to access



BOX 1: FARM TO MARKET ALLIANCE OUT-GROWER SCHEME

In Sub-Saharan Africa, there are several contract farming or outgrower schemes being implemented by off-takers, and these platforms can be the candidates for CR pilots. IFC has partnered with the United Nations World Food Programme (WFP) to launch financing programs for contract farming in Rwanda (with KCB Bank Rwanda Limited) and Tanzania (with CRDB Bank PLC) in May 2017. IFC, WFP, and other stakeholders have established the Farm to Market Alliance (FtMA), a multi stakeholder platform to create agriculture value chains that include smallholder farmers. The Alliance introduces a purchasing platform that links smallholder farmers to markets. Through this platform, smallholder farmers receive off-take agreements from WFP and other platform participants. These agreements can subsequently be used to access loans from local banks. Yara International ASA, Syngenta AG, and Bayer CropScience AG are also joining the Alliance to offer high quality input supplies to smallholder farmers. This type of outgrower scheme can be a potential platform to introduce CRs. IFC, joined by GAFSP, is also providing advisory services to improve the professionalism of smallholder farmers through capacity training activities in the areas of financial management, governance, and input use. FtMA is planning to roll out this contract farming platform in 25 countries mainly in Sub-Saharan Africa.

SOURCE: IFC

more finance. Overall, the added value of CRs would be larger for the emerging and commercial farmer categories as they typically have fewer options to access credit and are more collateral constrained. Historically, this category of farmers was the target when CRs were initially introduced in Brazil.

Agribusinesses including input suppliers and off-takers—processors, wholesalers, and exporters—have historically been the drivers of CR finance in Brazil. They are also the early adopters of CR finance in Ukraine. The value proposition of CRs for agribusiness companies is twofold. First, CRs offer a more secure avenue to advance input credit to farmers. Second, re-discounting CRs with financiers through endorsement or wrapping into secondary instruments can help address agribusiness companies' own liquidity constraints. As such, CRs are likely to expand pre-harvest finance provided by agribusinesses

While CRs were first used in Brazil to provide buyer and supplier credits to farmers (the CDCA was introduced only 10 years after the physical CR), in Africa, both CRs and CDCAs can be introduced simultaneously. For example, a processor might issue a bond or take a loan backed by future receivables from contracted farmers. These receivables could be in the form of prepaid forward contracts or PNs with physical delivery. Existing outgrower schemes would provide a platform for introducing CRs and CDCAs.

Organized smallholder farmers. Smallholder farmers are a diverse category, and the majority of them are not in a position to use CRs or other pre-harvest finance instruments. The latter includes food-insecure farmers producing small and erratic marketable surpluses on marginal land. However, there is a growing segment of market-oriented smallholder farmers who already participate in structured markets and value chains. Some of them already receive credit, usually in kind, through contract farming or out-grower schemes. A small minority

has direct access to loans from MFIs, member-based financial institutions or banks. However, many commercial smallholder farmers do not have access to pre-harvest financing due to the reasons discussed earlier in this report.

The challenges for down-scaling CRs to commercially-viable smallholder farmers are similar to the general challenges for providing pre-harvest finance to this segment, which includes small transaction and the resulting high transaction costs, low literacy levels, lack of tangible collateral, and poor enforceability of contracts through traditional means. For CRs to work, they need to be structured in a way that blends their key features with successful rural and agricultural finance techniques such as collateral substitutes, aggregators, joint liability, and cash deposits.

One entry point would be to target smallholder farmers that are already part of a contract farming or outgrower scheme. Such schemes mitigate risks related to input and output markets, farmers are often organized in groups, and buyers typically offer extension services. The value proposition of CRs include increased access to finance and better conditions—through reduced risk premiums or deductions—as outlined above.

A second, more challenging entry point would be to provide CR finance to organized smallholder farmers outside of contracting relationships. This is the most viable option in the context of commodity exchanges which would facilitate price discovery and allow a farmer to sell to the highest bidder. Loans can then be repaid through a stop-order agreement managed by the exchange. Furthermore, a CR could be converted into a WR if the crop was stored in a warehouse accredited by the exchange.

In either case, finding suitable aggregators through which CRs could be issued is key in a smallholder context. Depending on the context, FOs, lead farmers, or rural brokers can also play this role. In addition to issuing CRs on behalf of associated smallholder farmers, aggregators could play a role in:

- Screening of reliable and capable farmers.
- Payments and collection of production.
- Monitoring the proper use of inputs and good husbandry practices by smallholder farmers.
- Provide co-guarantees, joint liability or cash collateral mechanisms.
- Support enforcement in case of default.

The actual framework for engaging with aggregators for the use of CRs is highly context specific, and careful prior testing is key for success. Regardless of the final structure, FOs can play an important role to ensure fairness and transparency. First, peer pressure within a FO can help deter a farmer from defaulting. Since FOs need to maintain their own creditworthiness and the creditworthiness of their members, they have the incentive to support the enforcement of CRs issued on behalf of their members. Second, under certain legal conditions, FOs and other aggregators could be leveraged as a first-level out-of-court enforcement channel (view chapters 4 and 5 for more details). While the prevailing lack of capacity and governance among many FOs and other aggregators would need to be addressed through extensive capacity-building to make this work, working through FOs and other aggregators means that legal action would only be necessary if a FO fails to perform its enforcement role. Furthermore, legal action can be taken against the FO, eliminating the need to deal with individual member farmers. Nonetheless, a second-line legal enforceability backstop is in place which achieves the aim of collateralising the commodity under production, thereby establishing it as a security.

There are mitigation mechanisms that can be deployed to reduce the high risks associated with smallholder pre-harvest finance in Sub-Saharan Africa:

- **Selectivity based on track record:** in pilots, it will be important when focusing on established outgrower schemes to select a subset of producers with strong performance records. When focusing on FOs, it is critical to ensure at minimum a prior

track record for good financial, operational, and governance-level performance. It is worth noting that the minimum requirement in the financial sector is typically three years.

- **Loan-to-value ratio:** inputs and equipment would be financed to a value well under 100 percent of the estimated future value of the crop.⁵¹ The advance would cover the costs of inputs (or a part thereof) but would be over-collateralized by the future crops with an estimated value of 200 percent or more over the input costs plus interests (loan-to-value ratio of 50 percent or less). To protect against drops in production, financiers do not finance the entire future production.
- **Insurance:** crop insurance can be incorporated into the pre-harvest financing arrangements through provision of an insurance policy along with the inputs or equipment. In this case, the costs of the insurance policy together with the inputs or equipment are repayable through the delivery of the crop.
- **Cash or non-cash (e.g. WRs and movable assets) deposits:** some deposits may be required from farmers and FOs to act as an effective built-in first loss facility. In this way, this deposit may be revoked to replace a defined level of non-performance on the CR issuer's delivery obligation.
- **Joint liability:** The FO, as a group, could stand behind the individual loans in the event of a default.

BOX 2: GLOBAL INDEX INSURANCE FACILITY (GIIF)

Agricultural insurance is an important instrument to manage weather-related production risk and could potentially improve the risk profile for CR finance. The availability of viable and cost-effective crop insurance products in Africa is still very limited but a number of promising schemes, which are often bundled with other inputs and services, are emerging.

The Global Index Insurance Facility (GIIF) is a dedicated World Bank Group program that facilitates access to finance for smallholder farmers through the provision of catastrophic risk transfer solutions and index-based insurance. Funded by the European Union, the governments of Germany, Japan, and the Netherlands, GIIF has facilitated more than one and a half million contracts, with \$151 million in sums insured. It covers approximately six million people, primarily in Sub-Saharan Africa, Asia, and Latin America and the Caribbean.

Index insurance is an innovative approach to insurance provision that pays out benefits on the basis of a pre-determined index or loss of assets and investments resulting from weather and catastrophic events, without requiring the traditional services of insurance claims assessors. This approach enables the claims settlement process to be quicker and more objective.

In Zambia, GIIF partners with Mayfair Insurance and provides crop insurance for maize, soybeans, and cotton. The Facility works with Mayfair Insurance, Swiss Re, NWK Agri Services, Zambia National Farmers Union (ZNFU), Zam Re, Prima Re, and the Ministry of Agriculture, Met Dept. As of 2017, About 60,000 smallholder farmers are being insured through the Facility.

SOURCE: IFC

- **Third party guarantees:** third-party guarantee providers may emerge with a specialty in assessing and monitoring FOs for risk, and serve a function that is the equivalent of the Banco do Brazil's aval to cover the CRs issued by eligible FOs.

More broadly, as an indirect risk mitigation mechanism, policy guidance may be provided to government regarding the appropriate strengthening of sectoral governance mechanisms to boost the confidence to agribusinesses that pre-finance farmers concerning the risks of side-selling. There is a need to re-examine zoning regulations and buyer licensing, while ensuring that any restrictions to competition do not negatively impact the farmer in terms of price realization and financing terms.

Financial sector entry points

The first entry point for introducing CRs would be commercial banks and development banks. Banks can use CRs as collateral enhancements to either supplement or substitute loans to existing or new agricultural clients. CRs can also be a vehicle to tap into capital markets and mobilize cheaper funds into the agricultural sector. While the past decade has seen a decline of bank risk capital for developing countries as a result of banking sector consolidation and regulatory pressures, there has been growing interest from investment funds in commodity finance. While many investors are still limited by their statutes or government regulations to investing in investment-grade assets, there is a growing number of investors that do not have such restrictions. The financial sector has now developed a range of instruments that permit investors to fund agriculture, including both debt and equity instruments. Such instruments can have tenors that are as short as three months or as long as 25 years.

The trend towards vertical coordination and integration in agricultural supply chains makes it easier for investors to invest in agriculture. Whereas large-scale investments in land have been controversial, there is broad political

support for mobilizing agricultural value chain finance from both domestic and foreign sources. Furthermore, African countries are trying to develop domestic capital markets to mobilize additional sources of enterprise finance and broaden investment opportunities beyond government bonds, real estate, and company stocks. CRs and related secondary instruments could play a vital role in catalysing the development of a broad range of investment instruments. Given that bond markets and commodity exchanges are still in their infancy in most African countries, CRs will, in the short term, mainly be issued directly to financiers. However, in the medium to long term, establishing CRs as capital market instruments would help broaden the sources of funds for pre-harvest financing beyond the direct market partners of farmers, namely banks and agribusiness, thus enhancing market competition and stimulating financial and agricultural innovation. Likewise, financial investors would have the opportunity to diversify portfolio risks by investing into different asset classes.

A program for the introduction of CRs in Africa should thus be accompanied by an awareness-raising and promotional campaign targeting the continent's institutional investors. Such a campaign should target both key financial sector decision-makers, and the mid-level staff who will have to engage in actual CR operations. It may also be worthwhile for DFIs to invite financial institutions for risk-sharing opportunities.

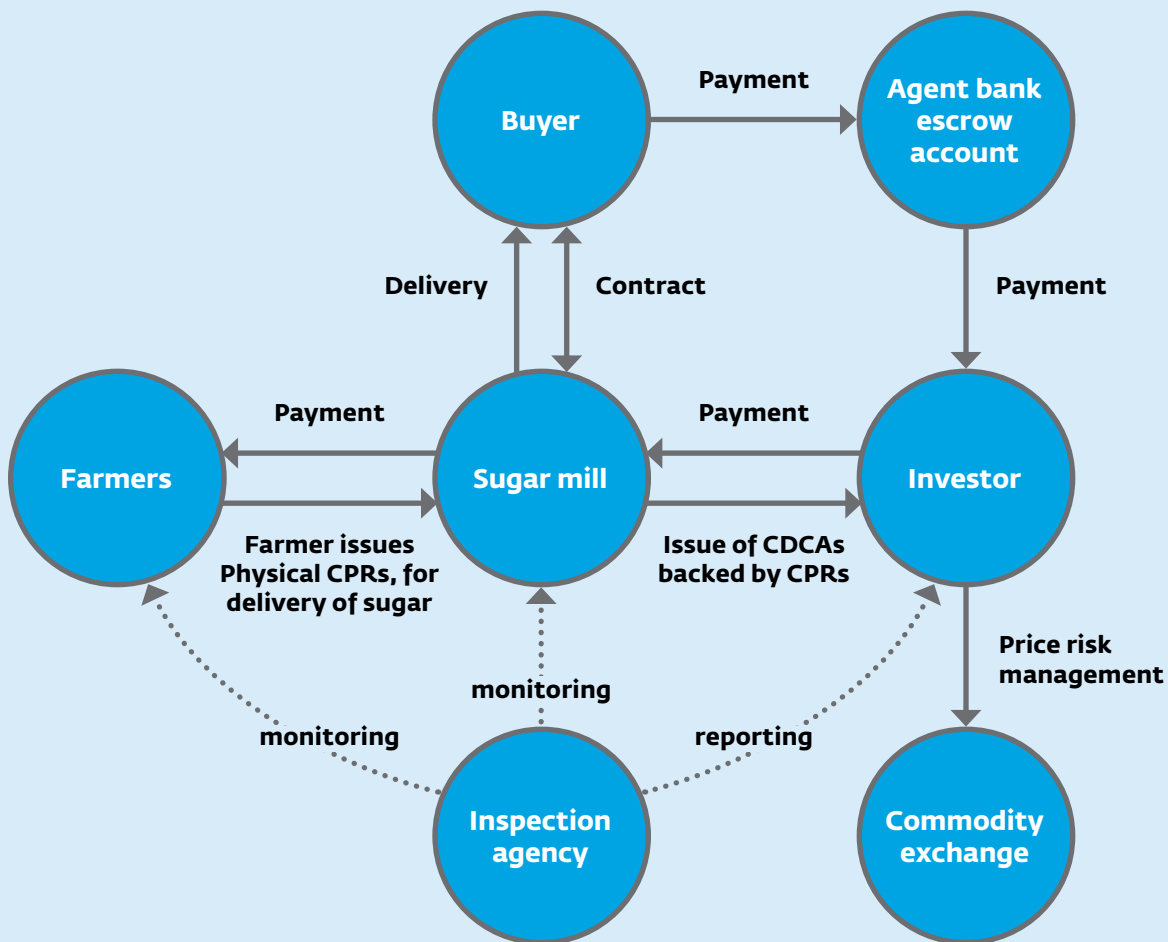
Given that Africa's financial sector is not yet well developed, the following suggestions can be made for the initial years of development of CRs:

- Avoid retail-oriented instruments, as the risks are high and regulatory structures are often too weak to properly protect small investors.
- Pension funds and insurance companies should be targeted as buyers of CRs. Pension funds in Africa have \$334 billion in assets, and they are growing rapidly,⁵² while insurance companies have \$273 billion under management.⁵³

BOX 3: EXAMPLE FOR USE OF A CDCA IN THE SUGAR INDUSTRY

Figure 3 gives an example of how CDCAs backed by CRs—which are receivables for their holders—can be used to finance a processor, in this case a sugar mill. The sugar mill pre-finances the farmers, using physical CRs through which farmers commit their future sugar production. The mill also signs an offtake agreement for the white (processed) sugar with a buyer. The mill then issues CDCAs, backed by the CRs and the commercial contract with the buyer. Just like CRs, the CDCAs contain a “collateral clause” under which the mill pledges the product (both sugarcane and white sugar, in this case). It also makes a fiduciary assignment of the CRs and the commercial contract, and may provide further collateral such as personal guarantees, or a bank aval. It is possible that the investor who buys the CDCAs employs an inspection agency, not just to monitor the farmers but also to monitor the performance of the mill. The investor may also use futures or options to manage his price risk. When the white sugar is delivered, the buyer pays into an escrow account from which the investor is reimbursed. Any remaining sums are remitted to the mill.

FIGURE 3: USE OF A CDCA IN THE SUGAR INDUSTRY



- To provide insurance companies with the sufficiently large deals, DFIs may invest in national and sub-regional investment funds that specialize in originating CRs. By doing so, they act as aggregators of small CRs that can issue larger notes. This structure is similar to the Brazilian mechanisms for linking CRs and CRAs.

Value chain entry points

In principle CRs could be used in any value chain, subject to the enabling conditions mentioned in section 3.1.3. Value chains should exhibit the following characteristics: (i) be well-structured with clear grades and standards; (ii) have well-established reference prices through spot or futures markets; (iii) have predictable seasonal price pattern with low risk of ad-hoc government interventions; and (iv) have a sufficient number of well-established farmers and FOs.

In practice, export value chains tend to be better organized in terms of the presence of large buyers, established grades and standards, price detection mechanisms, market size, and post-harvest logistics and infrastructure. Often, risk management instruments such as hedging are available on international exchanges, with key products being cocoa, coffee, cotton, palm oil, rubber, and sugar. However, CRs might also work in well-structured domestic chains serving growing urban markets such as dairy, poultry, cereals, and oilseeds.

Enforcement mechanisms differ depending on crop characteristics. For seasonal crops with a condensed harvest period, the main collateral, which is the crop, only materializes around harvest time. In case of default, which could be due to crop failure or side selling, recourse might be difficult in the absence of other collaterals. In this case, the creditor might roll the obligation over into the next season. The same would apply to meat production. In case of perennial crops and livestock enterprises, such as tea and dairy, production takes place over a longer period. Therefore, side selling can be detected earlier and the creditors can take over the productive asset and assign it to another producer until the obligation under the CR has been settled.⁵⁴

To reduce transaction costs, CRs might be structured through multi-year frameworks between the parties. For example, in case of perennial crops or livestock production, the future production could be pledged over several years in advance under a financial CR against which disbursements could be made repayable either over several years, or as a revolving working capital credit line.

In terms of value chain governance, tightly integrated value chains with limited possibility for side selling would be easier entry points for the aforementioned reasons. However, in case of highly integrated value chains dominated by big lead firms with good access to international capital markets, lead firms might have less incentives to change their existing pre-harvest finance arrangements by introducing CRs.

In principle, CRs could be financed in structured value chains with several buyers, as long as payments can be recovered at a constriction point downstream, such as commodity exchanges and auction platforms. The crop would have to be traceable and the buyer would have to assure that there is no liability attached to the crop before paying the farmer. Otherwise, the liability will have to be deducted and paid to the creditor. Such a system would require short value chains that allow traceability and crop aggregation, and would also require a functioning online registry that is easily accessible by buyers, as well as a clearinghouse to settle credit obligations. It would further require a setting whereby selling outside the system, such as smuggling, could be controlled. The advantages for the farmers would be a separation between the marketing and financing function, which allows them to negotiate the best deals.



4 Zambia Country Assessment

4.1 RATIONALE FOR COUNTRY SELECTION

Zambia was chosen for an in-depth assessment under the Africa Crop Receipts Initiative for the following reasons:

- It has a diverse farming structure, including a core group of commercial farmers, a growing number of emerging farmers and a segment of commercialized smallholder farmers participating in structured value chains. The mix of farmers with different sizes and risk profiles enables the development of a diversified CR portfolio of sufficient scale.
- There are several structured value chains with higher levels of coordination among the different value chain actors that provide a platform on which CR-based transactions could build. These include prominent outgrower schemes in the cotton sector. Such outgrower schemes include large outgrower schemes, as well as farmer-led schemes. Examples of farmer-led schemes include the Zambia National Farmers Union-Lima Credit Scheme, which is run by commercial banks, in the grains sector, and the Loan-a-Cow scheme in the dairy sector.
- There is a presence of large and international agribusiness players with more advanced capabilities to understand, assess, and implement a relatively innovative and sophisticated agricultural financing instrument, namely crop receipts.
- Comparatively high levels of organization among farmers and other value chain players, notably the ZNFU representing farmers and agribusinesses of different sizes combining district and value chain based farm organizations, the Grain Traders Association of Zambia (GTAZ), Cotton Ginners Association of Zambia) facilitating industry coordination around new instruments or to engage in policy dialogue. ZNFU introduced a dedicated loan product for smallholder farmers in partnership with a bank and has expressed its interest in new financial products, including CRs.
- There is a presence of at least one major bank (Zanaco–Zambia National Commercial Bank Plc) with a strong track record for agricultural finance, not only to the large players but also to the emerging and smallholder farmers.
- Recent passage of relevant legislation, including the Agricultural Credits Act No. 35 of 2010, which introduced warehouse receipts system regulation and the agricultural charges security instrument, and the Movable Property (Security Interest) Act No. 3 of 2016, which established the creation of an electronic registry for movable collateral.
- Zambia is near South Africa, and there are strong commercial and financial links between the two countries. The commodity futures market at the Johannesburg Stock Exchange (JSE, formerly SAFEX) offers a mechanism to indirectly hedge price risk for key Zambia crops such as maize, wheat, soybean and sunflower via South Africa-deliverable contracts. This can potentially expand, in the short-to-medium term, with the prospective introduction of Zambia-deliverable contracts.
- A capital markets framework which, while still relatively small and unsophisticated by global standards, is more advanced than many of its African peers, with comparatively high levels of domestic bond and Eurobond issuance by government and a relatively mature domestic exchange sector for the trading of stocks and bonds. Currently, a grain bond based on warehouse receipts is being structured to be offered to national and regional investors.

- Promising pilots with weather index and life insurance in cotton outgrower schemes as part of performance incentive schemes.
- In more general terms, a comparatively high score in recognised jurisdictional assessment databases⁵⁵ for factors such as rule of law, policy effectiveness, regulatory quality, access to credit, resolving insolvency, and contract enforcement.

Despite these enabling structural conditions, the timing of the country level assessment was challenging as Zambia was experiencing an economic crisis that was triggered by an early 2015 plunge in the world copper price. Knock-on effects were felt on the currency, balance of payments and government revenues which filtered through into a deep recession that affected all sectors of the economy, including agriculture. Agriculture was also severely affected by droughts in 2015 and 2016. The economic crisis has been compounded by severe power shortages, and pre-election public spending. As a result, inflation and interest rates rose sharply, as did the non-performing loan portfolio of banks. Moreover, ZNFU has been undergoing an institutional transition due to internal governance issues surfacing during 2016. The crisis has led to downsizing of several agri-finance schemes and reduced the appetite of private financiers to embark on new financing mechanisms for the sector. While the economic situation has improved in 2017 and the country experienced a bumper harvest, several of the potential entry points for CR identified during the in-country assessment remain on hold or under revision. Even so, Zambia is still an attractive jurisdiction for, especially considering the presence of an enabling legal framework, a diversified farming structure, and the presence of some strong agribusiness companies.

4.2 MOST SUITABLE VALUE CHAINS

Zambia has long sought to foster broad-based economic growth by diversifying its economy and reducing its reliance on copper. The Government has targeted agriculture as a priority sector in poverty reduction and food security given that two thirds of the population live in rural areas and rely on the agricultural sector for their

livelihoods. Zambia's agro-ecologic conditions enable a range of crops and livestock activities, but its potential for a strong agricultural sector has only been partially tapped. Increased climate variability and dependence on rain fed farming are amongst the main challengers the sector faces in fulfilling its potential.

Agriculture in Zambia is dominated by over 1.4 million smallholder farmers whose farms are no more than two hectares in size. However, there has been a significant increase in the number of emerging farmers. While the number of smallholder farmers grew by 33 percent over the first decade of the new millennium, the number of emerging farmers grew by 62 percent, with an estimated 50,000 emerging farmers currently active in the country (Sitko and Jayne, 2012). There are also approximately 1,500 commercial farmers and a small number of agricultural corporations (Horus 2015). Livestock and maize production are the largest sectors in terms of gross agricultural production value (FAOSTAT). Other significant sectors include cash crops such as sugar, cotton, and tobacco, as well as food crops such as cassava, groundnuts, vegetables, soybean, eggs, and wheat.

Potential value chains for introducing CR pilots were identified based on an assessment of the criteria described in section 3.1.8. The assessment was based on secondary data and literature, complemented through in-country stakeholder discussions. The main results are summarised below.

Cotton and sugar value chains have the highest levels of organization due to large outgrower schemes run by various agribusinesses.⁵⁶ As for livestock, the dairy value chain provides opportunities for piloting CRs owing to the existence of strong farmer cooperatives composed of small and medium farmers around collection centers linked to the large dairies (Parmalat) that supply to the burgeoning urban markets. In 2015, the Dairy Farmer Association, a member of ZNFU, started a financing scheme for dairy cows in collaboration with Zanaco. This financing scheme can be greatly enhanced by integrating crop receipt features. Despite the existence

of outgrower arrangements, the sugar subsector is less suitable for a potential pilot due to the dominance of one large multinational company and the small number of outgrowers. The potential value addition of CR is therefore less clear. Tobacco was not included in this study in view of institutional restrictions for support by most DFIs and donors.

Soybean and wheat are subsectors with growing importance within Zambia. While wheat is almost entirely produced by large commercial farmers, soybean has a mixed production structure with growing importance of commercial smallholder farmers and emerging farmers. Both value chains have relatively high levels of commercial presence in processing and trade, and some large traders have started providing pre-harvest financing for soybean through in-kind provision of inputs. CR-enhance banking products could be introduced in both subsectors targeting commercial and emerging farmers, as well as organized smallholder farmers.

While maize is the largest subsector and the most important agricultural commodity and food staple in the country, introducing CRs in this subsector is highly challenging. Despite the presence of large downstream buyers, the subsector is less structured and pre-harvest finance based on contract farming is less feasible in view of the large number of marketing channels. The main challenge stems from unpredictable market interventions, which often leads to price volatility and late payments by the Food Reserve Agency (FRA). That said, the Lima Credit Scheme developed by ZNFU in collaboration with Zanaco has been rolled out successfully in the maize sector.

Several key actors are engaged in the above-mentioned value chains. ZNFU and its affiliates were the prevailing organization body for farmers across all value chains. Furthermore, the main large Zambian agribusinesses were also prominent across four major chains, namely, maize, wheat, soybean, and cotton.⁵⁷

4.3 THE FINANCIAL SECTOR

There are 18 licensed commercial banks in Zambia. Eight are locally owned, two are state-owned, and eight are subsidiaries of foreign banks. Foreign banks dominate the sector with approximately 70 percent share of total assets. The total local currency loan assets of Zambian financial institutions stood at ZMW 22.7 billion (US\$2.4 billion) and the foreign currency loan assets at US\$865 million in April 2017. Interest rates increased sharply, reaching 29 percent at the peak of the crisis. They only slightly declined to 27 percent in early 2017, and have only gradually come down since then.

In April 2017, loans to the agricultural sector amounted to ZMW4.2 billion (US\$451 million) in local currency and US\$265 million in foreign currency. The bulk of this lending is concentrated in corporate agribusiness and commercial farmers. While seven banks have a larger exposure in the sector through dedicated agribusiness departments, only one private sector bank—Zanaco—has a major exposure in the smallholder and emerging farmer segments. Nevertheless, other banks such as FNB and BancABC (ABC Holdings Limited) have started serving these segments and expressed an interest in expanding their product offerings and exposure beyond the established low-risk market segments. Microfinance institutions are mainly urban-based, focusing on salaried employees, and play a minor role in agricultural finance. Overall, the corporate and commercial farming segments are relatively well serviced whereas emerging and smallholder farmers represent a largely untapped market. A recent market assessment (Horus, 2015) identified a potential demand for input loans of US\$440 million in the smallholder segment and US\$805 million in the emerging farmer segment. Current supply was estimated to be US\$85 million from all sources, including outgrower schemes.

Weather index insurance is available from seven companies, of which three are also serving the smallholder and emerging farmer segments. Index-based crop insurance combined with life insurance has been successfully bundled with inputs into the pre-harvest

financing package of NWK, one of the main cotton ginneries. After three years of operation, the product has sparked interest by other value chain actors in Zambia and beyond.

Though still small, the Zambian capital market is considered among the most promising ones in Africa. The Lusaka Stock Exchange (LuSE), the country's stock market was established in 1993. It now offers fully electronic trading for 22 companies across 11 industry sectors under the regulatory oversight of Zambia's Securities and Exchanges Commission (SEC). LuSE is privately-owned by its seven-member stockbrokers, and has accredited seven fund managers and two custodian banks that work with its central securities depository. Liquidity on LuSE appears to be low and turnover intermittent, with only one or a few counters trading on the same day. Bond markets are still dominated by government issuance. While seven corporate bonds are also listed on LuSE, they generate little turnover. An innovative grain bond based on warehouse receipts is being structured by a domestic securitization firm.

The pensions and insurance sectors represent the major institutional participants in the Zambian capital markets. As of January 2017, there were 242 registered pension schemes, seven pension fund managers, and six fund administrators. The insurance sector consists of 22 general insurance companies, 12 life insurance companies, and three reinsurance companies. Combined net assets of pension funds at the end of 2016 stood at ZMW5.9 billion (US\$595 million), and gross written premiums of insurance companies during 2015 was at MWK2.10 billion (US\$191 million).

4.4 SUMMARY OF LEGAL ASSESSMENT

This section summarizes the answers to the following three key questions:

- Which existing financing and security instruments can be used to introduce structures that are equivalent to physical crop receipts, the financial crop receipts and the secondary instruments on a pilot basis?

- What are the main legal impediments, gaps, and uncertainties under the present legal framework?
- Is the existing legal framework sufficient to support the mainstreaming of CRs as an instrument or is additional legislation required?

Financing and security instruments

Overall, the Zambian law allows for a large degree of flexibility for private parties to design contractual arrangements and tailor them to specific situations and needs. The country has also recently introduced two important pieces of legislation that support agricultural lending and the use of movable collateral—the Agricultural Credit Act (2010) and the Movable Property Act (2016). Both Acts include provisions for the creation, perfection, and enforcement of security interests in future agricultural products and other movable assets, along with fast track settlement mechanisms and penalties. While the Movable Property Acts has a broader coverage and supersedes any conflicting provisions in previous Acts, the main instruments and related provisions created by the Agricultural Credit Act remain valid.

Many of the key building blocks for CRs appear to be supported by Zambian law: (i) the use of promissory notes, (ii) the possibility to create security interests over future agricultural products and other farm assets, (iii) the possibility to perfect such security interests through registration in a centralized electronic registry, (iv) a fast track enforcement mechanism for perfected security interests through out-of-court settlement (v) the possibility to endorse and trade secured liabilities based on promissory notes.

i) Financing instruments.

As in Brazil, CRs equivalents can be constructed based on PNs, which are governed by Common Law and recognised by virtue of statute. The English Bills of Exchange Act of 1882 applies in Zambia pursuant to the English Law (Extent of Application) Act, Chapter 11 of the Laws of Zambia. Under Zambian law, PNs have many features

similar to those of the Brazilian CPR. They are negotiable and can be endorsed. Collateral, including movable assets and intangibles, can be attached to them. As unilateral instruments, there is no need to prove the existence of debt in court, which translates into faster dispute settlement.

While PNs are normally settled in cash, in-kind settlement through an equivalent volume of agricultural products can be agreed between the parties if the value of the obligation is stated on the note. PNs could therefore be used as financing instruments for physical and financial CRs. Secondary instruments can be structured by packaging primary CRs (PNs or other receivables plus attached collateral) into debt instruments issued by banks or agribusiness securitization companies. In principle, endorsement and trading of such instruments is possible, both over-the-counter (OTC) and on the securities exchange. In the latter case, however, approval and registration by the SEC would be required.

Classified as negotiable instruments under the Movable Property Act (2016), PNs can also be used as collateral to strengthen repayment obligations under a loan or forward contract. Some lenders may prefer such an arrangement for internal operational purposes and to meet reporting requirements of the regulator. The Agricultural Credit Act (2010) stipulates that any financing instrument to advance inputs or other productive assets to farmers must clearly state the value of the advance, the interest rate applied, and any fees, charges or penalties. These can either be added to the PN or be part of a loan or forward contract to be secured by a PN. Even in the latter case, the advantages of the PN as unilateral instrument would not be undermined.

Hence, PNs might be used as the main financing instrument or a means to strengthen payment or delivery obligations under loans or forward contracts.

ii) Security instruments

Notwithstanding the strong legal standing of PN under Zambian law, it is recommended to create security interests over the future agricultural produce because this

would allow the use of out-of-court settlement if agreed by the parties.⁵⁸ Out-of-court settlement is preferable for piloting CRs under the current legal environment for two reasons. First, even though there are provisions in Zambian Law to allow faster court procedures, such as the use of small claims courts, in practice such provisions may still be lengthy and inefficient. Second, even though force majeure and other reasons for frustration of contract can be dis-applied or waived by the parties, it is not clear how judges would treat this matter in practice.

The main security instrument established by Agricultural Credit Act is the agricultural charge. An agricultural charge can be created by a farmer, a farmer organization, a trader, or related business to secure advances in cash, in kind, or related guarantees. The principal sum secured by an agricultural charge may be a specific amount advanced in one or several instalments or a fluctuating amount (credit line). In other words, an agricultural charge can be fixed or floating. It can be created over farming stock defined as all agricultural commodities (excluding those under a warehouse receipt) whether future growing or severed from the land, and after severance whether subjected to any treatment or manufacture, and include (i) crops and livestock and produce thereof, (ii) timber (iii) agricultural inputs, (iv) vehicles and agricultural equipment/machinery, (v) agricultural fixtures that a tenant, or any person legally occupying the land, may, by law, be authorized to remove. It remains valid if the concerned agricultural produce has been sold.⁵⁹

Agricultural charges must be registered within 30 days in the Agricultural Charge Registry at the Lands in Deeds Registry. A fixed charge confers on the holder, in case of default of the debtor, the right to take possession of the property covered by the charge, and sell the property after 21 days, or a shorter period as may be specified by the charge. Article 13 states that an agricultural charge creating a floating charge is similar to a registered debenture issued by a company. This would allow the appointment of a receiver to take over productive assets secured under the charge until all obligations have been fulfilled. A floating charge becomes a fixed charge in case of bankruptcy,

or death of the farmer or trader. Agricultural charges, in relation to each other, have priority in accordance with the time of registration under this act. (Art. 15, 2). Moreover, the holder of an agricultural charge has priority over the holder of a mortgage in case of bankruptcy.

The Movable Property (Security interest) Act 2016 has a broader coverage applying to all interest in movable property created by agreement that secures payment or other performance of an obligation regardless of the form of the transaction, type of movable property, status of the debtor or secured creditor or the nature of the secured obligation. It includes security interests in tangible and intangible assets,⁶⁰ such as a lien, charge, financial lease, pledge, security trust deed, trust receipt, consignment, assignment, the right under a hire purchase agreement, or other interest in movable property that secures payment or performance of an obligation. It excludes immovable property as well as pledges of securities under any law regulating a central securities depository system (article 3).

The Movable Property Act includes all relevant provisions under the Agricultural Credit Act and defines the procedures for creating, perfecting, and enforcing security interests in more detail. The act (article 33) states that security interests may be created by a natural person, a corporate body, or an unincorporated body. Hence, it can be used by farmers, FOs, agribusinesses, and financial institutions.

The definition of farm product is largely identical to farming stock under the Agricultural Credit Act (art. 2). The parties (debtor and secured creditor) create security interests through a security agreement that describes: (i) the secured obligation, including the maximum amount for which the security interest is enforceable; and (ii) the collateral in a manner that reasonably allows its identification. The law applicable to the mutual rights and obligations of the debtor and the secured creditor arising from the security agreement shall be the law chosen by the parties. In the absence of a choice of law, the law governing the security agreement (art. 4.2) will prevail. This implies that the agricultural charge can be used to create and perfect security interests under the 2016 Act.

Security interests can be perfected through registration of a financing statement or through possession by the creditor of the collateral (art 48). Promissory notes are listed under negotiable instruments and can therefore be registered as security⁶¹ (art. 49). A perfected security interest in farm products is not extinguished by subsequent sale, lease, mortgage, etc., of the land on which the produce is growing, has been grown, or being stored, growing or grown, as the case may be (art. 51,2). These provisions create strong and well-defined security interests in farm products and other movable assets.

For easy public registration, the Act creates a centralized electronic registry for movable collateral at the Patents and Companies Registration Agency (PACRA) that started operations in mid-2016. Priority is given to whoever is first to register the financing statement, possess the collateral, or acquire control over the collateral.

The 2016 Act also provides very clear and fast enforcement mechanisms, including the possibility to apply out-of-court settlement, if agreed by the parties. The secured creditor may proceed pursuant to a judicial process or, without judicial process, if the debtor consented, in the security agreement, to relinquish possession without a court order. To enforce the collateral, the registered creditor needs to register an enforcement notice in the collateral registry (art. 71). The secured creditor may take possession, remove the collateral or dispose of the collateral when the debtor is in default of the collateral is at risk. In addition to the remedies available under this act, a security agreement and any other remedy that may be granted by a court in accordance with the Companies Act, the Bankruptcy Act or any other law, the secured creditor may seek the appointment of a receiver, receiver and manager or official receiver, in accordance with those acts.

Legal impediments, gaps, and uncertainties

Overall, there are no major legal impediments to the introduction of crop receipt inspired structures using existing financing and security instruments in Zambia. There are, however, uncertainties and gaps due to the absence of a coherent and dedicated legal framework for

CR finance. Such uncertainties and gaps may need to be addressed through amendments of the concerning acts or through dedicated CR laws.

Streamlining of the registry function: The Movable Property Act (2016) aims to harmonize all laws concerning secured transactions in movable assets (Preamble) and supersede earlier Acts in case of inconsistencies (Art. 6). Nevertheless, the Zambian Legal Counsel⁶² supporting the legal assessment is of the view that security interests created through an agricultural charge need to be perfected twice: first through registration at the Agricultural Charge Registry, and second, via financing statement, at the newly established movable collateral registry at PACRA. Such requirement for double registration increases delays and transaction costs, and may discourage the use of the instrument. Roundtable discussion revealed that participants considered the costs for registration at the agricultural charge registry high, especially for small transactions. Even though the registry costs at PACRA are much lower, this advantage is undermined by the need for dual registration at the paper-based Land and Deeds Register.

Fast track enforcement procedures: The availability of out-of-court settlement through self-help and through the appointment of a receiver are options to circumvent the notoriously slow court procedures in Zambia. The applicability of these mechanisms still needs to be tested through pilots, especially in rural and smallholder contexts. These mechanisms may not entirely substitute the need for a fast-track enforcement mechanism through the court system, such as the fast-track court-based procedures that exist in Brazil. The latter may be needed in cases where borrowers do not agree to out-of-court settlement or where the latter may not be implementable without a breach of peace. Hence, it would be advantageous to establish a fast track, court-based mechanism supported by specialized courts or judges capacitated on the matter.

Tradability of CRs and related secondary instruments: The legal assessment did not identify any legal impediments in principle for trading CRs and related secondary

instruments OTC or on the country's securities exchange. However, the matter needs to be examined further, and the position of the regulators concerning the registration of CRs and related secondary instruments at the central securities registry and its trading on the securities exchange is still unknown. While the issue is less important at the pilot stage, it needs to be addressed to support a possible mainstreaming of the instrument. Going forward, tradability on organized exchanges and capital markets will be important for building a liquid market for CRs and related secondary instruments, diversifying risks and attracting a broader range of investors. This applies especially to the secondary instruments—such as the equivalents of the CDCA, LCA, and CRA—that are needed to bundle primary CRs into a size that is attractive to financial investors and allows the mixing of different risk profiles. The basic building blocks for such secondary instruments would be PNs or bilateral debt contracts, which may not be traded directly on capital markets, except for very large CRs issued by corporate farms. It may therefore be advantageous, from a capital markets perspective, to consider dedicated legislation that specifies who can invest in CR-backed instruments, and also provide tax incentives for CR instruments, as is the case in Brazil.

Need for a dedicated CR law

Based on the legal assessment and the caveats discussed in the previous section, the current legal framework is considered sufficiently flexible and supportive for structuring CR on a pilot basis. However, the practical application of CRs still needs to be tested. Whether the current legal framework provides sufficient protection for CR-inspired structures depends on the willingness of banks, investors and their regulators to accept CRs as a secured instrument. Banks and investors must also be willing to price lending against them at a more competitive rate to reflect the lower risk compared with unsecured financing, and regulators must set prudential risk and capital regulations under the Basel framework accordingly.

One challenge under the current legal framework is that CRs would have to be structured by drawing on different

legal instruments, structures and principles from different sources in law which may not always be entirely coherent. Such an approach can be convoluted and prone to misunderstanding, misapplication, or misinterpretation. Therefore, in the medium term, it is preferable to create a dedicated legislation that would provide clear references. Piloting CR structures within existing law would help guide the drafting of a dedicated CR law and necessary amendments of existing legislation to address issues that arise in practice in the Zambian environment. Pilots can also help generate buy-in from public and private stakeholders.

A dedicated CR law would provide opportunities to clarify and, where necessary, strengthen provisions concerning a number of relevant legal and operational aspects. These include (i) customization of PNs for the purpose of CRs (i.e. the primary purpose of the CRs law in Brazil) including the minimum form and content requirements and the intended issuers and buyers, (ii) further specifications regarding creation of security interests on future agricultural produce on customary land, for instance, how to document the plots of land where crops are to be grown along with the approval of traditional authorities; (iii) clarity about low-cost perfection of security interests through wholesale registration in case of smallholder farmers; (iv) roles of farmer organization in generating CRs on behalf of their members, as well as the perfection and enforcement of security interests over future agricultural production, including as appointed receivers; (v) creation of a fast-track settlement mechanism through the court system. The use of out of court enforcement mechanisms, e.g. through the appointment of the receiver leading to temporary takeover of productive assets or rolling over of obligations into the next cropping season may also benefit from further regulation to provide clear guidelines for such arrangements and build in safeguards against abuse, especially in a smallholder farmer context. A dedicated CR law might also provide further clarification about tradability of CRs on secondary markets and other related aspects (registration, reporting, insolvency and taxation).

4.5 COMMERCIAL ENTRY POINTS

Due to the novelty of CRs and the lack of a dedicated legal framework, it is preferable to build the introduction of CRs on existing products and structures. Upgrading existing financing products and structures through CRs can contribute to the expansion of their reach and to reducing their costs. Based on the roundtables and follow-up discussions during 2016, there are four potential entry points for piloting CRs. All four build on existing financing arrangements that can be enhanced by introducing key features of CRs. These potential entry points are:

- The Lima credit scheme
- The Loan a Cow credit scheme
- Commercial bank lending based on agricultural charges over future production
- Pre-harvest financing under cotton outgrower schemes

The following sections briefly describe the current financing arrangement followed by a description of the possible enhancements through CR features. As mentioned in section 4.1, several of these schemes are on hold or undergoing major revisions and might therefore not be immediate entry points. Nevertheless, the examples illustrate how CRs can be applied by building on existing structures. This could inspire the development of similar structures by other actors and value chains, in Zambia and beyond.

Lima Credit scheme

i) Current product

Under the Lima Credit scheme, ZNFU, through the District Farmer Associations (DFA), preselects members who jointly apply for an input loan. A bank such as Zanaco then extends a loan to the DFA, which on-lends to individual farmers against a down payment of 50 percent of the loan amount which is kept as cash collateral. The high cash collateral requirements are intended to compensate for the lack of other tangible collaterals farmers can provide.

The loan is disbursed in kind through input suppliers. In addition to the cash deposit, the loan is guaranteed by joint liability among group members. Average loan amounts are around US\$1,000 for individual farmers. The scheme has mainly been used for maize, with FRA as main buyer, but it has lately been diversified into other subsectors.

For the first seven years, the scheme was highly successful, reaching a total volume of US\$18.6 million lent to 19,000 farmers by mid-2015. The scheme was initially funded only by Zanaco. But in 2015, BancABC and two fertilizer companies also joined the scheme. However, lending was cut back to approximately US\$6 million in 2016 following spiraling defaults in 2015 according to Musika, a Zambian nonprofit that works to stimulate private sector investment in smallholder markets. The reasons for the high default rates then were largely external. Droughts and macroeconomic turmoil led to rising cost of credit, and the devaluation of the Kwacha greatly increased input costs. However, the recent economic crisis exposed the scheme's internal weaknesses of the scheme as well. Discussions with in-country stakeholders revealed the following:

- Some DFAs have grown too big for effective farmer screening and joint liability. There are also variations in terms of their capacity and governance.
- Since financiers deal with ZNFU's central structure rather than with DFAs or individual farmers, they have limited direct information about the performance of individual DFAs and their members.
- A near exclusive focus on maize combined with an overreliance of FRA led to a concentration of credit risks and significant defaults were caused by late payments by the farmers.
- The high cash collateral requirements, typically 50 percent of the amount borrowed, results in high effective interest rates for farmers and make the product inaccessible for cash-constrained farmers. Such an approach limits the product's growth potential and makes the project less attractiveness to farmers.

The Lima credit scheme is currently being revised and redesigned. Further to protracted governance challenges faced by the ZNFU in 2016, it seems unlikely that the ZNFU will continue to participate as a driving force of the Lima credit scheme as before. Nevertheless, some of the stronger District Farmers Associations (DFAs) that participated in the scheme may be strong enough to act independently as entry points for input financing going forward. Zanaco is currently assessing a potential relaunch of a revised Lima scheme. The proposed options for product upgrading through introducing crop receipt features may be relevant in this regard.

ii) CR-enhanced product

To build CR features into the Lima credit scheme, the loan from the bank to the farmer organization (FO) can be substituted by a PN as a financing instrument. Alternatively, the loan might be complemented by a PN if the bank prefers to use a loan contract for operational purposes. In this case, the PN would strengthen the payment and delivery obligations of the farmer group and could be registered in the new electronic registry at PACRA.

To address some of the pitfalls of the current scheme, farmers can form farmer organizations (FOs) to obtain loans or issue PNs collectively. Members would self-select to enable effective joint liability. Cash collateral would be mobilized at the level of the group to cover defaults by individual group members and provide a partial protection against collective default.

To allow for out-of-court settlement (self-help), the PN (or loan contract) would be enhanced by a security instrument, specifically, a floating charge over the future crop to be grown. To shield against production and price risks, the floating charge could also include other crops that are being grown or will be grown. Depending on the farmer's risk profile, a fixed charge over other productive and non-productive movable assets can also be created. To reduce transaction costs, the charge would be created by the FO on behalf of its members in the

name of the financier, based on written consent by each individual farmer. It would contain the pledged assets of all participating farmers. This wholesale approach would reduce transaction costs for registration of the charge at the Agricultural Charge Registry and at the electronic registry at PACRA.

To enhance operational enforceability in rural contexts, fast track out-of-court settlement would be agreed between the lender and the FO as part of the security agreement. This is in line with the provisions of the Agricultural Credit Act and the Movable Properties Act. The secured creditor (bank) can appoint as a receiver either the borrowing FO or a higher-level farmer organization (DFA) who would designate another farmer to temporarily take over the productive assets of defaulting farmers in order to fulfil the groups outstanding obligations. For farmers on communal land, it is advisable to seek the written consent of the local chief on the respective security agreement.

The product can also be customized for tripartite arrangements. If farmers or FOs sign offtake contracts with traders or processors, these contracts could be substituted or complemented by PNs with physical settlement through the crops to be produced, which is equivalent to physical CRs. These PNs with physical delivery would serve to strengthen the forward contract and could be registered at PACRA.

The improved product could be offered to better-performing farmers under the existing scheme. The cash collateral requirement can be reduced to 40 percent given the stronger legal position and enhanced enforceability of a contract under this structure. Based on repayment performance, cash collateral requirements could be gradually reduced further to provide further incentives to farmers. Crop insurance can be built in with a flexible payment mechanism based on farmer performance. Such a structure is similar to those used in cotton outgrower schemes.⁶³ The advantages for farmers are obvious. Farmers will be able to obtain larger loan amounts with lower financing costs. Furthermore, prospects of declining cash collateral requirements would act as additional incentive to repay.

The proposed product enhancements may be of interest to ZNFU, stronger DFAs, Zanaco, as well as other banks and value chain actors. This product can be used in different value chains and also be turned into a physical CR that can be used as financing and procurement instrument by agribusinesses.

Secondary instrument

The primary product could be “wrapped” into a secondary instrument that is equivalent to a Brazilian LCA. In this case, the bank would issue a debt instrument, such as a bond or a note, to another bank backed by its receivables⁶⁴ from farmers and the collateral attached to these. Receivables based on PNs are easier to endorse or sell than ordinary loans. The secondary debt instrument would be settled in cash at maturity date. Alternatively, the bank might sell its receivables (PNs) to another bank. The advantage of such structure is that the portfolio, and the related risks, would be shifted off the bank’s balance sheet, thereby reducing its portfolio risk and enhancing its liquidity. For accepting the risk, the buying bank would apply a discount to the face value of the PN. A guarantee from a DFI could facilitate the transaction by giving credibility to the instrument and reducing the risk premium (discount) payable by the originating bank.

Alternatively, the debt instrument could also be offered to financial investors, OTC or through bond issuance at the securities exchange. The secondary instrument would enable the originating bank to get additional liquidity. Not only DFIs but also impact investors can either buy such LCA or facilitate their issuance through partial guarantees.

Alternatively, the bank might sell its receivables (PNs) to another bank. In this case, the portfolio (and related risks) would be shifted off the bank’s balance sheet, thereby reducing its portfolio risk and enhancing its liquidity. For accepting the risk, the buying bank would apply a discount to the face value of the PN. A guarantee from a DFI could facilitate the transaction by giving credibility to the instrument and reducing the risk premium (discount) payable by the originating bank.

Loan a Cow

i) Current product

Under the Loan a Cow scheme developed by Zanaco and the Dairy Farmers Association (a ZNFU affiliate), the bank provides loans to dairy cooperatives which on-lend the funds to selected farmers for purchasing high-quality dairy cows. The cooperatives are in charge of selecting eligible borrowers. The cooperatives have long-term offtake contracts with dairy companies, especially with the largest one (Parmalat). The current risk mitigation mechanisms are: (i) an agricultural charge on the purchased animals as primary security; (ii) an offtake contract with a reputable processor; (iii) assignment of receivables; (iv) livestock insurance; and (v) fidelity insurance on cooperative signatories. Loans are payable over 36 months. It is unclear whether cash deposits are required.

ii) CR-enhanced product

Possible product enhancements that incorporate CR features would be similar to those described above for the Lima scheme. The bank's loan to the cooperatives can be substituted or complemented by a PN that is secured by a floating charge over a defined quantity and quality of milk to be produced during a given period, in addition to a fixed charge over the animals. The security arrangements can be further enhanced through the appointment of a receiver, allowing the bank or the cooperative (in case of a subsidiary loan agreement) to take over the cows of farmers who have received a loan but failed to produce and deliver the agreed volume and quality of milk.

The main difference between the Lima credit scheme and the Loan-a-Cow-scheme can be traced back to the nature of the product. As opposed to seasonal crops such as maize, dairy production generates a constant cash and product flow throughout most of the year. Therefore, defaults can be detected earlier and the creditor can intervene immediately after the default.⁶⁵ Moreover, cows can more easily be handed over to a receiver than a plot of land. For this to happen quickly, parties involved (bank, cooperative, and farmers) must agree to out-of-

court settlement as part of the security agreement. The structure could be further enhanced if the offtake contract between the FO and the dairy processor, from which loan repayments would be deducted, was assigned to the bank. Due to the lower risk profile of the dairy value chain, no cash collateral would be required.

Added value: The main strength under the structure stems from the floating charge, enhanced by the appointment of a receiver and the agreement on out-of-court settlement between the parties. A PN can provide additional security but would have to be structured into a payment stream, rather than a one-off payment. Given the increased legal security compared to the present loan product, the risk premium (interest rate) could be reduced. Alternatively, the credit line could be increased to finance other related activities such as fodder production, purchase of veterinary drugs, or irrigation to stabilize fodder production during the dry season.

Secondary instruments can be created along similar lines as proposed for the Lima scheme. Alternatively, dairy processors can issue bonds backed by their receivables (PNs or loans from farmers or cooperatives), which would enable them to enhance their own working capital or enable timely payment or pre-financing of farmers.

Commercial bank lending to emerging and commercial farmers

i) Current product

Several commercial banks participating in the round table discussions during the country mission pointed out that they have already started lending to commercial farmers secured by an agricultural charge over future production, as well as other risk mitigants, without a mortgage on real estate. For example, Stanbic Bank (Zambia) Limited provides loans up to 65 percent of the estimated future value of production, which is estimated based on historic production and past price patterns. The loan is collateralized by an agricultural charge over future agricultural produce, an offtake contract, and crop insurance. Loans are disbursed in several instalments:

- The first disbursement—40 percent of the total loan amount—is made before planting and is usually based on the assignment of a forward contract, evidence of a secure land right, and a quotation from a crop insurance company. Disbursements can be made in cash or kind, depending on the borrower’s risk profile. The assignment of the contract from the buyer is not registered. In some cases, a contract would only be required for the second disbursement, to avoid tying the producer too early to an offtaker.
- Another 40 percent of the total loan amount is disbursed after an on-site assessment of the growing stage of the crop and is subject to the farmer purchasing crop insurance (after on-site verification by the crop insurer). Crop insurance is available (multi-peril) at premium rates between 3 and 5 percent.
- The last 20 percent of the loan principal is disbursed prior to harvesting and interest payments accrued are deducted from this last payment. Variations to the disbursement pattern are possible.

Other banks also had similar products. These loans are largely made to existing farmer clients who have already provided a mortgage to the bank for another loan and require additional resources. This resembles the initial situation under which CRs have been adopted by banks in Brazil to supplement existing (subsidized) credit lines.

ii) CR-enhanced product

Possibilities to enhance these loans by incorporating additional CR features can be further explored.

Opportunities include:

- Substituting or complementing the loan by a PN, either with physical settlement to a named offtaker endorsed to the bank as collateral, or through financial settlement. In the first case, the PN would be the main security for loan repayment whereas in the second case an agricultural charge or similar security agreement could be created over future produce and other farm assets.
- Including extrajudicial and ‘fast track’ enforcement mechanisms, which includes the appointment of a receiver in the agricultural charge.
 - Using the PACRA centralized electronic registry to perfect security interests to make it easier for banks to check whether there are existing obligations over future crops and other farm assets.
 - Following the successful issuance of the grain bond backed by warehouse receipts, a secondary instrument can be created to refinance some of their exposures secured by CRs. The instrument can be bundled with other agricultural receivables (including those under the structures identified above). This allows national and international investors (including DFIs and specialised investment funds) to diversify their portfolio by investing in agriculture.

Added value: These enhancements are likely to strengthen a bank’s position in case of default and enable it to either:

- Increase the amounts lent to individual borrowers or the number of borrowers financed with such product; or
- reduce the costs of loans to borrowers; or
- extend lending to farmers, including emerging farmers and, with some modifications, organized smallholder farmers, who unable to provide a mortgage over real estate.

Cotton outgrower financing schemes

i) Current schemes

Zambian cotton outgrower models blend input distribution on a credit basis with extension services. They emerged because of the low capacity utilization rate by ginners, which is approximately 40 percent, due to low cotton yields and a limited area under production. Cotton is highly input intensive and needs good husbandry practices to meet international quality standards and pricing references. In Zambia, cotton is a smallholder-produced crop involving over 300,000 farmers, many of whom receive pre-harvest finance and extension through

outgrower schemes. Given that on average smallholder farmers produce less than one hectare of cotton, the amounts advanced per farmer are quite small. In the case of NWK, this amount is only approximately US\$40. However, given the size of the schemes, total credit advanced is quite substantial.

Two agribusinesses account for over 80 percent of the cotton market. Together, they run the largest outgrower and pre-harvest financing schemes.⁶⁶ Reportedly, Cargill spent US\$15million and NWK spent US\$6 million annually on their outgrower operations (Horus, 2015). The largest player in terms of the number of outgrowers is NWK Agriservices—a South African grain cooperative has a 60-40 partnership with the international trading group, Louis Dreyfus—which is operating the former Dunavant estate. NWK operates seven ginneries across the country, working with approximately 150,000 smallholder outgrowers across the cotton growing regions. Financing input and provision of extension services is a key part of their business. Louis Dreyfus bought out its South African partner in late 2017, and the implications for the outgrower scheme are not yet clear. The international trading group, Cargill, works with over 100,000 smallholder outgrowers in the cotton sector, with operations located in Eastern Province. Cargill is also engaged in pre-harvest input financing. However, the status of the outgrower and pre-harvest financing activities unclear following the sale of Cargill's cotton ginning operations in Zambia to Parrogate late 2017.

Notwithstanding the recent changes in ownership, the outgrower schemes of the two largest cotton ginners have been well-established in Zambia since the turn of the millennium. They have been subject to several modifications driven by attempts to improve productivity and credit repayment rates in response to earlier rampant default. To achieve this, Zambia's leading outgrower schemes use a mixture of incentives, monitoring, and penalties. There are nevertheless important differences between the two outgrower schemes. NWK does not manage its outgrowers directly through company

employees but through so-called “distributors,” who are often emerging farmers receiving pre-harvest finance through bank-led structures. These distributors are responsible for identifying farmer groups to whom they provide cotton inputs—received from NWK on a credit basis—along with technical advice. Importantly, they also must ensure the sale of the farmers' crops to NWK to recover the input credit. Farmer groups are informal and are formed for the sole purpose of facilitating input delivery and collection of cotton. Distributors are free to build their portfolio of outgrowers. The distributors' remuneration is directly linked to credit recovery and those failing to achieve minimum repayment rates (currently standing at 80 percent) are dropped.⁶⁷

Cargill Cotton (formerly Clark) has relied on a more traditional system for input distribution, recovery, and extension services, featuring direct outgrower management and close monitoring at farm level, mediated through lead farmers who are also known as contact farmers. Cargill signs written contracts and maintains data on input delivery, cotton sales, and credit repayment for each outgrower. Defaulting farmers are dropped from the scheme. Cargill has consistently claimed credit recovery rates of over 90 percent, including during the ‘repayment crisis’ of 2005 to 2006, when NWK indicated that recovery fell below 70 percent (World Bank, 2009).⁶⁸

Both outgrower schemes have experienced increasing problems with side selling in recent years.⁶⁹ Roundtable discussions suggest an increasing challenge of “side buying” from other cotton ginneries which do not invest in similar outgrower operations and can therefore offer higher prices to farmers. Attempts to control this problem through industry self-regulation appear to have failed. While the Zambian Cotton Ginners Association prepared a code of conduct, members could not agree on penalties that are high enough to discourage ‘pirate buying’. The leading players seek government regulation of the industry and support the enforcement of marketing and financing arrangements.

ii) CR-enhanced schemes

The mechanisms by which CRs can be deployed in the context of Zambia's cotton outgrower schemes are similar to those proposed for the bank lending schemes. The creditor position would be enhanced by complementing the prepaid forward contract by a PN and by creating a security interest over future cotton production through a floating agricultural charge. The security agreement would include provisions for out-of-court settlement in case of default and the appointment of a receiver by the creditor. The latter would enable the creditor to assign a third party to take over the cotton field in order to meet the obligations under the PN. In case of default, the charge would be rolled over into the next season. Traditional local authorities or local farmers associations may be involved in drafting the PNs and security agreements as honest brokers. Endorsement of the agreements through local institutions would enhance their legitimacy and enforceability through out-of-court settlement. Ultimately, both sets of stakeholders need to understand the benefits and mechanism underlying the arrangement to endorse it and support its implementation. The charge and the PN would be registered through wholesale mechanisms at the relevant registries.

Building on NWK's existing practice, the financing product can be bundled with index-based weather insurance and life insurance, which would be pre-financed for better performing farmers. The combination with crop insurance would allow the exclusion of force majeure in the event of drought.

Depending on the specifics of each outgrower scheme, the instruments would be structured in different ways:

- Under the NWK distributor scheme, the distributors can aggregate receivables from the farmers they serve to issue a single PN with physical settlement to NWK. This PN from the distributor would be supported by PNs signed by each farmer, and an agricultural charge covering all contracted cotton production of the respective farmer group. Against the PN, NWK would advance inputs in kind. In this

case, NWK's direct counterparties are the distributors rather than the smallholder farmers, leveraging the existing relationship of the distributor with the farmers to provide inputs, technical assistance, and monitoring services. Additionally, NWK could appoint the distributor as a receiver to strengthen enforcement capability against the farmer in case of default. As NWK's agents, they can facilitate the takeover of the productive asset in the event of a producer's default on their delivery obligations.

- In Cargill's scheme, the lead farmer acts as the main point of contact, and plays a similar role in intermediation and enforcement by taking over the productive asset in the event of default. Given that the contact farmer's role is currently more focused on technical assistance than input finance and monitoring at present, there will be a need for greater capacity-building support.

For purposes of refinancing the companies' pre-harvest financing exposures, the physical CRs issued to the scheme operators can then be used to secure a bond (CDCA equivalent) issued by the scheme operators to a bank or, more ambitiously, into the capital markets.

CRs can potentially add value to the cotton outgrower schemes in four ways:

- Improving enforcement possibilities through intermediaries (distributors or contact farmers) who are better positioned than the company to provide monitoring, manage production risks, and take over a defaulting farmers' productive asset in the event of default.
- Allowing scheme operators to: (a) access more funds to expand their outgrower operations beyond their borrowing capacity by selling some of their receivables to financiers or by wrapping them into a CDCA issued to financiers, and (b) reduce the costs of funds by collateralising their receivables as an addition to conventional hard collaterals.
- Providing greater deterrent to so-called "pirate buyers". The law on agricultural charges already

includes a provision by which liability is created for a buyer of registered collateral, and the proposed structure would make this legally enforceable by creating a floating charge over the cotton that is contracted.

- Enhancing the transparency and accountability at the farmer level through the involvement of local authorities as co-signatories of the financing and security instruments.

A CR intervention may also be optimally complemented with initiatives to improve sectoral governance through the strengthening of zoning and buyer licensing regulations, and the augmentation of the Cotton Ginners Association's ability to and penalize 'pirate buying' behaviour.

The outcomes from improved financing and improved enforcement environment can include:

- Extension of the schemes to include more outgrowers, thus increasing supply for agribusinesses.
- A broader range of inputs or other services (such as insurance and equipment) provided to the farmer, which leads to higher quantum of pre-harvest finance made available on a per-farmer basis.
- Improved financing terms being extended to the farmer.

The established cotton outgrower scheme operators have ultimately not confirmed their interest in a CRs pilot. Three reasons may be identified based on stakeholder feedback:

- Concern that the introduction of external financiers and a negotiable instrument could disrupt the historic relationship by weakening producers' sense of obligation to deliver to the scheme operator.
- Concern about the weakness of existing legal instruments and judicial processes—including perceived expense and bureaucracy with respect to agricultural charges—that may minimize any enforcement advantages and add unnecessary costs in comparison to the existing mitigation mechanisms

for addressing side-selling risk (i.e. NWK's distributor incentivization and Cargill's monitoring mechanisms). There is also a perception that enforcing contracts against smallholder farmers through the court system is not a viable option for large firms.

- As multinational corporations, NWK and Cargill might have sufficient access to off-shore funding to finance their outgrower operations.

Due to the current economic environment, both companies are facing challenges in maintaining their outgrower operations, and may have reduced their willingness to engage in new partnerships or introduce new mechanisms. Discussions could be reopened with the new owners of the ginning assets and at the level of the Cotton Ginners Association.



5 Uganda

5.1 RATIONALE FOR COUNTRY SELECTION

Uganda was chosen for an in-depth assessment under the Africa Crop Receipts Initiative for the following reasons:

- There are already organized structures in several value chains which provide a platform on which crop receipt-based transactions can be built. These include prominent outgrower schemes in the sugar, tea, and cotton subsectors, and evolving support structures at the government or farmer level in sectors such as coffee and cocoa.
- Uganda is one of the larger agricultural economies in Africa. It is well integrated into the East African Community (EAC) and its large regional market and has a diversified agricultural sector that has enjoyed sustained economic performance over the past decades.
- There are commercial estates in the tea and sugar sector that are already bankable, in possession of collateral, have larger production scale and larger and more sophisticated financing requirements. As such, they meet the scale requirement for CR instruments and can be integrated into a larger CR portfolio.
- A liberal policy environment in which government has established a track record for non-interference in agricultural markets, either through price setting, trade restrictions or domestic buying and selling.
- A track record for introducing new financing instruments and institutions, including the warehouse receipts system and warehouse receipt-based lending, as well as the Bank of Uganda's Agricultural Credit Facility (ACF).
- Government support for agricultural financing, including written encouragement by the Central

Bank for the Africa Crop Receipts Initiative, that is indicative of political will to support the process to implement CRs.

- A comparatively high score in recognised jurisdictional assessment databases⁷⁹ for factors such as rule of law, policy effectiveness, regulatory quality, access to credit, resolving insolvency, and contract enforcement.

5.2 MOST SUITABLE VALUE CHAINS

Agriculture in Uganda is predominantly structured around smallholder production for the main subsectors. It employs 79 percent of the country's total workforce (Government of Uganda 2016). This includes the main food staple and livestock chains, which feature a prevalence of subsistence agriculture. It also includes cash and export crops such as coffee, tea, cotton, sugar, and tobacco for which smallholder farmers are linked to commercial estates and agro-processing plants through contract farming and outgrower models. Commercial farming is present in the country through estate and plantations focused on sugar, tea, palm, coffee and bananas.

Sugar and tea were identified as value chains with the highest level of organization. Both value chains have sizable outgrower schemes that are run by various agribusinesses and large commercial estates. The smallholder-owned tea factories, some of which have established pre-harvest financing programs in need for expansion, were identified as being highly conducive for CRs. The sugar subsector also has several well-established outgrower schemes even though weak sub sector governance poses increasing challenges of side selling.

Cocoa, coffee, and cotton are other prominent value chains that may present entry points for CRs in the medium term,

in view of unsatisfied demand for pre-harvest financing, established grades and standards, and international pricing and hedging mechanisms in those sectors. However, these value chains tend to be informal and less organized, with lower prominence of contracting and more layers of intermediaries. There are also fewer capacitated FOs. Hence, costs for structuring CR-based transactions would be high and enforceability would remain a challenge. However, there are some initiatives for structuring value chains around high value niche markets and larger off-takers which may become future entry points for CRs over time. As these efforts become more consolidated, CRs might become more broadly applicable as a mechanism to strengthen pre-harvest financing.

Dairy is another sector with high levels of vertical coordination and FOs. However, the main challenges at present relate to pricing issues linked to the dominant market position of the leading dairy processor and the possibility for side selling into the informal market.

5.3 FINANCIAL SECTOR OVERVIEW

The main regulated banking institutions in Uganda include 24 commercial banks, four credit institutions (CIs), and five microfinance deposit-taking institutions (MDIs). Total commercial bank lending to the private sector stood at UGX11.4 trillion (US\$3.1 billion), of which UGX6.4 trillion were in local currency. The outstanding portfolio of MDIs and CIs was UGX257 billion (US\$71 million) and UGX 279 billion (US\$77 million), respectively. Central bank rates, having remained at the 11 to 12 percent mark since mid-2012, climbed to 17 percent by late 2015, before easing over the course of 2016 back down to 11 percent by April 2017. Commercial bank lending rates, however, have remained consistently above 20 percent during the entire period. US dollar denominated loans are available at around 9 percent. Notwithstanding the recent economic slowdown, the banking sector remains in sound financial conditions.

Commercial banks are the dominant agricultural financiers in Uganda, accounting for 93 percent of total loans to the sector (Bank of Uganda et al 2015). Total commercial bank lending to agriculture amounted to UGX 1,248 billion

in April 2017 (US\$345 million), representing 11 percent of total bank lending. Of these, UGX 730 billion were lent in the local currency, against UGX 517 billion in foreign currencies. Credit institutions and microfinance deposit-taking institutions have a higher share of agricultural loans in their overall portfolios. The share of agricultural loans in the overall portfolios of credit institutions is 16.6 percent, while that for microfinance institutions is 24.5 percent. In absolute terms, outstanding agricultural portfolio was UGX 41.1 billion (US\$11 million) and UGX 68.7 billion (US\$19 million). These statistics include lending for agricultural production,⁷¹ marketing, and processing. While crop and livestock production loans account for only about one third of the total agricultural loan book for commercial banks, such loans are the primary focus of credit institutions and microfinance deposit-taking institutions. Overall, the share of agricultural lending is far below the 25 percent share of the sector in terms of the nation's GDP. Prominent banks involved in agricultural finance are Barclays, Bank of Baroda, Centenary Bank, DFCU, Housing Finance, Orient Bank, Stanbic, and Standard Chartered Bank. Centenary Bank and Stanbic are the two largest players in the sector, with agricultural portfolios of UGX 251 billion (US\$70 million) and UGX 219 billion (US\$61 million), respectively at the end of 2016. In case of Centenary Bank, this includes a sizeable portfolio to smallholder farmers.

Ugandan capital markets are among the more developed ones in Africa outside of South Africa. However, in global terms, they are still relatively small in scale. The Uganda Securities Exchange (USE), the country's stock market, was established in 1997 and now offers fully electronic trading for 16 companies intermediated by eight member stockbrokers and four custodian banks working through its central securities depository, under the regulatory oversight of Uganda's Capital Markets Authority (CMA). USE appears to generate relatively frequent trade with volumes between US\$1 to 9 million turnover per month,⁷² with trade in the majority of listed companies. Total market capitalisation stands at approximately US\$70 million.

Ugandan capital markets are still narrow and shallow, with limited products and investors (BOU, 2016a). Most bonds activity takes place through government issuance

by the Bank of Uganda, which conducts auctions in the primary market. Ugandan capital markets are dominated by pension and insurance funds. While there are 64 registered pension schemes, the National Social Security Fund (NSSF) is the dominant capital markets institutional investor in Uganda, holding an estimated 86 percent of national pension fund assets. Total assets stood at UGX 6.5 trillion (US\$1.9 billion) of which 70 percent are invested in government bonds and treasury-bills and 29 percent in listed equities.

The insurance sector consists of 20 general insurance companies, nine life insurance companies, and one reinsurance company. Gross written premiums of insurance companies during 2015 stood at UGX 612 billion (US\$182 million). Agricultural insurance is available in Uganda through a range of insurance providers. But due to its high cost, uptake has historically been low. To stimulate market growth, the government recently announced the introduction of the Uganda Agricultural Insurance Scheme which will provide premium subsidies between 30 percent and 80 percent, depending on farmer characteristics.

5.4 SUMMARY OF LEGAL ASSESSMENT

This section presents a summary of the results to three key questions:

- What existing financing and security instruments can be used to support the purposes of pilots for physical crop receipts, the financial crop receipts, and the secondary instruments?
- What are the main legal impediments, gaps, and uncertainties under the present legal framework?
- Is the existing legal framework sufficient to support the mainstreaming of CRs as an instrument, or is new legislation required?

Financing and security instruments

The legal assessment suggests that the current legal environment in Uganda would allow the structuring a CR pilot based on existing financing and security instruments.

Financing instruments will be based on contract law, and security instruments will be based on the common law, the Companies Act, and the Chattels Transfer Act (soon to be replaced by the Chattels Securities Act).⁷³ However, the combination of financing and security instruments identified below as the legal basis to structure crop receipt-type transactions are inferior to those available under Zambian law. This is due to a number of legal impediments, including:

- The impossibility to use PNs with physical settlement;
- The prohibition to turn a security interest into a transfer of ownership.

Both impediments weaken the prospects for creating physical CRs.

Financing instruments: While PNs can still be used for financial CRs, they are uncommon as primary financing instrument in Uganda. An awareness campaign is needed for this to change. To emulate a physical CR, a prepaid forward contract is recommended as a financing instrument. Even though no security interest in the future crop can be created in favour of the prospective buyer, such as an agribusiness, the latter would become the owner of the growing crops, subject to specific provisions in the contract.

A financial CR can be emulated through a loan contract that is secured by a chattel mortgage or debenture over future agricultural produce and other farm assets. The structure can be enhanced through a tripartite arrangement with an offtaker in which the forward contract from producers to the offtaker is assigned to the bank as security, together with a stop-order agreement to enable settlement in cash. Using the forward contract or loan agreement as the underlying physical or financial CR building block, secondary instruments such as the CDCA, LCA, and CRA can be created through packaging the receivables into a bond secured by the additional collateral.

Security instruments: Ugandan law permits forward contracts and loan agreements to be collateralized through chattel securities (for natural persons) or debentures

(for incorporated bodies). Security interests under these instruments can be created over the crop currently under production, the productive asset or future crops. While the Chattels Securities Act restricts the creation of security interests in future crops to crops that mature within one year. No such restriction applies for debentures.

Chattel mortgages (securities) and debentures are registered at the central registrar and at the companies registry, respectively. Both are located in Kampala and use paper-based, manual systems. In February 2017, the Government of Uganda announced their intention to introduce a Movable Property Security Interest Bill, which will also establish a movable security collateral register.

Both chattel mortgage and debentures allow for out-of-court settlement through the appointment of a receiver, which could be a person or entity that is authorized to seize, take-over, or manage the pledged asset on behalf of the holder of the security interest until the debt has been settled.

The aforementioned prohibitions for the holder of security interests in an asset to become the owner of that asset impedes off-takers from creating security interests in the pre-financed agricultural products they intend to buy after harvest. In case of a pre-paid forward contract, the buyer would own the crop as soon as it grows to the required stage of maturity, if clearly identified and agreed in the contract. Specific provisions would need to be added in the contract to facilitate the seizure of the crop in case of default. However, uncertainties concerning the enforceability of this arrangement in practice still remains. It is therefore recommended to complement the prepaid forward contract with security interests over other farm assets that will not be purchased by the financier and are linked to the production of the contracted crop or livestock products. Such security interests, if perfected, strengthen the creditor's position and enable him to appoint a receiver to temporarily take over the productive assets in case of default.

The legal impediment for purchasing secured crops does not apply if the security instrument is issued in favour of a

third party, for example, a bank. In the case of a financial CRs, the loan could be secured through a chattel mortgage or debenture over the future crop, which can be further enhanced through other collateral and appointment of a receiver. Tripartite structures can be used to ease financial settlement and reduce marketing risks. All things equal, financial CRs within tripartite structures would provide stronger creditor position as compared to physical CRs if given the possibility to collateralize the crop.

Legal impediments, gaps, and uncertainties

Limited use of promissory notes: Since obligations under promissory notes cannot be settled through physical delivery of crops, promissory notes cannot be used for physical CRs in Uganda. Given the limited use of PNs in Uganda and the corresponding lack of familiarity by key public and private actors, their use of PNs for financial CRs is not recommended for a pilot, given the very limited use of PNs in Uganda and related lack of familiarity by key public and private actors. As a consequence, CRs would have to be constructed based on contracts, which do not possess enjoy the advantages of unilateral instruments such as PNs.

Prohibition to turn a security into a transfer: This is a peculiarity of Uganda law that originates from common law. This provision impedes a key feature of physical CRs, namely the collateralization of future agricultural production.

Limited duration of security interest in crops: Under the Chattels Securities Act, security interest cannot be given for a crop that cannot be harvested within a year in the ordinary course of farming. As such, the implementation of crop receipts may not be applicable to crops of a growth span of more than a year after the date of creation of the security interest.

Perfection of security interests: Currently, security interests over future agricultural produce and other farm assets need to be registered manually at the Companies Registry in Kampala. This arrangement entails

high transaction costs and delays for rural operators in perfecting security interests and for financiers to check prior encumbrances or record changes such as endorsement or transfer of the security interests. This might change in the near future through the planned introduction of an electronic registry for movable collateral.

Lack of a fast-track enforcement mechanism through courts: While the Chattels Securities Act allows for fast-track out-of-court settlement through the appointment of a receiver, this arrangement may not fully substitute a fast-track enforcement mechanism if a challenge occurs and the matter is brought before the courts.

Insolvency: While the forward contract should in principle protect the asset from a liquidator in the event of a default, the strength of this arrangement needs to be tested.

Trading on capital markets: As in Zambia, the legal assessment found no major impediment for structuring secondary instruments and trading them OTC. However, the situation is less clear for trading them on organized securities exchanges. The Ugandan capital markets are less developed, and no similar agri-related instruments have been issued so far. Hence, the position of the regulator on a possible secondary structure to be registered and approved for trading is not known. As in case of Zambia, while the tradability of CR and secondary instruments on organized exchanges and capital markets is of limited relevance at pilot stage, it will become important for building a liquid market for CRs and related secondary instruments and for attracting investors.

Need for dedicated CR laws

While the current legislation is likely to support the introduction of basic CR-inspired structures on a pilot basis, the aforementioned gaps and related ambiguities strongly suggest the need for dedicated CR legislation to support a broader introduction and roll-out of the instrument. Dedicated laws would provide clarity and guidance on the key legal foundations for crop-receipt financing, as well as on operational aspects of

implementing crop receipts. Such laws can help create sufficient confidence in pre-harvest input financiers, including agribusinesses as well as financial institutions, to scale the instrument with due mitigation of risk. Key aspects to be addressed by the law include: (i) customization of PNs for the purpose of CRs, including specific permissibility for the physical delivery of the pledged crop as a means for settling the borrower's obligation; (ii) allowing buyers of agricultural commodities to create security interests on future agricultural produce; (iii) creating a regime for low-cost, preferably electronic registration and perfection of security interests, including through wholesale registration in case of smallholder farmers; (iv) clarifying the roles of different types of farmer organization in generating CRs on behalf of their members; (v) creating a fast-track settlement mechanism that addresses the existing court system's apparent inefficiencies, and (vi) providing clear guidance on the use of out-of-court enforcement mechanisms through the appointment of a receiver, leading to a temporary takeover of productive assets or the rolling over of obligations into the next cropping season. The latter would entail providing guidance to contractual parties to develop fair and transparent arrangements and building in safeguards against abuse, especially in a smallholder context.

A dedicated law might also provide further clarification about tradability of CRs on secondary markets and related aspects such as registration, reporting, insolvency and taxation. Dedicated legislation should include provisions on existing financing and security instruments and specify the types of institutional investors that are allowed to buy such CRs. With a view towards developing secondary markets based on CRs, and subject to the abovementioned regulatory issues being addressed, the government may want to consider granting tax or other incentives to stimulate trading on capital markets. Such incentives can include preferential tax rates for financial investors buying crop receipt-based instruments. These measures have been vital in Brazil to create a vibrant secondary market and to stimulate capital market investments into pre-harvest financing.

As in case of Zambia, the introduction of new legislation after pilots have taken place will help guide the drafting of laws to address unexpected issues that arise in practice in the Ugandan environment. The new law may draw on the provisions in existing laws—such as the Chattels Securities Act and the forthcoming Movable Property (Security Interest) Bill and Companies Act, 2012—without needing to re-legislate in those areas.

5.5 COMMERCIAL ENTRY POINTS

Based on the analysis and stakeholder consultations and feedback to date, the main entry point for piloting crop receipt-inspired financing would be in the tea subsector, where it is possible to build on the outgrower schemes of the four largest smallholder-owned tea factories: Igara, Kayonza, Mpanga, and Buhungu. It is also possible to include private tea estates in the pilot. The he Ugandan sugar outgrower schemes of Kakira and Kinyara were also explored extensively during the mission to Uganda, but subsequent communications have not resulted in confirmed interest from the stakeholders.

This section first provides a brief synthesis on the findings for the tea subsector, which include findings on the existing marketing and pre-harvest financing arrangements. This is followed by a brief description of the options for bringing in elements of crop receipt financing into the value chain.

Tea

i) Context⁷⁴

Based on strong interest expressed by three of Uganda's four major tea factories and by one commercial tea estate, the tea subsector seems to have the highest potential to support crop receipt pilots. Stakeholders in the tea subsector have a relatively clear understanding of the value addition that CRs could contribute which would strengthen their commitment during a potential pilot.

Structure of the subsector: The tea subsector in Uganda comprises smallholder-based and estate-based

value chains. There are approximately 50,000 smallholder tea producers with about 12,000 ha under plantation. Historically, Uganda's smallholder farmers have been organized in four groups, in Igara, Kayonza, Mpanga, or Buhungu, with each group owning its own tea factory. The number of factories has increased in recent years and there are now a total of 28 Cut Tear & Curl factories owned by smallholder farmer outgrower associations (EPRC 2014). Vertical integration is high in the tea sector where contracting is prevalent between smallholder farmers and tea processing factories. Each of the four largest smallholder-owned factories work with thousands of smallholder farmers. The newly established factories are smaller in comparison. The Igara and Kayonza factories are managed by the Uganda Tea Development Agency (UTDA). Igara is owned by 3,454 smallholder farmers and Kayonza is owned by 5,617 smallholder farmers who acquired their shares through monthly deductions from their pay for green leaf delivered to the factories.

Smallholder farmers and smallholder-owned factories account for roughly 30 percent of Ugandan tea production, whereas 70 percent of production originates from eight commercial tea estates. The latter are owned by large domestic and foreign companies, including Unilever Brothers, Madhvani Group, TAMTECO, Rwenzori Commodities, and Mehta Group. Total planted area is about 16,000 ha (EPRC 2014).

The tea subsector in Uganda is characterized by minimal government intervention in terms of pricing and trade policies. Approximately 70 percent of all tea sales go through the Mombasa Tea Auctions, with the residual 30 percent going through direct exports and local sales. Due to their lower quality, Ugandan tea prices are significantly lower compared to Kenya tea. Traditionally, smallholder farmers sell their green leaves to their factory and this continues to be the dominant practice. Factories sign contracts, known as "green leaf agreements," with surrounding smallholder farmers and employ extension workers to serve them. They also operate tea collection centers and procure tea through agents. Farmers are organized around collection centers in groups of about

40 farmers and are managed by a committee. Some farmers are organized in cooperatives and the tea factories contract with the cooperative rather than with individual farmers. More recently, the market has become more competitive, with private traders emerging buying tea from farmers in cash and selling to other factories and estates.

Production: Tea is a perennial crop and leaves are picked daily. Due to cash flow constraints, factories make payments to farmers at the end of each month for deliveries during that month (with the exception of Mpanga which has started paying cash on delivery or collection). The productivity of tea bushes is sensitive to input usage and good agricultural practices (GAP). Fertiliser has the largest impact on productivity, followed by herbicides. Productivity rate based on current practices is 1-1.8MT per hectare, while production based on best practices have a productivity rate of 4MT per hectare. Improved inputs account for 80 percent of productivity increase, and the rest can be attributed to GAP. According to the factories visited during the mission, fertiliser application is required every six months.

Production risk is lower for tea than for other sectors. Tea is insurable for multi-perils and are eligible for government subsidies that make up 50 percent of the premium for agricultural insurance. Production risk is mainly related to drought and hail, with a drought causing up to 40 percent of output loss.

Pricing: Price discovery is in place in the spot but not the futures market through the Mombasa Tea Auctions. Tea is a buyer-driven value chain. Accordingly, farm gate prices are set by the tea factories. Typically, smallholder farmers are paid by tea factories in three installments: (i) the base price (set for the season, not based on Mombasa prices but on estimated costs of production); (ii) a market-driven top up (i.e. based on the realised market price); and (iii) the dividend (based on factory profits).

Pricing tends to be more stable for tea than for coffee, but there are still fluctuations between auctions and seasons. Setting the base price at the beginning of the season seems to be challenging in view of price volatility at the

auction. If prices are set too low, there is a risk of increased side selling. But if base prices are set too high, it can lead to cash flow problems throughout the season.

ii) Current pre-harvest financing structures

Tea factories have an interest to engage in pre-harvest finance. Not only are tea factories owned by outgrowers, the increase in productivity resulting from the availability of pre-harvest finance guarantees that tea factories will be able to purchase and process higher volumes of green leaves. Historically, all four major smallholder-owned tea factories pre-finance outgrowers. The typical model depends on the companies to buy fertiliser in bulk and to provide it to outgrowers as in-kind loans. Larger factories imported fertiliser directly to better control input quality and negotiate prices that are better than those available through local dealers. Producers sign a 'green leaf agreement' with the factory and a supplementary credit agreement. Repayments are usually effected through deductions from payments for deliveries. One factory, Kayonza, has tried a tripartite VCF structure with Post Bank whereby the bank procured the inputs and provided them as in-kind loans to farmers against a stop order agreement with Kayonza. However, the scheme was dropped after two seasons due to problems with the quality, timeliness and costs of inputs procured by the bank. Issues around adjusting the loan repayment schedule to the seasonality of tea growers' cash flow, along with pressure towards more rapid repayment further compounded the situation. Together, these factors lowered incentives for farmers to use the facility.

The ability of the factories to pre-finance their outgrowers has come under pressure due to increasing cash constraints faced by the factories.⁷⁵ Difficulties in borrowing sufficient working capital for on-lending⁷⁶ and increases in side selling added to the pressure already felt by the factories. As a result, currently only one factory, Igara, provides input finance to its outgrowers. Reasons for side selling include the emergence of middlemen and some estates who buy tea leaves in cash from one factory's outgrowers and selling the tea they just bought to other

factories. Because the risk of side selling increases with each new factory that is set up, there have been calls for more regulation.

The level of side selling varies between catchment areas depending on the proximity of competing buyers. Factories responded by linking the availability of pre-financed inputs to the levels of tea delivery in the previous season. Igara has managed to reduce side selling successfully and continues to finance inputs. Mpanga faces strong competition from other buyers and has stopped pre-financing after a large default (after which input use by farmers have declined drastically). It now reverted towards cash payment upon collection in order to compete with other cash buyers.

In general, possibilities for side-selling are limited by the need to process leaves soon after harvest to avoid quality deterioration and spoilage. There is a general sentiment that the incidence of side selling has declined in recent years.⁷⁷ Overall volumes of side selling are reported at around 10 percent.

ii) CR enhanced schemes

Based on the legal assessment and the structure of the tea value chain, there are two basic ways to structure CRs: (i) as physical CRs from farmers that underpin secondary instrument issued by the tea factories; and (ii) as financial CRs using a tripartite arrangement with a bank.

Option 1—Physical crop receipt wrapped into a CDCA:

Primary instrument: The basic structure builds on the current pre-harvest financing which provides inputs in-kind against future delivery of green leaves (barter transaction). The tea factory would substitute the existing financing agreements for prepaid forward contracts. In return, the farmer would pre-sell a certain volume of green leaves to the factory over a period of several months. This volume would cover the costs of the inputs received plus the financing costs over the repayment period. The volume would be based on a conservative price estimate for the season. Any additional leaves delivered to the factory would be paid at market price, which is determined based

on a transparent formula linked to the Mombasa auction price, at the end of each month. Should the prices realized by the factory be above the estimate at the beginning of the season, the farmer will receive a top-up payment.

The obligation under the forward contract would be secured by collateral in the form of the tea bushes or other assets of the farmer. Farmers may also be required to make a small cash deposits—about 10 percent of the value of the inputs received—as a cash collateral. This cash deposit could be mobilized by keeping part of the last payment (or the bonus payment) of the previous season. To provide additional protection against default and allow for fast, out-of-court action, a clause would be added in the chattel, to the effect that the factory can appoint a receiver, such as another farmer or farmer group (see below concerning grouping), to take over the bushes to produce the purchased quantity in case the farmer fails to deliver the agreed volume of green leaves.

To reduce transaction costs, especially the costs involved to create and perfect security interests, and better manage risks, farmers can be organized in groups around collection centers. Smaller groups would facilitate self-selection and joint-liability mechanisms. Group members would authorize the group leadership to sign a forward contract with the factory and create a security agreement over the tea bushes. The contract can include details about delivery obligations for each farmer and the total obligation of the group. The security agreement would list the collateral pledged by each farmer and record the right of the tea factory to appoint a receiver. In addition, a joint-liability agreement would be signed with the farmer groups, in which case the power to appoint a receiver could be delegated to the group to deal with defaulting group members. This arrangement can be enhanced by a small cash guarantee mobilized by the group. If farmers are organized in well-functioning cooperatives or SACCOS, they can enter into contracts with factories on the farmers' behalf. In this case, security interests in the tea bushes and other collateral would be created by way of a debenture that will be registered at the Companies Registry in the name of the tea factory.

Individual farmers and existing farmer groups that deliver collectively would be selected based on historic data on their production and delivery performance maintained by the factories or estates. The pilot would start with the best-performing farmers and could be gradually expanded. Subject to farmers ability to meet their contractual obligations and overall delivery levels to the factory, the pre-financed input package could be increased over time. Crop insurance might be bundled into the product.

It is important to assess, in greater detail, the presence and capacity of farmer groups, such as cooperatives, at every participating factory and estate in the tea sector.

Only the better-performing groups—defined in terms of volume and consistency of supply over the course of a minimum number of years—would be assisted in acquiring legal status. Better-performing farmers that are not a part of a group may be assisted to form groups for purposes of crop-receipt financing, as well as for efficient receipt of extension services, inputs and bulking of deliveries. Given that not all tea farmers are organized and capacity of farmer groups is often weak, extensive capacity-building programs to support the deployment of CRs in the tea sector will be required.

Secondary instrument: To mobilize funds necessary to procure inputs in bulk and pre-finance farmers, a tea factory can issue a bond to a private investor. This bond would be secured by a debenture backed by: (i) future receivables in the form of prepaid forward contracts or sales contracts with deferred delivery; (ii) attached security interests such as tea bushes, and (iii) the assignment of sale proceeds from processed tea (equivalent to a Brazilian CDCA). Alternatively, a debenture backed by future receivables of the tea factory could be used to secure a loan from a commercial bank.

Given that payments from the Mombasa auction are made in US dollars, the loan facility could also be provided in US dollars. Given the novelty of the structure and related security arrangements, the structure would need to be enhanced through a partial guarantee to the bank or investor. This guarantee would give financiers more

comfort, given the range of inherent risks, including price risk, legal risk, and capacity risk, at the level of the farmer group. In case of bank financing, it would also reduce capital and provisioning requirements, hence making the facility more affordable. DFIs might support this structure through a partial guarantee in the form of a bond or loan, or a credit line to the domestic bank, which can be combined with a partial guarantee.

Option 2—Financial crop receipt wrapped into an LCA

Primary instrument: The second structure builds on a tripartite arrangement involving a local bank, organized farmers, and the tea factory, as had been used by Kayonza. Under this structure, the bank assesses the borrowing capacity of the farmers or the farmer groups based on their track records for production and delivery to the factory. Aggregation of loan demands through farmer groups—formal and informal—is critical to reduce transaction costs. Contrary to the factories, banks typically do not have staff in proximity to the production areas. Cooperatives or SACCOS could play an intermediary role.

Loans can be disbursed in kind—through accredited input suppliers or through the factory—or in cash. The latter would allow farmers to pay salaries of workers and meet other farm household needs. Care needs to be taken to avoid the pitfalls of the Kayonza scheme with Postbank, and to ensure that inputs of the required quality are procured at competitive prices and in a timely manner. The farmers or farmer groups would enter into forward contracts with the factory, which would be in turn assigned to the bank together with a stop-order agreement.

The advantage of this structure is that security interests could also be created over future tea production, in addition to the tea bushes. This allows the financier to seize the tea even if it is sold to another buyer, regardless of whether it is in the green or processed form. The farmer will be able to pledge a larger volume of future production, even above the volume contracted to the factory. Given the increased security, slightly larger amounts can be lent.

As security, the financier would use:

- The forward contract to the off-taker, together with a stop-order arrangement to settle the debt.
- A chattel (in case of non-registered farm organizations) or debenture (in case of FOs registered as cooperatives or limited liability companies) over the future crop, plus other assets. This can be further enhanced by securing the right to appoint a receiver, setting up group joint liability, and securing a cash deposit.
- The assignment of sales proceeds from the Mombasa auction to cover two thirds of the loan amount plus interests. This arrangement would share the risks between the bank and factory, and provide incentives for the bank to perform robust screening of farmers and give them the ability to enforce repayment.

Secondary instrument: The bank might refinance a part of its portfolio backed by future tea receivables in various ways:

1. By issuing a bond or note to a financial investor, another bank, or a DFI.
2. Taking a loan from a bank or a DFI.
3. Selling their receivables (loans backed by forward contract and collateral) to other banks, at a discount against face value to mitigate risk.

In case (1) and (2), loans and bonds would be secured by tea loans and the attached collateral. A partial guarantee from the government or DFIs may be needed to reduce risk premiums and enhance credibility of the instrument.

Tea Estates

In view of the relatively modest financing requirements of smallholder tea factories, at least in the early stages, a similar financing structure can be offered to tea estates as well.

In case of tea estates, the structure is more straightforward. The estates could either issue a bond to a private investor or take a loan (depending on the size,

from a local bank or directly from a DFI). The loan would be secured by a debenture over the future production in the form of green or processed tea—in addition to other productive assets such as tea bushes. For the estates' outgrowers, one of the structures mentioned above can be deployed.

Although the estates have access to finance, the proposed structure might add value and be of interest to some of the estates, particularly smaller and locally-owned ones. The additional security provided by the debenture would allow the estate to: mobilize additional capital beyond its borrowing capacity based on its "hard collateral" such as land, buildings, and factory assets; and access finance at lower costs.

Again, given the risks inherent in the arrangement, the structure might be enhanced through a guarantee if no hard collateral is added (especially if funding would be mobilised through a bond). Given the increased scale that the participation of tea estates could bring to the pilots, a credit line to a local financial institution may be considered for purposes of funding the pilots.

Interest from tea factories:

Three of the four major tea factories in Uganda, namely Igara, Kayonza, and Mpanga, were represented at the roundtables and expressed their interest in revamping their input finance. Working capital requirements were quantified as follows: Igara and Mpanga both require \$400,000 every six months, and Kayonza requires \$200,000 every six months, providing a total requirement of \$1 million per six months, or \$2 million per year. The requested amount would enable the factories to provide working capital finance to approximately 13,000 smallholder farmers at the three factories (over 5,000 at Igara, over 7,000 at Kayonza, and over 1,000 at Mpanga). Factories have long-term historic data—in some cases, over 20 years of data—on producers' performance and track records in terms of production, input, financing, and deliveries.

Uganda Tea Company Limited (UTCL) is one of the largest private producers. It owns three estates with a total of 1,200 ha of tea, two tea factories within the three estates, and a retail factory outlet.⁷⁸ Apart from its own tea estates, UTCL has an established supply of green leaf from 40 well-known and reliable out-growers providing increased supply to its factories. UTCL has expressed interest to access additional working capital finance both for its own operations as well as to extend its outgrower scheme.

Given that sales are in US dollars, there is interest in US dollar-based facilities that would also allow direct importation of fertilizer in bulk.

Sugar cane outgrower schemes

i) Subsector context

Sugar is the fourth largest export crop for Uganda after coffee, tea and cotton. The subsector supports up to 70,000 farmers, including approximately 50,000 out-growers. However, Uganda is a small sugar producer both at the regional and global level. However, production has grown healthily with a near 50 percent increase since 2005. It also enjoys protection within the East African Community. However, yields have fallen by approximately 10 percent over this timeframe.

There are six larger sugar manufacturers in the market that, together, accounted for almost all processing and export. Every one of the six manufacturers work directly with outgrowers. Kakira Sugar Works, which is part of the Madhvani Group, is the largest. It works with 6,000 out-growers and have 15 percent of the market. The Kinyara Sugar Works, which is part of the Rai Group Mauritius, is the second largest with 30 percent of the market.

The major factories have established their own estates that can guarantee a consistent supply of sugar cane for the respective factories. However, given the sizable installed processing capacities of the major factories, full utilisation of this capacity requires a complementary supply of sugar cane from outgrowers. Further, the major factories run outgrower development programs which

include demonstration farms, production support services, and credit facilities. Kakira and Kinyara provide inputs and services in kind and on credit recoverable through deductions from cane delivery.

To qualify as an outgrower, a farmer needs to have a land holding of at least one hectare. Outgrowers sign contracts to supply all the mature sugar cane to their respective company of registration. However, it is understood these contracts do not create a security interest in the underlying sugar plants and cane. Rather, factories rely on extensive field monitoring mechanisms to detect and counter side selling. While the factories have the right to take defaulting outgrowers to court, the expense, lengthy court process (which could take up to eight months), and the tensions that arise from court actions deter them from doing so.

There are several differences between the outgrower models operated by Kinyara and Kakira. Kinyara maintains full control over the value chain. There is virtually no opportunity for side selling in Kinyara's geographic region. It never purchases from independent farmers and rely only on contracted outgrowers for their supply. It conducts very thorough client screening before contracting with a farmer. Farmers are trained to meet strict quality standards and production schedules. Kinyara offers full financing for planting, fertilizing, harvesting, and transport, which is repaid through a deduction from the farmers' sale price. The interest rate charged to farmers is 18.36 percent, which compares favourably to the 24-plus percent offered by banks on the market. The company is strict about outgrowers abiding by contractual provisions, and drop defaulting farmers from the program when they stray from their obligations. Reportedly, outgrowers have met all production and expansion targets, and repayment rates stand at 99.5 percent.

Fire, which can wipe out an entire crop, is the main driver of outgrower non-performance, and is the main challenge Kinyara faces.

On occasions when fire is the main cause of non-performance, obligations are rolled over into the next crop. Related challenges facing Kinyara is the inadequacy of

existing insurance policies, which do not fully cover fire risk, and the ineligibility of sugar to receive the government's agricultural insurance premium subsidy.

Unlike Kinyara, Kakira purchases from both contracted and non-contracted farmers. The company faces increasing competition from jaggery mill operators and another sugar company located 50 km from its factory. This creates a more balanced value chain governance structure, in which Kakira has a range of farmers from which it can buy sugar cane, and farmers have a variety of competing buyers. Kakira's contracted outgrowers receive full financing for planting, fertilizing, harvesting, and transport, but they need to raise their own funding for weeding. As such, the proposed financing packages—including funding through Tropical Bank and Stanbic—are insufficient.

In working with Tropical Bank, Kakira contracts with the farmer and provides a letter of comfort to the bank six months after the sugar cane has been planted. The bank agrees to finance farmers based on the letter of comfort and the factory's agreement to repay the bank loan out of farmer proceeds. However, Kakira does not guarantee repayment to the bank. The bank provides working capital finance of UGX 300,000 (approximately US\$900) per hectare, and relies on Kakira's monitoring mechanisms. Only farmers within a 50-km radius of the factory are eligible. Based on the farmers' acreage and therefore expected yield, the banks extend loans to the farmers at market rates. At the time of harvest, the bank simply deducts the amount of the loan payable by the farmer. Kinyara directly finances the sugar outgrowers they work with, using a mixture of its own resources and bank finance.

Outgrowers are obliged to sell their entire production to Kakira. The firm's client screening and monitoring are less rigorous than those of Kinyara. Production schedules and quality standards are not as controlled because Kakira may buy from non-contracted farmers, over whom it has little influence during the growing season. Kakira's contract enforcement is also less effective. Since Kakira buys from contractors and non-contractors, the sanction of contract termination for a reneging outgrower does not eliminate

his ability to earn income from his sugar cane production. The farmer can still sell to Kakira as a non-contracted farmer or to the jaggery mills in the area.

Kakira farmers are organized into associations at the sub-county level, comprising 21 councillors and 11 board members, each is a legally registered entity under Cooperative Law. The sub-county representative must endorse the farmer's request for a comfort letter before Kakira is willing to issue it. Farmers are reluctant to co-guarantee each other as a group. Therefore, two guarantors are required per loan application.

Side selling has become more pervasive in the sugar sector. According to the Government of Uganda's 2010 sugar policy, a new factory must be established at least 50 km from an established one. It must have at least 500 hectares of nucleus estate. Only 30 percent of that area should be used for sugar production. The rest must be reserved for food, forests, and wetlands. Yet, within 14 km of Kakira, the government has given a license for Mayuge for its sugar production. Luzinga, GM, and Kamul—that are 24km, 26km, and 46km away respectively—have also received licenses despite being less than 50 km away.⁷⁹ Diversion rates are said to be getting worse, with levels increasing from 2 percent to approximately 10 to 12 percent.

ii) CR-enhanced structure

As with the tea sector, the mechanism by which CRs can be deployed in the context of the sugar outgrower schemes is the strengthening of existing financing agreements between factories and outgrowers through:

- Substituting a current loan agreement with either a pre-paid forward contract or a spot contract with deferred collection to strengthen the creditor's position in the event of default or insolvency.
- Creating a security interest using the agreement over the crop under production, and possibly future production of productive assets (for instance, standing sugar canes). In the case of Uganda, this is most likely going to be achieved through a floating chattels security.

Enhancing the security interest through the appointment of a receiver, which would enable out-of-court enforceability. Possibly, outgrower associations could be appointed as receivers by the factories to take over the field of a defaulting member until the obligation has been settled.

In this case, the main question concerns the presence and strength of the outgrower associations to perform as intermediaries.

The value addition of crop receipt pilots could be as follows:

- For Kinyara, the value addition of CRs could be to raise a higher proportion of the funds required to pre-finance their outgrowers without recourse to their own resources or over-leveraging their balance sheet, and, ultimately, to support the growth of the outgrower scheme to cover more farmers; and
- For Kakira, the value addition of CRs could be to extend the scope of pre-financing to cover the costs of weeding and, more ambitiously, to cover the costs of land preparation and planting ahead of the first crop. Given that Kakira is coming under more pressure from competing buyers, CR enhancements may be particularly valuable for Kakira to improve enforceability. This could include creating mechanisms for enforcement against the jaggery mill operators and the rival sugar factory if they buy from a farmer pre-contracted to Kakira.

While positive response and a proposal was received jointly from the newly established Atiaka factory and their outgrowers, the established sugar outgrower scheme operators, namely Kinyara and Kakira, have not followed up on their discussions to confirm their interest in a CRs pilot. The following are two reasons for this situation:

- Both companies are broadly satisfied with their existing financing arrangements, including their access to subsidized funding from the Bank of Uganda under its Agricultural Credit Fund; and

- While the level of side-selling is growing, it remains relatively low in the sector at around 10 to 12 percent. Both companies have invested substantially in setting up extensive monitoring mechanisms in which they may have more confidence as compared to an untested legal enforceability mechanism.
- While Kakira and Kinyara may not have expressed interest in the short term, they may become interested in CRs if the instrument is successful adopted in Uganda.

The cost at which crop receipt-secured financing is being made available to the companies from banks or DFIs will be an important determinant of their interest. This is particularly important in the context of the availability of some subsidized funding⁸⁰ from local financial institutions under the Bank of Uganda's ACF, which in some cases are priced below the Central Bank Rate.



6 Main Findings and Outlook

6.1 BASIC VALUE PROPOSITION FOR CRs IN AFRICA

In Brazil, CRs have become an important additional instrument for agricultural finance. CRs complement existing financing instruments and contribute to improved access to agricultural finance from a broader range of financiers. CRs offer a similar value proposition for agricultural finance in Africa.

- CRs create an additional type of collateral, allowing farmers to pledge their future agricultural production. In this manner, CRs provide a potential avenue to address one of the key access to finance challenges in Africa. CRs create superior protection of the lender compared with contract farming and other unsecured forms of pre-harvest finance, not only against defaulting farmers but also against “side buyers.” This is especially so if security interests in future agricultural production and other assets are recorded in a unified electronic registry system, which is being introduced in several African countries. As secured lending, CRs can reduce or eliminate financial institutions’ demand for other tangible collateral, thereby unlocking access to finance by otherwise creditworthy farmers who cannot meet conventional collateral requirements.
- CRs have a stronger legal standing than loans or prepaid forward contracts. The use of CRs can mitigate key risks through fast track enforceability, the disapplication of force majeure, and a preferred position for the lender in the event of borrower insolvency. As such, CRs can potentially increase the willingness of financiers to engage in or expand pre-harvest finance and, possibly, provide such financing at improved conditions.

- CRs are endorsable and tradable which increases the liquidity of the initial buyer or financier and enables improved risk sharing in the agricultural finance system. The possibility of bundling CRs into secondary instruments means that CRs can be aggregated to create portfolios of a size that is sufficiently large and thus attractive to DFIs and financial investors. Frontline lenders such as input suppliers, off-takers and banks with good financing technologies and strongly-performing portfolios could either discount or sell parts of their exposure to other banks and investors. They can also package CRs into secondary instruments. Doing so enhances liquidity and avoids portfolio concentration risks in the books of primary lenders, allowing them to originate additional pre-harvest finance. This can potentially lead to the flow of additional funding from a broader range of investors into the sector. Likewise, CRs offer alternative investment opportunities for domestic financial investors by creating a new asset class that is relatively uncorrelated to conventional asset classes such as government bonds and real estate.

6.2 SCOPE FOR CRs IN AFRICA AND ENTRY POINTS

For these features to translate into increased pre-harvest finance, CRs need to be accepted by market actors, which in turn requires certain enabling conditions to be in place. In Brazil, the success of CR finance has been due to an enabling ecosystem composed of the following elements:

- CRs were built on existing agricultural financing instruments such as PNs and prepaid forward contracts, and also on secondary instruments used in other sectors.
- A dedicated legal framework was introduced to allow for the customization of PNs and secondary

MAIN FINDINGS AND OUTLOOK *CONTINUED*

instruments to the agriculture sector. A dedicated framework also helped to create clarity and certainty among players.

- Banco do Brazil acted as a strong champion, driving the introduction of the instrument and the creation of a market through avals and an electronic trading platform.
- Brazil's large commercial farming sector that is well integrated into several globally competitive value chains provided sufficient scale for the instrument.
- Commercial farmers and cooperatives with established track records with banks and agribusiness that were able to issue sufficiently large CRs.
- The existence of a commodity derivatives exchange that offers futures markets made it possible to discover future prices (hence, the values of the delivery obligation and the main collateral) and to hedge price risk.
- A well-developed financial market, including a sophisticated array of banks and financial investors, facilitated the introduction of secondary instruments, which had been key for mobilizing additional finance into the agricultural sector.
- Monitoring companies facilitated the early detection of production failure, fraud, and side selling.

The agricultural and financial systems in Africa are quite different from those in Brazil, and many of the conditions mentioned above are only now developing. Most markets are smaller, and most value chains are less integrated. There are higher levels of policy, legal, production, market, and price risks and fewer instruments to manage these risks. Production in most value chains is still predominantly small in scale. Clearly, conditions for agricultural finance in Africa are more challenging, rendering a large-scale introduction of Brazilian-style CRs and secondary instruments highly unlikely, at least in the near future. Nevertheless, there are several promising trends and features which can be harnessed as potential entry points for CRs in Africa in the short to medium term. These include:

- A growing and increasingly diverse commercial farming base composed of established commercial producers (large farm and plantations), medium-size and emerging farmers, and organized smallholder farmers who are linked to formal markets and value chains.
- Growth of structured value chains and markets, including contract farming and outgrower schemes and some emerging commodity exchanges and warehouse receipt systems (WRS).
- Improvements of legal frameworks, including the recent introduction of key elements of a CR system such as electronic movable collateral registries and security instruments for collateralizing future crops.
- A relatively diversified and resilient financial sector.
- A regional integration process creating larger agricultural and financial markets enabling economies of scale and regional approaches.
- A small but growing number of champions and innovators in the financial and agricultural sectors.
- Sustained commitment from African governments and their development partners to agriculture that is paired with increased recognition of the importance of private investments and finance, and renewed interest in new financing instruments for agriculture and the development of domestic capital markets.
- Potential funding sources for agriculture from capital markets, including domestic investors such as pension funds and insurance), as well as regional and global investors such as impact investors and commercial investment funds targeting the continent's agriculture sector.

There is limited experience with the replication of CRs outside of Brazil. The analysis in this report and the experience with the introduction of other financing instruments such as WRs suggest that it is neither necessary nor possible to create the entire CR ecosystem at once in the short period of time to introduce CRs. Rather, a gradual approach is recommended, starting with the introduction of CRs on a pilot basis. Existing financing

and security instruments would be combined to emulate CRs and customized by selecting commercial entry points in different countries and value chains. While such an approach may not allow the introduction of a full-fledged Brazilian-style CR with all its features and functionalities, one or several CR features could be introduced to enhance existing agri-finance structures within the boundaries of the existing legal, institutional, and market environments.

Whether the added value from the CR features would come through improved enforceability, additional collateral, enhanced liquidity, new funding sources, or any combination of the factors mentioned above depends on specific country and value chain conditions. The commercial entry points could first build on existing pre-harvest financing structures in the form of outgrower schemes or on the existing agricultural finance products of local banks. This kind of incremental approach is preferable in the absence of a dedicated legal framework and the absence of the instrument's track record for success. An incremental approach will allow for the adaptation and customization of CRs to the respective country conditions, as well as the testing their value addition and viability in practice. Furthermore, an incremental approach will also provide enough time to raise the awareness among public and private stakeholders about the instrument and its potential, to identify weaknesses and gaps in the current legal and institutional environment, and to build support for addressing those weaknesses and gaps.

The following are the basic requirements for introducing CRs in Africa:

- A legal and institutional framework supporting the key features of a CR without any major legal impediments or risks.
- Commercial entry points of sufficient scale, backed by interest from value chain actors and financial institutions.
- A broadly conducive policy environment, and support from regulators.⁸¹
- A champion willing to underwrite the initial risks and provide technical assistance or advisory services. This could be a DFI or a national development bank.

6.3 LEGAL ENTRY POINTS

Concerning the enabling legal conditions, the legal framework should be flexible enough to allow the creation of CR-inspired products and structures through existing financing and security instruments. Key features to be supported by existing law are: (i) the creation of a pledge over future agricultural produce and other movable farm assets; (ii) the perfection of security interests, preferably through low-cost electronic registries; (iii) the strengthening of the creditor position by giving them the ability to use fast track court procedures and out-of-court settlements, as well as the ability to invoke disapplication of force majeure to secure a preferred position for the lender in the event of borrower insolvency; (iv) the possibility to endorse the financing and security instruments and create secondary instruments; and (v) the possibility to trade CR-inspired instruments OTC and, preferably, also on capital markets. While tradability on organized capital markets might not be a binding constraint at pilot stage, it will become an important element in building a liquid and diversified CR market in the longer term.

Legal assessments in Zambia and Uganda found sufficient legal conditions for piloting CRs in both countries. Under Zambian law, physical and financial CRs can be based on PNs that are secured by a floating agricultural charge over future crops and other farm assets. PNs and attached security instruments can be endorsed and traded, and can be wrapped into secondary debt instruments such as bonds. An electronic registry for movable collateral has been created but the need for a dual registration at the paper-based Land and Deeds Register somewhat undermines its value added.

In Uganda, CRs would have to be based on contract law using loans or prepaid forward contracts as financing instruments that are secured by a charge over future crops or other farm assets. This is because PNs are uncommon and cannot be used for physical settlement yet. Another important legal impediment is the prohibition for a buyer to create security interests over future crops it intends to buy. For a pilot, this impediment can be circumvented

by using financial CRs that are structured as a tripartite arrangement between a bank, an offtaker, and a farmer or farmer organization.

Both countries allow for the use of out-of-court settlement through the appointment of a receiver as part of the security instrument. The latter allows the financier to circumvent the notoriously slow court system by allowing the financier to appoint a person or entity (such as an FO) to take over the productive assets pledged by the defaulting farmer until the obligations under the CR has been settled. While the feasibility of such an arrangement in practice needs to be tested, it might provide improved prospects for enforceability, especially if enhanced by other collateral substitutes such as joint liability.

The drafting of a dedicated CR laws would greatly facilitate the introduction and mainstreaming of CRs. Such laws could address critical gaps and impediments, ensure coherence among existing legislation, clarify operational issues, and thereby create greater confidence among the actors concerned. It is recommended to precede or accompany a possible legislative process by pilots based on existing law for several reasons. First, it would be difficult to mobilize sufficient political and commercial support for developing a law for an instrument that is unknown on the continent and has, to date, rarely been used outside of Brazil. Second developing such a legal and regulatory framework that suits domestic legal, institutional, and market conditions would be greatly facilitated by pilot operations and the experiences and lessons generated. Third, the introduction of a legal framework alone is unlikely be sufficient to create confidence of private financiers unless the instrument has been tested. This has been the case in Serbia so far and, to some extent, in Ukraine. Finally, lengthy legislative and regulatory processes will likely risk stall private sector interest to start using the instrument, as has arguably been the case with the introduction of WR legislation in countries such as Zambia.

6.4 COMMERCIAL ENTRY POINTS

Different commercial entry points for CRs have been identified. They could be further explored through pilots and be eventually integrated into a larger CR portfolio.

Established commercial producers such as medium and large farmers, estates, and plantations are the least risky entry points. They are also well equipped to issue CRs that are large enough to satisfy banks and investors. As in Brazil, CRs enable farmers to access additional finance if their “hard collateral” is already pledged. CRs also enable them to negotiate better conditions on the premise that CRs provide additional collateral and improved enforceability to the financier. Producers at the upper end of the commercial farming spectrum might be able to issue CRs directly to investors, while those at the lower end of the spectrum may need to be bundled CRs into secondary instruments, such as CDCAs, that they can sell directly to banks.

Medium and emerging farmers have a slightly higher risk profile but can be an interesting opportunity for market growth. Due to the smaller size of their credit requirements, they can be financed by banks and agribusinesses alike. They can also obtain credit through tripartite arrangements. Given that emerging farmers are significantly less likely to meet collateral requirements of banks, and therefore less bankable, CRs can play an important role in unlocking additional finance into this segment.

Organized smallholder farmers who are well integrated into structured markets or value chains form a challenging market segment, but they can be critical in the medium to longer term. Even though medium and large farmers provide easier entry points, these market segments are niches that, alone, are still too small to support the growth of CR markets to commercial scale. Hence, for CRs to gain traction and catalyze the transformation of agriculture in Africa, CRs need to move beyond the confines of established commercial farmers. This seems feasible within a portfolio approach that is well suited to include established commercial farmers and plantations, emerging farmers, and organized smallholder farmers.

Downscaling CRs to suit the smallholder context is the main challenge for the introduction of the instrument in Africa. Whether, and to what extent, this can be done remains to be tested. The Brazilian experience offers little insight in this regard. While CRs have mainly been used by medium and large farmers⁸² in Brazil. The reasons for their limited uptake by smallholders are unclear. Due to transaction costs, providing finance to smallholders is more expensive than to larger farms. This applies to all financial services, including crop receipts. Smallholder farmers are also riskier financial partners because they lack written records and established track records with commercial and financial partners. However, experiences with other financial services around the world have shown that transaction costs and risks can be reduced through financial engineering and innovative product design to reach smallholders. Similar efforts could be applied to CRs. This has not yet happened in Brazil because smallholder farmers have access to large subsidized agricultural credit programs. As such, there was little need to customize CRs to service this market.

As with any financing instrument, transaction costs decrease when there are economies of scale. As such, obtaining financing is more expensive for smallholder farmers. Smallholder farmers are also riskier financial partners because they lack written records and established track records with commercial and financial partners. However, in the case of Brazil, smallholder farmers have access to large subsidized agricultural credit programs. As such, there is little need to customize CRs to service this market.

What is clear is that structuring “micro CRs” should build on general good practices in agricultural and microfinance. These include:

- Focusing initially on established value chains and outgrower schemes. Special focus should be placed on strong FOs with production and delivery records as that will make farmer screening and selection easier, and will also reduce production and market risks.

- Using agents and aggregators such as cooperatives, lead farmers or traders to support farmer selection, monitoring and enforcement, issue larger CRs, and co-guarantee delivery and payments.
- Using joint-liability mechanisms, cash collateral at the farmer group level, and more formal secondary structures, such as FOs, to serve as a first line of defense against willful default.
- Using out-of-court enforcement mechanisms, enabling the lender to seize a defaulter’s crops or to appoint a receiver to take over the defaulter’s productive assets as a second line of defense,
- Starting pre-financing with low initial amounts, to be disbursed in kind, and increasing the amounts incrementally based on past performance.
- Over-collateralizing future delivery obligations by pledging crops whose estimated value is two to three times higher than the amount pre-financed plus interest costs, at least until familiarity with the instrument has been developed.
- Using additional collateral such as trees, livestock, and other farm assets combined with the appointment of a receiver arrangement.
- Providing capacity development and monitoring, especially at the level of farmer groups and aggregators.

Agribusinesses including input suppliers and off-takers can both accept CRs issued by farmers as a financing instrument and issue secondary instruments as aggregators backed by their future receivables. As before, the main entry points would be established contract farming or outgrower schemes that can be enhanced through CRs to strengthen pre-harvest financing arrangements with farmers and to obtain additional liquidity through secondary instruments. The added value over existing outgrower schemes in Africa would consist in the creation and perfection of security interests in future crop or livestock production, better enforceability through out-of-court settlement and appointment of a receiver

arrangements, and the possibility to package future receivables into secondary debt instruments to access finance from banks and capital markets.

Banks can enhance their current lending products through CRs, either by substituting loans through PNs or by using the latter as additional collateral. Being able to secure additional collateral and stronger enforceability of CRs enable banks to expand finance to existing and new clients. It can also give them room to improve lending conditions, either by lowering requirements for tangible collateral or by providing more competitive pricing. Banks with good financing technologies can package their CR portfolio into secondary debt instruments to access additional finance. Alternatively, they can sell their CR portfolio to other banks or financial investors to avoid portfolio concentration risks and remain within their internal lending targets for the sector established within their risk management strategies. Both approaches would enable banks to expand their agricultural lending.

Financial investors can use CRs as new avenues to fund agriculture. Commercial investors such as pension funds and insurance companies may wish to diversify their investments, which tend to be concentrated in urban real estate and government securities. There is a growing number of specialized investment funds and impact investors looking at investment opportunities in agriculture. At the same time, the number of classical investment targets for such funds—meaning agribusiness companies with sufficiently strong balance sheets and viable investment propositions—are limited. CRs and related secondary instruments can provide new avenues for such investors in the following ways: (i) directly funding large producers; (ii) funding bonds issued by agribusiness or banks backed by primary CRs; and (iii) setting up specific investment vehicles by bundling CRs.

Given that bond markets and commodity exchanges are still in their infancy in most African countries, in the short term, CRs will most likely be issued directly to financiers. However, in the medium to long term, establishing CRs as capital market instruments can help broaden the sources of funds for pre-harvest financing beyond direct market

partners of farmers, which, at the moment, are banks and agribusinesses. It can also enhance competitive pressure and stimulate financial innovation. Likewise, financial investors will have the opportunity to diversify portfolio risks by investing into different asset classes.

6.5 VALUE CHAIN AND MARKET ENTRY POINTS

In principle, CRs could be used in any well-structured value chain if the following conditions are in place: (i) clear grades and standards for agricultural inputs and products; (ii) well-established reference prices through spot or futures markets; (iii) predictable seasonal price pattern with low risk of ad-hoc government interventions; (iv) strong post-harvest logistics infrastructure; and (v) sufficient scale and number of well-established farmers, aggregators such as farmer organizations, and large anchor firms.

In practice, export value chains are more likely to meet these criteria. Often, risk management instruments such as hedging are available only on international exchanges, with key products such as cocoa, coffee, cotton, palm oil, rubber, and sugar. However, CRs might also work in well-structured domestic chains, such as dairy, poultry, cereals, and oilseeds, that serve growing urban. Regardless, the capacity and willingness of the private sector—namely, financial institutions and agribusinesses—to provide and expand pre-harvest financing are decisive factors to consider.

Agricultural product and value chain characteristics have an important impact on the type of enforcement mechanisms that can be used. In case of seasonal crops with a short harvest period, the main collateral (the crop) only materializes around harvest time. In case of default for reasons such as crop failure or side selling, recourse might be difficult in the absence of other collateral. Obligations may need to be rolled over into the next season. For perennial crops and certain types of livestock enterprises, such as tea and dairy, that generate a product or cash flow over a prolonged period, side selling can be detected

earlier and the creditors can then take over the defaulter's productive asset through the appointment of a receiver until the defaulter's obligation under the CR has been settled.

In terms of value chain governance, tightly integrated value chains with limited possibility for side selling are easier entry points. However, highly integrated value chains may not be easy entry points if they are dominated by big lead firms with good access to international capital markets. This is because these firms have few incentives to change their existing pre-harvest finance arrangements by introducing CRs, especially if they have good access to international funding sources and strong control over the value chain. Tightly-controlled value chains are, however, often plagued by issues around quality and pricing of inputs and outputs linked to the market power of the lead firm. Such issues would need to be addressed before introducing CRs.

A more challenging route would be to introduce CRs into value chains with competing buyers on organized markets such as commodity exchanges and auction platforms. In this case, CRs would be issued to an unknown buyer, and

the crop would be delivered at a commodity exchange that would act as a clearinghouse and repay the financier. Such tripartite structures can be used by banks or input suppliers that wish to expand their sales without having to buy physical products. The advantages for the farmers in this case is the separation between the marketing and financing functions as this allows them to negotiate the best deals. The Brazilian experience shows that third-party guarantees or some additional collateral is needed to mitigate the higher risks related to this structure. Guarantee levels and collateral requirements could be gradually reduced based on producers establishing a successful track record. Smallholder farmers might be linked through aggregators, as outlined above.

CRs can also be linked with WR finance. In practice, CRs could be rolled over into WRs if the harvested crop is stored in a warehouse that is acceptable to the financier. This would allow an extension of the repayment period and enable the farmer to achieve higher prices rather than selling immediately after harvest when prices tend to be at their lowest.



6.6 ADDITIONAL CONSIDERATIONS FOR INTRODUCING CRS IN AFRICA

Portfolio approach

Given the relatively small financing volume involved for such CR entry points—at least in the short to medium term—a portfolio approach is needed to diversify risks and create the necessary scale for investors such as DFIs and investment funds. A CR portfolio would comprise investments in: (i) farms of different sizes (including large- and medium-size farmers, emerging farmers, and organized smallholder farmers); (ii) farmers and agribusinesses in a variety of value chains; and (iii) primary CRs from large producers and secondary instruments issued by agribusiness and banks.

Established commercial farms and agribusiness companies present the lowest risk and largest scale. They are therefore the most attractive market segment for commercial financiers. However, as mentioned before, creating a competitive edge for a new financing instrument may be challenging in this market segment because large and corporate producers already have a range of funding sources. Large, established players may be unwilling to change their existing practices or engage with new financiers, as evidenced by the sugar cane and cotton companies in Zambia and Uganda featured in this study. To tap into this market segment, CRs would have to be priced competitively, substitute existing sources of funds, or provide additional finance for companies whose balance sheet is already leveraged.

Smaller, less established farmers and agribusinesses are more challenging to work with, but they may have a stronger demand for additional outside funding, as evidenced by the farmer-owned tea factories in Uganda and the dairy cooperatives in Zambia. Targeting such companies and their farmer base as part of a CR portfolio can also increase the development impact of the instrument.

A diversified CR portfolio would not only allow financiers to balance risks with scale and development impact on the asset side. It would also facilitate the use of blended funding structures through investment vehicles that combine fully commercial funding sources with development and impact funding sources.

Clustering and aggregation

Clustering and aggregation of CRs is critical for achieving economies of scale and creating investment instruments of a size that is attractive and viable for financiers. First-level aggregators include FOs, lead farmers, traders, input providers, and off-takers. These aggregators can create CRs backed by future receivables from associated farmers, and enhance them through joint liability and other risk mitigation measures. Second-level aggregators such as agribusinesses and banks can then create secondary debt instruments based on their primary future receivables and associated collateral from farmers and first-level aggregators. These secondary instruments would be over-collateralized and could be enhanced through third party guarantees or other collateral by the originator. As per Brazilian experience, large input providers or off-taker may be able to assemble future receivables that are large enough to be issued as secondary instruments to DFIs or investment funds.

Banks can build CR portfolios by combining CRs from different value chains and issuers, including farmers of different sizes, as well as secondary instruments issued by agribusinesses. This portfolio could be packaged into larger secondary instruments offered OTC to DFIs and impact investors, or on national capital markets. In addition, investors and DFIs can also build sub-regional CR portfolios covering several countries.

To facilitate the creation of secondary instruments and reduce transaction costs, CRs can be structured through multi-year frameworks to fund recurrent working capital requirements. Funds can be renewed based on performance. Likewise, CRs can be used to finance longer term investments such as tree crops and farm assets that require longer maturities of the payment stream.

Sequencing

Smallholder farmers dominate agricultural production in Africa, and markets in Africa tend to be small. As such, financial products need to be clustered so that larger portfolio can be created. As such, it may be necessary to introduce several CR instruments concurrently. Physical and financial CRs can serve as primary instruments and also as building blocks for secondary instruments that are equivalent to Brazil's CDCAs, LCAs, and CRA. Secondary instruments can then be used to build scale and diversify risks. Secondary instruments can also be the first entry point through which aggregators such as agribusinesses can bundle and securitize their future agricultural receivables, even in the form of agricultural loans or prepaid forward contracts to access additional or cheaper sources of funds from banks or capital markets. These primary agricultural receivables could then gradually be strengthened by introducing CR features to enhance their enforceability and facilitate endorsements, making them more attractive to investors.

Additional risk mitigation instruments

The introduction of CR-based finance needs a careful strategy for reducing risks based on two pillars. First, CR applications must be designed in a way that mitigates performance and external risks. This includes aforementioned measures, such as careful selection of borrowers based on track record in production and delivery. Secondly, over-collateralization by limiting the amount pre-financed to a smaller share of the expected future value of the crops is also a key, and the use of additional collateral such as trees, livestock and other farm assets combined with appointment of a receiver arrangement is necessary. However, CRs may need to be enhanced through additional risk management instruments, namely:

- **Guarantees.** CRs are relatively new instruments. In the absence of a dedicated legal framework to support this new instrument, third-party guarantees are likely to be needed. As shown by the Brazilian experience, such instruments would be particularly

important for the structuring of secondary instruments and the possible settlement mechanism through commodity exchanges. Guarantees would allow a more attractive pricing of CRs during the initial stage of market development, when potential financiers and borrowers need to be convinced about the viability and added value of the instrument. Once a track record has been established, guarantees might be offered on more commercial terms and would provide a business opportunity for domestic banks, DFIs, and impact investors.

- **Agricultural insurance.** A second important de-risking instrument involves the bundling of CRs with crop and livestock insurance. There are promising examples of bundling agricultural insurance with credit, including in smallholder farmer contexts. One such example can be found in the Zambian cotton subsector. While the efficiency and costs of index-based approaches vary according to local agro-climatic conditions, remote sensing can enable such products to become more reliable and cost-effective.
- Monitoring of crops is another critical element to reduce performance risks because it allows the lender to intervene in a timely manner. In Brazil, specialized monitoring companies are available to perform this service. At the moment, there is not such option in Africa. The use of group-based approaches and aggregators combined with joint liability may provide effective solutions, especially in a smallholder context. Some out-grower schemes employ extensive supervision and monitoring schemes that combine advisory and extension functions with monitoring and supervision. However, such approaches are costly and could be substituted or complimented in the medium term by lower-cost solutions using technologies such as agricultural drones and satellite images.

Regional Markets

Given the relatively small scale and inherent liquidity constraints in national markets, regional approaches to commodity exchange and capital market development

are highly recommended for CR instruments. This implies engagement with Regional Economic Commissions (RECs) and relevant regional industry bodies to ensure a sufficient level of instrument and market standardization. Such common standards will facilitate cross-border approaches, especially in common currency zones such as West and Central Africa.

Fiscal incentives

As in the case of Brazil, fiscal incentives that are backed by public policy can be an important push-factor. In Brazil, tax exemption has facilitated participation of local and international investors. A similar outcome in the African context may result in a pool of well-priced capital that is accessible to financiers that can prompt that to finance CRs and CR-related secondary instruments.

6.7 WAY FORWARD AND NEXT STEPS

Short-term

Country pilots. IFC and other Development Finance Institutions (DFIs) could consider supporting CR pilots in select countries through investment and advisory services. Several potential entry points have been identified in Zambia and Uganda. Though small, these pilots can serve as proof of concept and eventually become building blocks for a CR portfolio. Potential entry points include: (i) organized smallholder farmers within existing contract farming and outgrower schemes (particularly for tea and sugar cane in Uganda, and dairy and cotton in Zambia); (ii) smallholder farmers associated with the Lima credit scheme in Zambia, (iii) medium- and large-scale farmers in grain (Zambia), sugar cane, (Uganda and Zambia) and oilseeds (Zambia); and (iv) tea plantation (Uganda) and possibly sugar cane (Uganda and Zambia). In addition,



possibilities for secondary instruments were identified in both countries at the off-taker level. This includes tea factories (Uganda), dairy cooperatives (Zambia) and, potentially, sugar mills and cotton gins. Likewise, local banks might issue secondary instruments backed by future crop receivables.

Two broad implementation approaches could be used to address these opportunities, either an agribusiness-centred approach in which the agribusiness or an alternative facilitator of the farmer organization drives the financing, or a bank-centred approach in which the financial institution develops the product and markets it to existing and potential clients corresponding to the categories identified above.

Commercial interests of the identified stakeholders need to be confirmed during the pilot phase. It is also important to develop the proposed structures and products in more detail to include pricing, risk-sharing, and size of a potential CR portfolio. Advisory services, including training and capacity-building programs, would be required for the pilot's immediate participants, which may include financial institutions, agribusiness companies, farmers, and farmer organizations. Such advisory services should address various operational aspects of the program as well as the respective roles and responsibilities of each actor in the pilot. Support may also be required for the capacity building and formalization of farmer organizations.

There might be other private actors who have not been identified during the stakeholder consultations conducted for this study. Experiences during this study suggest that additional awareness-raising targeting a broader range of actors is needed. The analysis undertaken in this report and the legal impediments review can facilitate the engagement process with local actors at the country level.

Policy and regulatory support. In tandem with the pilots, policy makers and regulators should be made aware of various aspects and implications of using CRs, such as the potential benefits of the use of CRs in their respective jurisdictions, fit under the existing legal and regulatory environment, and the potential bottlenecks

and constraints that could impede development of the market. Lessons learnt from pilots can be used for knowledge sharing and to identify the need for reforms. This could include speeding up ongoing initiatives (for instance, the enactment of the Chattels Security Act and the establishment of an electronic movable collateral registry in Uganda), and ways to address operational issues (for instance, streamlining the registration for agricultural charges in Zambia). In addition, initiatives that strengthen risk management instruments such as crop insurance and government guarantees should be supported as they are critical for expanding CR financing and agricultural finance in general. A further topic for discussion with competent regulators concerns the link of CRs to capital markets and the possibility to trade CR-enabled structures on capital markets.

Subject to the results from the pilots and interest from domestic stakeholders, the development of a dedicated CR law could be supported for mainstreaming the instrument.

- **Broadening the market assessment.** The present study was limited to two African countries but similar opportunities and entry points are likely to exist in other countries as well.
- Initial screenings showed that Ghana, Tanzania, Rwanda, and Senegal are potential candidates for further studies. Such studies will facilitate the building of a cross-country portfolio.

Medium term

To support the introduction of CRs in Africa, IFC and other DFIs could establish an African Pre-harvest Finance Facility (APFF). The APFF could be modelled after IFC's Global Warehouse Finance Program (GWFP). In line with the incremental approach recommended in this report, the Facility would support pre-harvest financing structures and products which would include at least one of the key features of CRs:

- Collateralization of future production and related productive assets (excluding real estate) as a main collateral.

- Use of PNs as the main financing instrument.
- Creation of secondary instruments based on future agricultural receivables.

These eligibility criteria would enable banks and agribusiness to expand and improve their existing pre-harvest finance portfolios by building in CR features. This approach would allow DFIs and other investors to generate investments of commercially viable scale while pushing the frontier towards more ambitious structures and, eventually, fully fledged CR finance and related markets. The overall objective of the APFF would be to foster the introduction and upscaling of CR-enhanced pre-harvest finance in Africa. This would include:

- Structure and finance innovative CR-enhanced pre-harvest finance arrangements around various entry points, including agribusinesses, banks, and financial investors.
- Improve access to CR-enhanced pre-harvest finance for excluded or otherwise under-served stakeholders such as smallholder producers and SMEs.
- Strengthen policy, legal, and regulatory frameworks and institutions to enable inclusive and robust CR-enhanced pre-harvest financing, which may include the introduction of CR legislation.
- Create funding mechanisms for pre-harvest finance through the capital markets.
- Integrate CR-enhanced pre-harvest finance with other financing and risk management instruments such as commodity exchanges and crop insurance.
- Build awareness and capacity of agribusinesses, including input suppliers and industrial off-takers, to use CR-enhanced pre-harvest finance for contracted farmers and to structure secondary instruments.
- Build awareness and capacity of financial institutions and institutional investors to develop and implement CR enhanced pre-harvest financing products and secondary instruments.
- Build awareness and capacity of 'last-mile' institutions such as FOs, rural brokers, and other

aggregators to link smallholder farmers to CR-enhanced pre-harvest finance schemes.

The Facility would have a financing and a capacity development window.

Under the financing window, a range of financing instruments could be offered depending on the type and size of transactions and the risks involved. Examples include:

- Guarantees to primary buyers of CRs, such as banks and agribusinesses;
- Guarantees supporting the issuance of secondary instruments such as bonds;
- Loans to banks and agribusinesses to refinance primary CR portfolios instruments;
- Purchase of secondary instruments such as bonds; and
- Support to structuring domestic and regional capital market instruments such as bonds, special purpose vehicles, and funds, and mobilizing domestic and regional investors through co-investments.

In the short- to medium-term, the main emphasis could be on direct financing of guarantees to local banks or agribusinesses, depending on the size of the transactions. In the medium- to long-term, the focus could be gradually shifted towards developing and introducing secondary instruments into domestic and sub-regional capital markets. Moreover, other financiers could be invited to co-finance under the IFC's programs. This would enable IFC to build a regional CR portfolio, diversify risks, and mobilize additional funds, including from institutional investors, impact investors, and concessionary sources.

The legal support and advisory services could support the following activities:

- Policy and legal-regulatory support;
- Capacity building for stakeholders such as financial institutions and farmer cooperatives; and
- Thought leadership around best and innovative practices.

Important activities under this initiative include the development of model CRs with physical and financial settlement along with practical guidelines to foster clarity and transparency on key parameters such as price determination, calculation of financing costs, and the adaptation of the instrument to different value chains and farmer categories.

More work is needed on farmer organizations to create certain minimum requirements for farmer organizations to qualify as issuers of CRs on behalf of their members. Such requirements would incorporate factors such as legal status, governance, assets, capabilities, and financial and operational track record. Independent appraisal and accreditation of farmer organizations against these requirements could give confidence not only to financiers but also to providers of insurance and third-party guarantees, while also providing incentive for farmer organizations to conduct required reforms and build appropriate capacity. To support this kind of regime, development partners could support development and deployment capacity-building materials for farmer organizations, including operational guidance for their roles as aggregators, co-guarantors and co-enforcers.

After CRs pilots have been implemented successfully in several countries, a possible next step would be to develop sub-regional CR portfolios. A Pan-African Crop Receipts Association could be formed to facilitate this process by defining minimum standards for CRs to become part of a secondary instrument. Such an institution would be a self-regulatory body that serves to facilitates market development and accreditation of members. Further roles could include:

- Development of a model law—perhaps one for each of English, French, and Portuguese jurisdictions—to streamline the legislative effort, identify best practice, and promote regional approaches. For example, if legal frameworks are similar, financiers would have similar rights and protections in multiple jurisdictions.

- Develop model legal documentation to support CRs, including financing and security agreements and documentation to support secondary instruments.
- Share knowledge and best practice on topics such as innovative applications of CRs.
- Serve as an information hub, in particular, for institutional investors.

Approaching institutional investors and large international input suppliers. A program to introduce CRs in Africa should be accompanied by an awareness-raising and promotional campaign targeting the continent's institutional investors. More specifically, such a campaign should target both key financial sector decision-maker, and the mid-level staff who will have to engage in the actual CR operations. DFIs should also invite participants for risk sharing opportunities. Large international input suppliers can also be potential partners for the introduction of CR-based input finance in Africa.

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Endnotes

- 1 With funding from Canada, Japan, United Kingdom, USA, and the Netherlands.
- 2 Especially if security interests in future agricultural production and other assets are recorded in a unified electronic registry system, as is being introduced in several African countries.
- 3 *Letra de Crédito do Agronegócio* (Agribusiness Credit Bill).
- 4 Certificado de direitos creditórios do agronegócio (Certificates of Agribusiness Credit Rights)
- 5 The two companies that managed Brazil's agri-finance registries, BM&FBOVESPA and CETIP, only merged in March 2017. The data in this report is based on the earlier separate reporting by the two companies.
- 6 Percentage of the loan value to the estimated value of the collateral.
- 7 In much of the literature, the Brazilian acronym CPR is used.
- 8 The conditions based on which courts could decide in favor of the borrower, e.g. force majeure events or lack of understanding of contractual terms, could not be invoked. As long as the issuer (borrower) has signed the promissory note, there is also no need to further prove the existence of a debt obligation.
- 9 The latter were conducted by the Foundation Arthur Bernardes (FUNARBE) at the University of Vicosa in Brazil and included agribusiness companies and associations, banks, securitization companies and cooperatives.
- 10 Banco do Brazil is one of Brazil's largest commercial banks and is controlled by the government.
- 11 Law 8.929 of 22 August 1994.
- 12 Given the costs and difficulties in registering and executing mortgages, rural pledges over crops, livestock, farm equipment, and other farm assets are the most common forms of collateral (Adima, 2009).
- 13 Companies such as Syngenta, BASF, DuPont, Dow and Yara are increasingly using barter transactions to promote their input sales.
- 14 In this case, the purchase price represents the amount pre-financed against the face value of the note and therefore reflects the financing costs or interest charges.
- 15 But such guarantees are expensive. Rates can be as much as 6 percent to 10 percent, annualized (0.45 percent to 0.65 percent per month on the notional value of the goods, depending on the client and the time until harvest). Banco do Brazil stopped providing avals for CPRs recently.
- 16 The fact that a loan is signed by both lender and borrower means that the lender has obligations as well and that there are certain conditions under which the contract becomes unenforceable. If, for example, the borrower can demonstrate that he did not understand exactly what he agreed to, or that the lender made a misrepresentation during the negotiation, neglected to disclose important facts, or that the contract was unfair or unaffordable, the ability of the lender to enforce the contract could be greatly diminished. Furthermore, a contract, including a loan, can be judged unenforceable if enforcement is too difficult or too expensive to carry out. One of the commonly accepted grounds is that an unexpected event has occurred outside of the borrower's control (known as a "force majeure" event or "act of God" in civil law; common law has a similar but somewhat narrower concept of "frustration"); and performing the obligations under the contract have as a result become much more difficult or expensive. In sum, loan agreements carry many legal risks for banks. These risks are partly unpredictable because they are dependent on the judge's subjective decision on whether enforcing contract obligations has become "too difficult or expensive to carry out".
- 17 Depending on the type of collateral, different registries at the debtor's domicile might be involved. Examples of such registries include the Registry of Deeds and Documents (pledges) or Real Estate Registry Office (mortgage).
- 18 www.b3.com.br
- 19 These instruments were introduced through Law No. 11076 of December 30, 2004
- 20 Other credit rights include Cédula de Crédito Rural (CCR, Rural Credit Certificate), Cédula de Crédito Bancário Banking Credit Certificate (CCB), and Rural Mortgage Notes.

- 21 In the 2003-4 crop season many soybean farmers had financed their operations through physical CRs, but when prices had risen strongly by harvest time, defaulted on their obligations to their financiers. There were many court cases and in some instances, outcomes put the usefulness of CRs in doubt. The situation was resolved a few years later, but the impact on the trust of financiers was, in the beginning, strong.
- 22 According to market estimates, about 30 percent of all CRs, especially barter transactions, are not registered at all.
- 23 <http://www.gtreview.com/news/americas/brazil-and-cpr-deals-a-sure-thing/>
- 24 The value of physical crop receipts, which specify delivery obligations only in volume terms, would change according to the price of the respective commodity at the defined delivery point.
- 25 Need
- 26 Assuming average production costs for soybean of \$400 per ha and that farmers typically finance about 30 percent of their working capital requirements through crop receipts (De Souza, Pimentel, 2005).
- 27 Exchange rates on last trading day of each year (R\$1 in US\$): 0.376 (2004) and 0.372 (2014). Source: www.oanda.com
- 28 According to CETIP data, the total CRA stock registered amounted to R\$10.6 billion on July 1, 2016, up from R\$6.4 billion at the beginning of that year.
- 29 Soybean farmers usually rotate with maize.
- 30 Based on data from CETIP over a period from 2003 and 2015 (CPR stock registered on the last day of each year), and the Ministry of Agriculture (MAPA, 2016).
- 31 Soybean prices are highly correlated with the futures markets of the Chicago Exchange (CBOT) whereas cattle coffee and sugar are traded on the liquid Brazilian futures market (BM&F).
- 32 CETIP data based on data provided in Uqbar, 2015, except the 2015 numbers and the LCA numbers which were calculated from the CETIP database. The LCA totals are as reported by the Ministry of Agriculture in its Plano Agrícola e Pecuário 2011/12 (the last year that it reported these numbers). For the "total issued" numbers for CRAs, numbers are based on the information as provided on the web pages of the four companies that have so far issued CRAs (no CRAs are registered with BM&F BOVESPA).
- 33 CDCA, LCA and CRA data up to 2013 come from Ministério da Agricultura, Pecuária e Abastecimento (MAPA), Plano Agrícola e Pecuário 2014/2015; for 2014, they are calculated from the databases of BM&F BOVESPA and CETIP. BM&F CPR data are extracted from the statistical database of BM&F BOVESPA (SRTA, Volume de Títulos Registrados, Estatísticas iBaço).
- 34 Family farmers are defined as (i) having less than 4 fiscal modules of land, ranging from 4 to 105 ha, depending on the region, (ii) employing mainly family labour, and (iii) deriving most of their income from farming.
- 35 There are some restrictions as to the percentage of their total portfolio that pension funds and others can invest in agricultural markets, but they are not unduly harsh.
- 36 The main problem here is complexity. The registries recognize 20 different credit rights, and each registry has its own format with respect to the information that needs to be entered into the system before a tradable title can be created. If a piece of information is missing or fails to conform exactly to the requirements of the system, the attempt to register fails.
- 37 A more detailed comparative assessment of the crop receipt legislation and related country context in Brazil, Ukraine, and Serbia is provided in ERBD/FAO, forthcoming.
- 38 The notarization requirement may be overly protective in view of the existence of an electronic registry. Given that ARs are typically overcollateralized by 150 to 200 percent, the resulting notarization fees translate into an increase of the interest rate by 1.5 to 2 percent.
- 39 Published in the "Official Gazette RoS", No. 128/14 dated 26 November 2014.
- 40 Article 1 of the Law states: This Law shall govern agreements for the financing of agricultural production and the registration of such agreements; lien on future agricultural products to provide collection of receivables under agreements for the financing of agricultural production; the registration and legal effects of such lien, statutory lien on agricultural products of the lienee; out of court settlement from lien on future agricultural products, as well as other issues of relevance for the financing of and the provision of financing for agricultural production.
- 41 The borrower may only challenge the out-of-court sale by providing evidence that the claim did not exist, has not met you at or was already paid (article 30). In these cases. He might claim compensation after unlawful sale (article 31).
- 42 These advantages were presented by Rabobank Brazil during a training for Serbian Bankers in May 2016.

- 43 In some countries, population groups of Asian origin or from the Near East play important role in processing and trade of certain export crops. These groups are able to mobilize finance within their social or ethnic networks.
- 44 Other important reasons for banks' limited exposure include: (i) the lack of proper risk management instruments for co-variant production and market risks (such is crop and livestock insurance or hedging) and(ii) limited understanding of agricultural production and value chains coupled with poorly adapted products, procedures and delivery mechanisms. As a result, perceived risks of agricultural finance tend to be above the objective levels of risks.
- 45 Donors and NGOs often play a role in structuring the schemes, strengthening FOs, and acting as "honest brokers" to build trust and share some of the initial costs and risks.
- 46 This is the case for tobacco in countries like Malawi and Zimbabwe, which needs to be sold through an auction floor from which deductions for pre-harvest finance can be made. Tobacco is the most well-funded smallholder crop in both countries.
- 47 Examples include sugarcane, palm oil, tea, milk, and export bananas.
- 48 Examples include certain spices, medicinal plants, and specific crop varieties, such as barley and cassava, that have with limited use apart from the purpose of industrial processing.
- 49 This was reported by in country stakeholders in both Uganda and Zambia.
- 50 View p. 9 for further explanation.
- 51 50 percent may be an indicative benchmark, although this may be adjusted upwards or downwards according to the quality of track record and the level of (over)collateralization
- 52 RisCura, Africa's pension fund assets, http://www.riscura.com/brightafrica/social-security-in-africa-pension-fund-assets/#gs.oQ5_Kwo
- 53 RisCura, Insurance AUM in Africa, <http://www.riscura.com/brightafrica/insurance-aum-in-africa/#gs.C87=eic>
- 54 This could work through the appointment of a receiver, is discussed in detail in chapters 4 and 5.
- 55 E.g. World Governance Indicators, Ease of Doing Business, World Development Indicators
- 56 The tobacco subsector is also highly structured but was discarded as not being eligible for IFC financing.
- 57 Key players in these value chains include NWK Agri Services, Cargill, Afgri, Zdenakie, CHC Commodities, and Export Trading Group.
- 58 Also termed "self-help" in Zambia.
- 59 If the holder of the charge is a related business which has pre-financed production of a certain commodity, the farmer shall deliver the agricultural commodity to the holder in the amount agreed in the charge (Art. 12, 3). This is in sharp contrast to Ugandan law, which prohibits off-takers to create security interests in crops they intend to purchase (view Uganda Legal Assessment).
- 60 "Tangible assets" means movable property, financial contracts, incorporeal rights, but excludes goods, documents of title, securities, money and negotiable instruments). "Intangible assets" means every form of movable property, including inventory, equipment, consumer goods, accession, negotiable instruments, negotiable documents and money, "goods" is construed accordingly.
- 61 "Negotiable document" means a document, such as a warehouse receipt or bill of lading, that embodies a right to delivery of tangible assets and satisfies the requirement for negotiable in the under the law governing the document. "Negotiable instrument" means an instrument, such as a check, bill of exchange or promissory note, that embodies a right to payment and satisfies the requirement for the negotiability under the law governing negotiable instruments (Art 2).
- 62 Corpus Legal Practitioners
- 63 NWK Agri Services offers a combined index-based input insurance and funeral insurance for their better-performing out growers, whereby NWK pre-finances the insurance premia. The arrangement is renewable for those farmers who meet their obligations under their out-grower contracts.
- 64 PNs, loans or forward contracts.
- 65 In case of seasonal crops, the default risk is mainly around harvest and would require intense monitoring. Otherwise, the obligation would have to be rolled-over into the next season.
- 66 A third player with much smaller share of the market, Alliance Gineries, is understood to contract with over 40,000 farmers for production of cotton as well as legumes.
- 67 However, the distributor system has not generated meaningful increases in productivity of farmers. As a response, NWK has introduced the YIELD Program, with a focus on farmer extension, which has seen yields of participating farmers increase substantially.

- 68 World Bank 2009, "The Cotton Sector of Zambia", Africa Region Working Paper Series No 124, March 2009, Washington DC
- 69 Cargill is currently re-examining its engagements in outgrower operations at global level.
- 70 E.g. World Governance Indicators, Ease of Doing Business, World Development Indicators
- 71 Including crops, livestock, forestry and fisheries.
- 72 Sourced from the first two quarterly African Stock Exchange Association Newsletters for 2016, the last published information.
- 73 Although the Chattels Securities Act (2014) is more detailed than the Chattels Transfer Act (1978) it is intended to repeal, both provide for creation and registration of security interests over future crops, hence the discussion below applies to both Acts.
- 74 This section draws on FAO (2012), 'Analysis of Incentives and Disincentives for Tea in Uganda', a product of the Monitoring African Food and Agricultural Policies project (MAFAP); and Ezra et al (2014), 'Uganda's Tea Subsector: A Comparative Review of Trends, Challenges and Coordination Failures', EPRC Research Series no 119; and websites of tea sector entities in Uganda.
- 75 Amongst other factors, these are driven by increasing power costs (EPRC 2014).
- 76 Increasing energy costs have contributed to higher processing costs, with energy being the main cost item after raw material.
- 77 Roundtable discussions suggest that some farmers diverted, and explored other delivery options, but 'have come back home' because they have not been able to access inputs.
- 78 <http://www.ugandateacl.com/Our.html>
- 79 <http://www.observer.ug/business/38-business/41553-inside-kakira-sugar-s-10-000-hectare-empire>
- 80 It is important not to overstate the scope for the ACF. Maximum borrowing is US\$1.4m per year, of which a cap of 20 percent, which is the equivalent of US\$280,000, can be used for input and other forms of working capital finance. Thus, it is unlikely that the sugar factories will be able to fund more than a relatively minor portion of their needs through the ACF. In this case, crop receipt finance can still be an additional source of funding.
- 81 *This includes:* (1) government interventions in markets that lead to significant unexpected price declines or trade restrictions that could trigger defaults on obligations under CRs; and (2) a favourable stance of policymakers and regulators towards the introduction of new agri-finance mechanisms, including some flexibility during the pilot stage; and (3) support for mainstreaming CRs through legal and institutional reforms, if needed.
- 82 There is anecdotal evidence of smallholder farmers issuing CRs to cooperatives who in turn packaged them into secondary instruments to obtain finance from banks and agribusinesses.



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